

PN-AAU-427

Jan 43677

**DEVELOPING A HOUSING FINANCE
STRATEGY FOR SRI LANKA**

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U.I. Project 3558-01

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February 1986

Prepared under Contract for
The Office of Housing and Urban Programs
U.S. Agency for International Development

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EXECUTIVE SUMMARY

This study is a direct outgrowth of a prior effort which estimated the probable housing needs in Sri Lanka over the 1983-2003 period. As part of that analysis an estimate of the investment required annually to meet these needs was also produced. Having determined this number, the next question is whether it is possible to mobilize these resources to satisfy this investment requirement. The analysis presented here addresses this question. That is, we are attempting to define a strategy for the country to generate these resources for the housing sector and to assess the consequences of doing so. This study is limited in one important way: it explicitly excludes the estate sector, which accounts for about 8 percent of the population. This should not be interpreted to suggest that there are no problems there. Rather, analysis of its problems would require more resources than available as part of this work.

Housing Needs and Current Investment

The Housing Needs Assessment (up-dated as part of this analysis) indicates that in the next few years about 198,000 units of minimally acceptable quality housing will have to be produced annually through new construction and upgrading of existing units, if the country is to reach the long term goal of adequate housing for all. Investment of about Rs. 7.8 billion would be necessary to support this level of building and satisfy additional demands by higher income households. In contrast, we estimate, using the Housing Quality Model, that housing investment in 1985 was about Rs. 5.3 billion, and that the country will realize an

increase of some 59,000 units of acceptable quality. These figures include normal investment plus units financed under the Million Houses Program (Sri Lanka's high volume program to assist households in the lower half of the income distribution) and mortgage financing from formal institutions.

An examination of the distribution of these new acceptable units reveals that groups realizing small gains are the lowest income households, those in the 50-80th income percentiles (whose incomes exceed the limits for the MHP but have not been served by the mortgage granting institutions), and upper income households in rural areas where mortgage financing has been comparatively scarce. Thus, additional funds should be targeted to these groups.

Even though the investment gap is Rs. 2.5 billion, we believe a reasonable target for increased formal financing is on the order of Rs. 1 billion, with the balance of the gap being closed by savings, informal financing, and some expansion of the MHP. For Rs. 2.5 billion to be adequate to meet the balance of the production goals investment per household must be constrained as tightly as possible to units just meeting the minimum standards.

Housing Finance in a Market Context

Capital is a scarce resource, particularly in a developing country. Whether it is allocated to housing or some other use, it has an opportunity cost. The key role for financial markets is the mobilization and allocation of capital, and the performance of financial markets is best measured by whether they put capital to its best use. While no economy allocates capital perfectly, there is good reason to

believe that competitive, fluid markets are at least a good starting point.

Our primary interest is in methods of mobilizing funds for housing. But we are also concerned about mobilizing funds in an efficient manner, i.e. in a way that does not add new distortions and perhaps even eliminates some of those already existing. We also focus on approaches that allocate funds in ways other than through government subsidies.

Sri Lanka's capital markets can be characterized by several basic points:

- o There is a limited amount of additional savings that could be induced by giving better access to financial savings to rural households. This is the case because there are apparent significant costs (in terms of time) of using bank branches in rural areas. However, overall, savers have had ample incentives in terms of positive real interest rates, and a good deal of savings by non farm workers is done automatically through the two major pension funds.
- o The general allocation of capital is likely inefficient. There is a complicated system of subsidies and formal and informal capital allocations that inhibits competition for funds.
- o Major lenders, the Bank of Ceylon and People's Bank, are government owned, still have considerable monopoly power and are not very competitive. Deposit markets are competitive and banks pay market rates, but these major lenders are not free to adjust their asset portfolios.
- o A major issue in the financial system is the desire for the government to finance its large deficits cheaply. To this end, the Employees Provident Fund (EPF) is constrained to hold government paper; and the two state insurance companies are similarly constrained to hold

these relatively low yielding investments. The major residual lender is the National Savings Bank (NSB), through which the government raises money by giving it a subsidy which allows the NSB to pay market deposit rates. Hence, the government indulges in price discrimination, raising money at low rates from inelastic suppliers like the EPF and paying higher rates to the more elastic suppliers of funds in deposit markets. There are virtually no "discretionary" holders of government paper.

- o Furthermore, the Central Bank appears to be following a policy of monetizing a major portion of the debt so as to stabilize its effects on interest rates. This limits its ability to control the money supply and the inflation rate.
- o There is some potential for increased competition because some deregulation has taken place and there is promise for more. But at this point the system needs a jolt or two of innovation and some relief from financing very large government deficits.

The current housing finance system is small and suffers from the problems of the overall system. Major issues are:

- o There have been serious problems with borrowers not paying their debts on time. To some extent this is due to "habit;" but to a larger extent it is caused by lax collection policies. The problem is being addressed by granting special foreclosure powers to major lenders, and higher penalties are being assessed for late payments. Both of these tools are being more rigorously used now than in the recent past. In this regard, the use of Thrift Cooperative Credit Societies (TCCSs) as loan originators and servicers for the Million House Program also presents some promise because of their overall low delinquency rates.
- o Clear title is also an issue and will remain one indefinitely; some government loans are being made without clear title, but this may be an impediment to expansion of mortgage lending.
- o Mortgage lending is confined to level payment, fixed-rate mortgages, which are not flexible

enough for all borrowers or lenders. We discuss graduated payment and indexed mortgages in the body of the report, focusing on their use for better arranging the timing of mortgage payments.

- o Constraints on rental markets are inhibiting the financing and production of rental units.
- o There are strong tax incentives to higher income homeowners. These may cost over Rs. 500 million per year in lost tax receipts.

In terms of incentives, the State Mortgage Investment Bank (SMIB) and the Housing Development Finance Corporation (HDFC) both have a strong inducement to hold mortgages as investments, since both receive low rate government loans for this purpose. Both have also been growing rapidly in the past year or two; they do proportionately little lending outside of the Colombo area, and they will very likely have long run limitations on fund raising if they continue current practices. There is, however, the potential for both to raise additional funds through the broader issuance of debentures.

There appears to be great potential for tapping new investors and for expanding lending to rural areas and smaller urban areas using the TCCS model, which emphasizes local origination and servicing for large lenders (currently the National Housing Development Authority). This arrangement is similar to the way mortgage bankers mobilize funds. We see both the need and incentives for expanding the use of TCCSs or similar small agents by the large mortgage lenders.

One scheme would be to have major investors like the NSB, EPF, and the Employees Trust Fund (ETF), buy SMIB market-rate debentures, which would, in turn, finance mortgages through arrangements with the TCCSs and similar agents. This would allow mobilization of big blocks of

funds while taking advantage of the TCCSs' apparent success at collecting payments.

In terms of actually mobilizing additional funds, we consider (1) short run changes, that take the current financial market operations as more or less given; and (2) longer run changes that allow for major structural changes.

Short run changes

- o Expansion of mortgage instruments to include GPMs, which would allow SMIB to make loans at market rates (unsubsidized) while keeping initial mortgage payments at relatively low levels.
- o Increase investment by major investors, particularly NSB, EPF, and ETF, in SMIB and HDFC debentures paying market rates.
- o Promote the use of TCCSs and other originators such as bank branches.
- o Cap loans by HDFC and SMIB at Rs. 150,000 to better target subsidies implicit in the backing these institutions receive from government.
- o Liberalize rent control and rental property holding laws.

Longer run changes

- o Eliminate tax breaks for homeowners and use the revenue gains for low income programs.
- o Move to convert SMIB and HDFC to fully private institutions.
- o Continue with general deregulation of financial markets, focusing on eliminating credit controls and subsidies.

What would be the effects on the rest of the economy of allocating more capital to the housing sector? Because of the difficulty of assessing the various implicit and explicit subsidies in the system, it

is hard to predict these effects. While there are probably many subsidized and inefficient sectors, these will likely not be crowded out first by housing; rather, the unsubsidized and relatively competitive sectors will be squeezed.

We do not have a way of comparing yields on housing investments with those on alternatives in Sri Lanka so as to assess the efficiency of housing investment. We can, however, note that:

- o Housing is indeed an investment like other investments in that it stimulates growth by providing a stream of future output. Prior studies have shown that in general the multipliers for housing are competitive with other sectors, but the evidence on long-term effects on productivity are less clear.
- o Given the scarcity of capital, it is important to limit subsidies to housing finance, so as to assure that only high return investments will be made within the sector.

In the long run there are some possibilities for policies fostering competition to produce more savings, which will take some of the pressure off crowding out other investments. Because housing (especially low income housing) appears to have a smaller import content than most of Sri Lanka's expenditures, switching to more housing may tend to improve trade balances. Likewise, in the short-term, if there is slack in the economy more housing investment could act as key element in driving economic growth.

Policy Packages

We have examined the impact on the rate of improvement in housing quality of three different packages of policy changes which affect both the level of resource mobilized and how they were used.

Package A: Little deregulation; MHP constant

This package assumes that in the short-run financial markets in Sri Lanka remain quite tightly controlled with only a limited scope for the housing sector to compete for funds. We assume, based on discussions with numerous officials, that by paying market interest rates, the SMIB and HDFC will be able to place debentures with 3-5 years' maturity of Rs. 500 million annually with various institutions, as discussed above. They would have to charge mortgage interest rates of about 20 percent. To counter the affordability problems engendered by the higher cost of funds, Graduated Payment Mortgages would be used to lower the effective first year rate to 16 percent -- about at current rates. The extra Rs. 500 million would be allocated to loans to households with incomes in the 50-80th income percentiles. That is, those underserved by lenders at present.

Package B: Greater deregulation; MHP constant

This case simulates a world in which the pressure of financing government deficits has abated sufficiently that the monetary authorities believe it safe to allow greater freedom for market forces to establish interest rates and allocate credit. The cost of servicing government debt will rise as government bids for resources. Large institutional investors -- notably pension funds, life insurance companies, and the NSB -- will have vastly greater latitude in determining their investment strategies. Under these circumstances we believe it possible for Rs. 1 billion annually to be mobilized for the housing sector compared with the Rs. 500 million under limited

deregulation. All of these funds would be allocated to the middle income lending program described earlier.

Package C: Little deregulation; MHP expanded

As noted, the current lending programs of SMIB and HDFC contain considerable subsidies (about Rs. 107 million in 1985). Under all of the packages these would be eliminated. In this package, the MHP in rural areas is expanded by Rs. 200 million per year, thus keeping the total government resources in the housing sector at about the same level as in 1985, after allowing for the deletion of interest rate subsidies and certain income tax deductions. In addition to the expansion of the program, interest rates in all parts of the program are raised by 3 percentage points in an effort to increase the reflows available for future lending and to reduce the depth of the subsidy. The changes just listed are in addition to those in Package A.

Beyond the elements in the individual packages, some other policy changes applicable to all of them have been included as desirable modifications to current policies. First, to expand the production of rental housing, legal action would be taken to: insure that rent controls will not be imposed on new units, repeal the limitations on rental property ownership, and provide owners with stronger rights to obtain their units from their tenants. Second, mortgage limits of Rs. 150,000 (indexed for inflation) would be imposed on all loans made by state-related or assisted institutions in order to spread the available funds among more borrowers. Third, the provision of the income tax laws which permit deductions of some home ownership costs

would be eliminated, as these benefits do not materially affect the ability of higher income households to live in adequate housing.

Impacts on Housing Quality

We are particularly interested in two aspects of each of the policy packages: (a) the effectiveness of the policies in shifting households in various income groups into housing meeting minimum quality standards, and (b) the efficiency with which these shifts are made, in terms of the total cost and government cost of effecting such changes.

The following table shows the percentage of households living in fully acceptable housing in 1985 and in 1990 in the base case (i.e. a continuation of current policies) and each of the policy packages, assuming the policies are implemented in 1986. The first issue is the extent of change in urban and rural areas, since rural areas had much greater deficits in 1985. In the base case and in all of the policies the absolute number of households achieving adequate housing is greater in rural areas. However, when one examines the percentage of households who achieve such units, a rather different pattern is evident. In all cases the change in the percentage of households in adequate housing is greater in urban areas; the gap is smallest for Policy Package C.

PERCENTAGE OF HOUSEHOLDS LIVING IN FULLY ACCEPTABLE DWELLINGS: BASE CASE AND POLICY ALTERNATIVES

	<u>Urban</u>	<u>Rural</u>
Base Case		
1985	31.4	9.3
1990	43.1	15.6
Policy Packages: 1990		
A. Limited deregulation	48.2	17.3
B. Full deregulation	52.6	19.2
C. Limited dereg; expanded rural MHP	48.4	19.9

In terms of the distribution among households with different incomes, as would be expected, Policy Packages A and B, which expand mortgage credit and target it to income deciles 6-8, help middle income households in particular. By contrast, Package C, which combines Package A with a roughly doubling of the rural MHP, achieves important gains for lower income households as well.

We rely on two measures to analyze efficiency: the total cost per household of achieving fully acceptable housing, and the cost to the government per household of achieving fully acceptable housing. Figures for these two measures for the base case and the policy packages for 1986 are:

	Base case	<u>policy package</u>		
		A	B	C
total investment per increased acceptable unit (Rs. 000)	77.1	69.7	67.2	63.0
gov't subsidy per increased acceptable unit (Rs. 000)	4.7	2.2	1.9	2.4

One sees that the base case rates worse on both measures than any of the policies. Policy Packages A and B are more efficient because they bring total unit costs down by imposing loan limits and directing additional loanable funds to middle income households who apply for smaller loans. Subsidies per unit (computed on a discounted present value basis) are cut sharply since all SMIB and HDFC loans are now made at market interest rates, and because in the base case they embody a majority of all interest rate subsidies. Policy Package C has the lowest cost per additional unit because the increase in the Million Houses Program adds a large number of low cost acceptable units; but

subsidy costs per unit do rise to reflect the expansion of those served by the program.

One might well ask how close Sri Lanka would come to meeting the production level of 198,000 fully acceptable units annually that corresponds to the country's housing needs under these policy packages. The range of increase in the number of fully satisfactory units is from 76,600 to 141,200 per year, depending on the policy package and assumptions chosen. The largest increases come under Policy Package C.

This analysis stops short of adding enough resources to the housing sector to actually meet the housing needs requirements because it seems that the nation would face very serious constraints to doing so -- the imperatives of holding the line on the deficit and financing it are simply overriding. However, the analysis of the policy packages points clearly to a complementary mix of expanded private market-rate mortgage financing and further use of the MHP in rural areas as the appropriate direction for housing policy in Sri Lanka (Policy Package C). If resources beyond those necessary for Package C are available, it would be most efficient to further expand the urban and rural MHP and even better to expand it at interest rates closer to true market rates. Expansion of the MHP, with special attention to drawing in the lowest income households, would also have the most desirable targeting to household groups with the greatest housing deficits.

CHAPTER 1

INTRODUCTION

This report is about ways in which adequate resources might be mobilized to meet Sri Lanka's housing requirements over an extended period of time. It is geared to helping the country develop an overall strategy that will guide housing policies in the years ahead. As we shall see, Sri Lanka has extensive housing needs. On the other hand, its Government has shown dynamism and imagination in beginning to address them. Moreover, it has made achievement of improvement in the housing sector a high priority in its overall investment program. This chapter initiates the reader to the current (1981) housing circumstances in Sri Lanka, recent developments in housing policy, and the more specific tasks of the study. The final section outlines the remainder of the report.

Housing Circumstances in Sri Lanka

Housing in 1981. The 1981 population of Sri Lanka was 14.8 million — about 3.1 million households. The occupied housing stock totaled some 2.8 million housing units. Thus, nationally, there was about 10 percent overcrowding.

The figures in Table 1.1 provide some essential descriptive facts about housing in Sri Lanka. The country is only about 20 percent urbanized; a share that has been remarkably stable over the past decade. A significant minority of the population (8 percent) continues to live on estates or plantations, where housing is furnished to workers and their families as part of the compensation package.

TABLE i.1
HOUSING IN SRI LANKA
(percentages)

	SECTOR			
	Total	Urban	Rural	Estate
Distribution of units by location	100	18	74	8
<u>Percentage distribution of units by building materials</u>				
permanent	42	68	37	23
semi-permanent	52	24	56	76
improvised	6	8	7	1
Total	100	100	100	100
<u>Percentage distribution of units source of drinking water</u>				
piped water within premises	8	24	2	29
piped water outside premises	9	22	3	37
protected well	52	44	58	17
unprotected well	21	5	26	4
river, tank, other	7	1	8	6
not reported	3	4	2	8
Total	100	100	100	100
<u>Percentage distribution of units by toilet facilities</u>				
flush toilet	5	16	2	5
water sealed	22	39	18	25
pit	38	17	42	32
bucket type	2	9	a	2
none	31	16	35	28
not stated	2	3	2	8
Total	100	100	100	100
<u>Percentage distribution of units by tenure</u>				
owned	69	57	80	1
rented or leased	10	29	6	1
occupied rent free	12	8	6	79
other	5	3	5	6
not stated	4	4	3	13
Total	100	100	100	100

a. Less than 0.5 percent

Source: Census of Population and Housing, Sri Lanka-1981: Housing Tables
(Colombo: Department of Census and Statistics, Preliminary Release
No. 3, 1982).

The second panel in the table reports the distribution of units classified by the strength of the materials from which their roofs, walls and floors are constructed. Only about 40 percent of all units are rated as "permanent" overall; but, on the other hand, less than 10 percent are classified as "improvised". As one might expect, the urban stock is the best and that in the estate sector is the worst.

The next two panels in Table 1.1 focus on sources of drinking water and types of toilet facility. The most common source of water in both urban and rural areas is protected wells. However, in urban areas, four out of every ten dwellings draw their water from taps -- about half of which are communal standpipes. The situation in rural areas is more difficult to discern because of ambiguity of the "protected well" category. As part of a broad-based program to improve the quality and quantity of water, the National Water Supply and Drainage Board has developed more specific data on water supply. In 1981, 47 percent of households in urban areas and 18 percent in rural areas were evaluated as having adequate water services. By 1983 there was sharp improvement in these figures which was a direct result of Government investment.

As regards toilet facilities, the majority of urban dwellings have flush or water sealed toilets, which are clearly of acceptable quality. In rural areas 20 percent of the units have such facilities, while pit latrines -- which can be of acceptable quality but appear generally not to be -- service over 40 percent of the dwellings. At the other end of the spectrum, a full 35 percent of rural units have no formal toilet facilities whatsoever, while 16 percent of units in urban areas are in this latter group.

Some further insight into housing patterns is available from the classification of units into "acceptable," "upgradable," and non-upgradable categories, based on whether the unit passes minimum standards for the structure as well as water and sanitation services. According to calculations done as part of this analysis, the following percentage distribution existed in 1983:

	<u>Urban</u>	<u>Rural</u>
Acceptable	27	6
Upgradable	65	87
Non-upgradable	8	7

These figures, discussed more fully in Chapter 2, along with the others reviewed in this section, point to the demanding task the country faces in ultimately providing all households with minimally adequate housing.

The tenure distribution of housing units is important because tenure can strongly affect investment decisions. This is especially true in Sri Lanka where strict rent controls in effect since the early 1970s have sharply depressed the construction of rental units. The final panel of Table 1.1 presents tenure distribution figures. Owner-occupancy clearly dominates, although it should be noted that owners include those without title to their property as well as those in more secure ownership positions. Nearly 30 percent of the units in urban areas are rented; this is a reduction of about 10 percentage points since 1971, presumably reflecting the imposition of rent controls at mid-decade as well as a complementary law limiting the number of rental units a household can own.

Government Initiatives

With the election of the present government in 1977, housing investment was identified as an element in the overall economic strategy to lower unemployment and stimulate economic development. Its first efforts focussed on the construction of a small number of high quality units. By 1979 the disappointing results of this effort were clear and Government began to redefine its program.¹ In 1981 Government, with USAID assistance, launched a new set of programs which embodied more realistic building standards, were aimed at lower income households, adopted the principle of making loans not grants to households, and sought to involve private individuals and builders in the development process. These programs -- Aided Self-Help, Model Village, Electorate, and Fisherman programs -- emphasized new construction in rural areas but nevertheless about one-third of the 30,000 units involved were units upgraded in the slum and shanty zones of urban areas.

In 1982 the Prime Minister announced that these programs would be succeeded by the Million Houses Program and would extend for ten years covering all types of housing delivered by both the public and private sectors. Nineteen eighty-three was designated as a planning year, and implementation began in 1984. Under the program the National Housing Development Authority (Government's principal implementing agency) is operating Rural and Urban Sub-Programs, which are designed to be very high volume, low cost programs. Both programs make highly subsidized loans: most carry rates of 3 or 6 percent, vs. a 20 percent true market

1. For a more detailed discussion of the recent history of housing policies in Sri Lanka, see Sri Lanka: Low Income Shelter Program, (Colombo: USAID Project Memorandum, Project 383-HG-003, 1985).

rate or 15 percent charged by government institutions. Loans go to households with incomes in the lower half of the income distribution. The loans can be used either to upgrade the present unit or to build a new unit. Ceilings on loan amounts are set at low levels, e.g., Rs. 7,500 in rural areas; and, it is expected that households will raise and invest substantial additional resources to complement the loan funds. There is a strong emphasis on cost recovery, an area of very poor performance in earlier government programs. Very considerable latitude is given to borrowers to define the types of improvements they will make with the loan, and administration of the program is highly decentralized.¹

The program got off to a very fast start with the Rural Sub-Program assisting some 43,000 households in 1984 and a similar number in 1985. The Urban Sub-Program, which began operation in 1985, is shooting for assisting 6,000 households in its first year.² In 1986 its volume is slated to more than double, with there being a growing emphasis on sites-and-services projects.

To complement these programs of direct assistance to lower income households, Government has undertaken to expand the availability to middle and upper income households of mortgage credit at closer to market rates. To this end, the lending of the State Mortgage and Investment Bank, a parastatal, has been sharply expanded with the number

1. For more on the Million Houses Program see Annex A and the references cited therein.

2. This production is in addition to units being improved under the Slum and Shanty Upgrading Program. In 1985 about 1,500 units are to be upgraded under the program. As of 1986, this activity will be combined with other elements of the Million Houses Program operated by the National Housing Development Authority.

of loans rising from 1,069 in 1982 to about 5,000 in 1985. Thus far, the SMIB has raised its funds for borrowing exclusively from selling debentures to the Central Bank. Government has also been instrumental in establishing a new mortgage financing institution, the Home Development Finance Institution, by taking an equity position and by providing initial term loans at very favorable rates. In 1985, its first full year of operation, it will make about 500 loans. At present, these two institutions account for essentially all mortgage lending in Sri Lanka, except for small company programs for employees.¹ Average loan amounts are high, and borrowers are drawn predominantly from the highest income quintile.²

The third area of Government activity which is producing improvement in the housing sector is the massive investment program begun at the end of the last decade to improve water supply and sanitation. The improvement in water supply between 1981 and 1983 was noted in the last section. All urban households are slated to have access to adequate water by 1990 as well as half of the rural population. All rural households are to be served by 1995. Smaller but nevertheless impressive programs to provide minimally adequate disposal of human waste are also underway.³ The investments in this area, while not formally part of the Government's housing strategy, are vital, since

1. The National Savings Bank also makes mortgage loans. Its volume is quite small, with total loans for 1985 expected to be about Rs. 30 million.

2. The SMIB, with USAID support, is offering loans to households in the lower half of the income distribution. In 1985, these will account for about 10 percent of all loans.

3. National Water Supply and Drainage Board, Strategic Plan (Macro-Investment), (Colombo: author, 1985).

many lower income households are able to incrementally improve their unit but are not capable of independently upgrading these infrastructure services.

Purposes of the Study

This study is a direct out growth of a prior effort which estimated the probable housing needs in Sri Lanka over the 1983-2003 period.¹ As part of that analysis an estimate of the investment required annually to meet these needs was also produced. (These estimates are discussed further in the next chapter.) Having determined this number, the next question is whether it is possible to mobilize these resources. The present analysis addresses this question. That is, we are trying to define a strategy for the country to generate these resources for the housing sector and to assess the consequences of doing so. It should also be mentioned that the analysis has been carried out to test a more general methodology for developing a housing finance strategy which had been structured earlier; this is the first field test of the method.²

More specifically, we report here on the results of carrying out five tasks:

1. Estimate the volume of resources beyond the current level going to housing that is necessary to meet Sri Lanka's housing needs, in light of other sectoral investments, especially in water and sanitation.

1. D. Manson and R. Struyk, Housing Needs and Probable Investment in Sri Lanka: 1983-2003, (Washington, D.C.: Urban Institute Report to USAID Office of Housing and Urban Programs, 1984).

2. R. Struyk, R. Buckley, and M. Turner, Housing Finance Strategies for LDCs: Developing a Systematic Approach, (Washington, D.C.: Urban Institute Report to USAID Office of Housing and Urban Programs, 1985).

2. Define the structure of a housing finance system capable of mobilizing the necessary resources. Describe the institutional system that could act as loan originators and services, as well as institutions that would be investors in mortgages.

3. Estimate the increase in the rate of progress in improving housing quality likely over the remainder of the 1980s of adopting these measures and using the resources in different ways, i.e., expansion of existing activities versus shifts in the targeting of resources.

4. Discuss the potential consequences for the balance of the economy of shifting these additional resources to the housing sector.

5. Recommend the first steps to be taken in evolving the housing finance system to that which is defined to be the most desirable.

The study explicitly excludes the estate sector. This exclusion should not be interpreted to suggest that there are no problems in the sector. Rather, analysis of its problems would require far more resources than available for this work.

Outline

The next chapter defines the size of the resource gap by reviewing the country's housing needs and contrasting them with the amount of resources now going into the sector. Chapter 3 discusses the alternatives for mobilizing the additional resources, and Chapter 4 considers the options for how to employ the resources once generated. Chapter 5 then evaluates these options from several perspectives. Chapter 6 concludes with a list of the first steps which should be taken to reform the housing finance system in Sri Lanka.

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CHAPTER 2

REQUIREMENTS FOR MEETING HOUSING NEEDS

In order to investigate properly the mobilization of additional funds for the housing sector, one must first have an idea of the volume of additional funds required if Sri Lanka is to provide minimally adequate housing for its citizens over a period even as long as twenty years. This section presents our estimate of the volume of additional resources necessary to accomplish this task. We proceed in three steps. First, we review the estimates already made of the investment necessary to meet the country's housing needs, under certain assumptions about future demographic and economic developments and the quality of housing that will be minimally acceptable. Second, we present our estimates of the current level of investment in the housing sector. Since the national income accounts data on this investment are weak, these are original estimates. Finally, we contrast the two estimates to determine the further investment required. This figure serves as a target for the mobilization of additional resources.

Housing Needs and Related Investment

This section outlines the housing requirements of Sri Lanka over the 1983-2003 period as computed using the National Housing Needs Assessment methodology. These needs estimates are based on a particular logic that is important to grasp from the outset. The methodology computes aggregate needs levels in two basic steps. In the first step the number of dwelling units needed each fifth year over a 20-year planning period is computed. These "needs" correspond to a specific

plan, which calls for all households to be living in adequate units by the end of the planning period. The plan provides for (a) new units to serve newly formed households, to replace obsolete and badly deficient units, and to relieve overcrowding, and (b) the upgrading of existing units having correctable deficiencies. For these calculations, the rate at which housing deficits existing in the base year are corrected is specified by the analyst. For the estimates presented here, deficits are assumed to be eliminated at the rate of five percent per year.

In the second step, the level of housing investment required annually to achieve planned production and upgrades is calculated. Also, the amount of investment anticipated from private sources is computed. The "capital gap" between the level of investment needed to execute the planned program and the level of investment forthcoming from private sources can then be determined. This gap essentially constitutes the total subsidy requirement. Note that the Needs Assessment computations are done separately for households in each income quintile in three geographic sectors -- urban, rural, and estate.

The results of these calculations for Sri Lanka, excluding the estate sector, are summarized in Table 2.1 for the third year of the plan period, 1985.¹ While the number of units that must be newly constructed increases somewhat over the period (from 87,500 in 1985 to 99,000 in 2003), the general patterns evident in 1985 remain the same.

In Sri Lanka as a whole in 1985, about 198,000 units will be required to meet the production levels called for in a plan that

1. As outlined in Annex E, these estimates differ somewhat from those presented earlier in Manson and Struyk (op. cit.) because of additional information developed in the course of the present study.

provides all new households with units and that eliminates five percent of the deficits existing in 1983. Of the total, a little under half -- or 87,500 units -- are new units, while the balance -- 110,200 -- are units to be upgraded. The large share accounted for by upgrades reflects the large portion of the base year housing stock which is rated as not meeting minimum standards but as upgradable.

Reaching the goal of adequate housing for all households depends on the ability of households to afford units meeting minimum standards. The Needs Assessment analysis focuses on those households unable to afford housing formally supplied by the private sector. These households are able to afford only the minimum housing or less. Households in this group are defined as "target households," and they may be "assigned" to either of two categories of housing solutions: an upgrade of the household's existing unit or a new "shell unit" on a serviced lot meeting minimum quality standards. The amount a household can afford to pay for housing is determined by the capitalized value of its current housing expenditures. For households not able to afford the shelter solution assigned to them, the model calculates the shortfall between the design cost of the solution and the capital value they can afford.

The second panel of Table 2.1 shows the distribution of households by the type of units they can afford. Nationally, all households can afford an upgraded unit, while only about 33 percent can afford the minimum new unit or "shell house." This distribution results both from the purchasing power of Sri Lankan households and from the realistic standards embodied in the housing solutions defined. Higher cost

solutions would have resulted in fewer households even being able to afford an upgraded unit.

The third panel of Table 2.1 computes the amount of funds that would have to be invested in housing in 1985 to meet the housing needs. Nationally, the target group -- households that cannot afford the highest of the three solutions -- invests about Rs. 5.0 billion of its own funds, and needs another Rs. 0.73 billion in subsidies to be able to afford the types of units assigned by the model. We calculate that in 1985 about Rs. 6.6 billion is invested in total.

The figure just presented is the quantity of investment necessary each year to carry out the housing program outlined earlier. It is important to note that it makes no allowance for additional housing investment beyond that "needed." Naturally, some households, particularly those with high incomes, engage in such investment. To obtain an idea of the total resources for the housing sector -- to satisfy both housing needs and additional desired housing beyond this level -- we must make some estimate of this supplemental investment. We have arbitrarily assumed this amount to be equivalent to investment necessary to satisfy the housing needs of households in the highest income quintile. This amounts to Rs. 1.2 billion in 1985. Hence, the total economic resource for the housing sector to meet all the requirements is on the order of Rs. 7.8 billion.

This figure can be placed in perspective by comparing it with figures from the national income accounts for 1984. In that year, housing investments of this level (adjusted for inflation) would have been 18 percent of aggregate investment and 4.7 percent of Gross

National Expenditures. These are presumably the upper limits of these percentages, since as computed they assume that all housing investment beyond that which actually occurred came at the expense of other investment. Even at these levels, however, the figures do not suggest an inordinate share of resources going to the housing sector.

Current Housing Investment

As noted earlier, it has been necessary to develop our own estimate of current investment in the housing sector. To do this we have used the Housing Quality Model which has been calibrated for Sri Lanka as part of this analysis. Because the Housing Quality Model is also used extensively later in the evaluation of the effects mobilizing and using additional resources for housing in different ways, we introduce the model at this point. Following the overview of the model, we present the estimate of housing investment in 1985.

The Housing Quality Model projects year-to-year changes in the housing conditions of developing countries under alternative policy scenarios.¹ The HQM can best be understood as a record-keeping or accounting model, rather than as a behavioral model; most behavioral assumptions must be explicitly supplied by model users when they assemble the required data inputs.² The Housing Quality Model uses the

1. For a complete description of the model, see M. Turner and R. Struyk, The Housing Quality Model: Basic Description (Washington, D.C.: Urban Institute Report to USAID Office of Housing and Urban Development, 3492-04, 1985).

2. This is primarily a demand-side model, focusing on the capacity of households to achieve improvements in their housing circumstances, either independently or through participation in publicly sponsored assistance programs. Supply constraints are reflected in the cost of various housing options and in interest rate trends, but the Housing Quality Model does not attempt to represent supply behavior endogenously or to simulate a market clearing process.

same data as the Housing Needs Model on future demographic and economic development, housing costs and affordability, and the quality of the housing stock. Hence, the results of the two sets of computations should be roughly consistent.

The Housing Quality Model classifies households according to income, tenure, and housing condition. The initial distribution of households within the classification matrix was developed using public data,¹ and the model then simulates year-to-year shifts by households between cells in the matrix. In Sri Lanka, within each income decile, households are assigned to one of three tenure categories: (a) owner-occupants; (b) unit renters; and (c) room renters. Since in Sri Lanka virtually all owners have clear title or are quite certain of their rights to remain on their property, no distinction is made among owners as to security of tenure.

Within each tenure category, households are distributed across six possible dwelling statuses, defined on the basis of structural adequacy and infrastructure acceptability. In Sri Lanka, structures are defined on the basis of their materials as (1) permanent -- and therefore presumably adequate; (2) semi-permanent -- not fully adequate, but upgradable; or (3) improvised -- inadequate and not upgradable. Infrastructure is defined simply as either acceptable or unacceptable, on the basis of drinking water and toilet facilities.

Starting with this initial distribution of households, the Housing Quality Model records year-to-year shifts by households from one cell to

1. The construction of this matrix, including data sources, is described in Annex H.

another, and computes the resource requirements generated by these tenure and dwelling status transitions. The transitions of primary interest to model users stem from publicly-sponsored housing assistance initiatives, but significant changes in the distribution of households also occur in the absence of government interventions. Therefore, the Housing Quality Model begins by simulating a set of "natural" or "no government" transitions, and then simulates additional transitions brought about by publicly-sponsored programs.

There are three sets of transitions that the Housing Quality Model simulates each year, even in the absence of government interventions. These include (1) the net addition of new households; (2) improvements in the existing stock of housing units -- from semi-permanent to permanent structures, and from unacceptable to acceptable infrastructure; and (3) replacements of units lost due to depreciation.

Once the Housing Quality Model completes its processing of newcomers, transitions, and replacements, it sums up the implied levels of new construction for each dwelling status, and the aggregate level of financial resources consumed. Now the Housing Quality Model goes on to simulate the impacts of any publicly-sponsored housing assistance programs specified by the user. Three types of policy are simulated in the Model in the analysis for Sri Lanka: (1) the mortgage lending operations of SMIB and HDFC; (2) improvements in water supply and sanitary facilities provided by government; and (3) the Million Houses Program, both the Urban and Rural Sub Programs.¹

1. The treatment of these programs in the model is described in Annexes A-C, and F.

Using these calculations, we estimate that total housing investment in 1985 was on the order of Rs. 5.3 billion, Rs. 4.1 billion in meeting housing needs plus the Rs. 1.2 billion indicated earlier for investments beyond those satisfying housing needs. This, combined with the results from the housing needs analysis, implies that the investment gap is about Rs. 2.5 billion. Of course, this figure holds only if the additional investment goes only to meet housing needs.

It is important to stress that this figure is not a target for government, or even for government plus formal financing. Households have demonstrated a remarkable capacity to generate funds from savings and informal borrowing for housing investment when presented with the appropriate opportunities. Indeed, the Million Houses Program is predicated on this proposition. Still, formal finance and/or assistance from government is certainly very important, and this is the reason for seeking to expand the availability of mortgage financing in particular. Our rough judgement is that mobilization of additional mortgage financing -- if the lending of those funds is properly targeted -- of about Rs. 1.0 billion is a reasonable objective. More funds will be needed if these funds go heavily to financing units which substantially exceed minimum standards.

We can also use the results of the Housing Quality simulations to orient us further on the appropriate use of additional mortgage funds or government assistance. Table 2.2 shows the percentage of households in urban and rural areas living in structures built of permanent materials, disaggregated by whether they pass the minimum infrastructure standard. The table provides these distributions for 1985 and the

shifts in them between 1985 and 1986, given the continued operation of the MHP and mortgage lending by HDFC and SMIB.

The two distributions for permanent units (i.e., those passing and failing the infrastructure standard) are given because there has been concern voiced that, particularly in rural areas, the imposition of a requirement for a pit latrine in good working order to provide minimum sanitary service may be excessive. As Sri Lanka fulfills its plan to provide adequate water services to urban areas by 1990 and rural areas by 1995, it will only be absence of sanitary facilities that separates units between passing and failing the infrastructure standard. Hence, judgments on this point are quite important.

Looking at the figures in Table 2.2 for 1985 one sees a steady increase in the share of units made of permanent materials as income rises. On the other hand, there is a pronounced bulge in the distribution of permanent units passing the infrastructure standard in the 4th and 5th income deciles, particularly in rural areas. This pattern already reflects the effects of the MHP, which by the end of 1985 will have assisted 80,000 households in rural locations.¹

The last set of columns shows the year-to-year changes in the percentage of households occupying permanent structures for 1985-1986. The big gains -- in terms of living in fully adequate housing -- are households in the 3rd-6th income deciles. The lowest income households

1. In 1985, there were about 228,000 households in each income decile in rural areas. With the program concentrated in the 4th and 5th deciles perhaps as many as 50,000-60,000 beneficiaries were from among these 556,000 households.

TABLE 2.2

**DISTRIBUTION OF DWELLINGS MADE OF PERMANENT MATERIALS AND TOTAL INVESTMENT IN 1985 AND 1986:
URBAN AND RURAL AREAS
(Percentages)**

Percentage of household in income decile (%)	1985				(Total)	Change 1985-86				(Total)
	Urban		Rural			Urban		Rural		
	Pass ^a	Fail	Pass ^a	Fail		Pass ^a	Fail	Pass ^a	Fail	
1 (lowest)	3.0	11.2	2.1	.9		.3	1.0	.7	--	
2	7.1	29.9	2.5	4.5		.5	.4	.7	--	
3	25.3	28.8	5.8	8.3		1.0	-.3	2.1	-.3	
4	22.6	50.0	9.3	15.8		1.7	-2.9	3.5	-1.2	
5	30.7	49.0	9.7	23.7		4.9	-7.9	4.3	-1.4	
6	30.1	53.8	8.3	33.4		1.5	-2.1	4.3	-.8	
7	28.7	57.8	8.8	42.4		.8	-.6	.6	-.3	
8	27.7	51.0	11.0	50.0		1.6	-1.1	.6	--	
9	61.2	30.9	13.4	59.3		4.2	-3.2	.6	-.4	
10 (highest)	67.8	24.3	22.1	63.5		3.4	-2.5	.8	-.7	
Average % in Class	31.4	38.6	9.3	30.1		1.9	-1.8	1.4	-.5	
Total Units in Class (000)	202.8	249.1	231.3	748.9	(1,482)	17.2	-7.8	41.3	6.4	(59.0)
Investments ^c										
Total (Millions Rs) ^d										
Percent Distribution	1,593	2,451		(4,044)	1,871	2,646		(4,817)		
Formal Financing ^e	29	12			31	13				
Gov't Subsidies ^b	7	4			8	5				

a. Passing water and sanitation infrastructure standards.

b. Government subsidies on loan programs computed as the discounted present value of difference in payments between market rate and subsidized mortgages. Subsidies exclude those for provision of infrastructure by nonhousing ministries.

c. Excludes investment for households already adequately housed, see text for further explanation.

d. Total investment, not change in investment between years.

e. Individual loans made by SMIB and HDFC and government loans under the Million Houses Program.

and the middle income group in the 7th-8th deciles especially in rural areas do less well. The former have not participated much to date in the MHP, while the latter have not received much of the formal financing which is available. Households in the highest income quintile in rural areas make slow progress compared to their urban counterparts because of the smaller volume of mortgage financing they obtain from SMIB and IDFC.¹ The target group for additional market rate financing is middle income families in urban areas and middle and higher income groups in rural areas.

Another way to compare the estimates of housing needs with actual production is to contrast the number of dwellings created in a year through upgrading or new construction that meet the minimum standards being employed. Recall that the housing needs assessment indicated that about 198,000 units per year were required in the early years of the 20-year plan period. This contrasts with about 59,000 units added to the count of fully adequate units in 1986, or about 30 percent of the targeted number. The number of additions is smaller than might be expected from the volume of government activity because not all units in the Million Houses Program meet the minimum standards, at least initially, and because not all units receiving sanitary services are built of strong materials.² Thus, while actual investment equals almost 70 percent of that calculated to be necessary, production of acceptable

1. The decline in the share of units in the permanent structure-fail infrastructure category is accounted for by units in this group being improved to the highest category at a rate faster than improvised units are upgraded and new units of this type are built.

2. See Annex A for details on the way the program is treated in the model.

units is only 30 percent. To close the production gap with the additional 30 percent of investment will require sharply focusing assistance on those not living in adequate units. We next turn to ways in which additional funds can be mobilized for investment in the housing sector and ways in which it might be deployed to maximize the number of households obtaining adequate dwellings.

CHAPTER 3

HOUSING FINANCE IN A CAPITAL MARKET CONTEXT

Capital is a scarce resource, particularly in a developing country. Whether it is allocated to housing or some other use, it has an opportunity cost. The key role for financial markets is the mobilization and allocation of capital, and a key measure of the performance of financial markets is whether they put capital to its highest use, which takes place when each allocation or use of capital has a yield which exceeds its highest opportunity cost. Of course, no system does this perfectly, but there is a presumption that fluid, competitive capital markets are a good starting point. That is, we accept the standard argument that competition will eliminate low return investments and that there are no significant external or third party effects, so that, absent distortions from taxes and subsidies, social and private returns are approximately equal.

Our primary interest is in methods of mobilizing funds for housing; but we are interested in mobilizing the funds in the least costly manner, whereby we mean least costly in terms of effects on the entire economy. That is, we want to consider approaches that not only minimize distortions in the overall economy, but which promote competition and efficiency, so as to remove some existing distortions.

This requires us to begin with a discussion of the overall financial system in Sri Lanka. That analysis constitutes the first part of this chapter, and focuses on the incentives embodied in the existing set up and the type of markets that are produced by it. Our main

interest is on how competitive these markets are and how capital flows respond to market and/or regulatory signals. Because our interest is in providing a background for analyzing housing finance we leave out some obviously interesting questions. We begin with a brief discussion of the levels of saving and investment -- i.e., the overall supply of capital, and then we discuss in more detail the allocation of capital among sectors.

The second part of the chapter uses the analyses of financial markets to analyze the existing housing finance system. We focus on the same sorts of questions as in the first section: incentives in the system and the types of markets that exist. We then provide a summary and analysis of the major problems that we see.

The third section presents proposals for mobilizing funds. Again, we emphasize methods that are essentially deregulatory and which are intended to promote overall capital market efficiency. We present short run proposals, which take the existing system as more or less given and involve few radical changes. We then present longer run changes which are more deregulation-oriented and present our picture of the long term potential for Sri Lanka financial markets.

The final section discusses some of the effects of our proposed changes on the rest of the economy. We focus on: overall resource allocation, saving, investment and growth, and balance of payments.

Here and in subsequent sections we do not provide a summary description of the institutions involved. This has been done quite nicely in the Knight report, to which we refer the reader. We have attached the relevant sections of the report as Annex I, but we hope the

reader will not consider this a substitute for reading all of his report.

Financial Markets Generally

Overall Savings Mobilization

Table 3.1 presents data on saving and investment relative to GDP. A look at the table reveals that investment, both total and private, has increased relative to GDP since 1977. However, the savings rate has not changed by much, as the excess of imports over exports, rather than saving has "financed" most of investment growth. Saving rates did rise in 1977 and in 1984.

It is not easy to estimate very precisely what determines saving and investment rates in Sri Lanka, but we do have some estimates of what should be important determinants.

Return to Saving

The nominal return to saving can be measured by the rate of interest on deposits. Table 3.2 presents deposit rates of major institutions. Two observations jump out of the data: deposit rates are measured by a range of rates, which makes them hard to work with, and rates jumped precipitously after 1977 when the present government took office and rates were allowed to rise. Because it is difficult to compare pre-1977 with post-1977, we focus on what has occurred during the second period.

TABLE 3.1
GROSS SAVING AND INVESTMENT*
(percentages)

<u>Year</u>	<u>Saving/GDP**</u>	<u>Investment/GDD</u>	<u>Private Investment GDP</u>
1970	NA	17.3	13.1
1975	8.6	13.9	9.8
1976	14.3	15.2	9.8
1977	17.8	13.8	9.6
1978	16.6	20.0	12.8
1979	11.5	25.3	18.0
1980	14.8	31.3	24.3
1981	13.5	27.4	22.5
1982	13.2	30.5	25.6
1983	16.6	29.0	24.1
1984	15.4	25.2	21.3

* Source: 1984 Review of the Economy, Central Bank of Ceylon

** Saving (Gross) as defined as gross investment and current account (govt.) deficit and exports of goods and services (non-factor) -- imports of goods and services (non-factor).

TABLE 3.2
COMMERCIAL BANK DEPOSIT RATES*
 (percent per year)

<u>Year</u>	<u>Savings Deposits</u>	<u>12 Month Fixed Deposit</u>
1972	4.5	4.5-4.75
1973	4.5	4.5-4.75
1974	4.5	4.5-4.75
1975	5.5	7-7.5
1976	5.5	7-7.5
1977	7.2	14-15
1978	7.2	14-15
1979	5-9	14-15
1980	10-14	20
1981	10-14	20-22
1982	10-14	16-22
1983	10-14.5	15.1-22.2
1984	10-15	15-23.9

*Source: Annual Report, Central Bank of Ceylon, 1984, Table 46.

The relevant return to saving, however, is the real interest rate, which deducts the inflation rate from the nominal interest rate. This measures the increase in real purchasing power that savers receive.¹

Real rates are not easy to measure. Table 3.3 presents a range of estimates. The first is from a paper by Raneey Jayamala,² which deducts the change in the Colombo Consumer Price Index (CCPI) from a representative deposit rate. The CCPI is, however, not an obviously reliable source; it represents only Colombo and is "spoiled" by the inclusion of controlled rents, which do not rise (in fact, new units are not rent controlled nor are rented rooms) and its exclusion of homeowner costs. There are apparently also differences in estimated food cost with those of the Wholesale Price Index (WPI), which had higher growth rates over the period. Hence, we present a series of measures using essentially the same deposit rates as are used in Jayamala's paper, but with different inflation measures. The other measures are:

- o The WPI, which is inaccurate because it is probably weighted incorrectly and is about 50 percent exports and imports.
- o The GDP deflator, taken by subtracting the rate of growth of real GDP from the rate of growth of nominal GDP.

All three of the measures are erratic, which can be attributed both to measurement error and to the susceptibility of a small, agricultural economy to price volatility. Averages over the period do reveal that

1. We do not adjust for taxes mainly because few households (probably around 5%) pay income taxes (Donald John). For those who pay taxes, nominal return is taxed (maximum marginal tax rate is 55%) at ordinary rates. There is a partial tax break (1/3 deductible) for deposits at the NSB.

2. "Financial Deepening in a Changing Financial Structure," Central Bank News Survey, Sri Lanka, Feb. 1985.

TABLE 3.3

REAL INTEREST RATES

<u>Year</u>	<u>Deposit Rate¹</u>	<u>Using CCPI²</u>	<u>Using WPI³</u>	<u>Using GDP Deflator⁴</u>
1977	15.0	13.8	-6.0	-1.3
1978	15.0	2.9	-1.0	6.0
1979	15.0	4.3	5.0	-1.5
1980	20.0	-6.1	-13.7	-1.2
1981	20.0	2.0	3.0	-2.0
1982	20.0	9.2	14.5	8.4
1983	20.0	6.0	-5.0	3.3
1984	18.0	1.3	-7.6	-2.5
Simple Ave.	17.9	4.2	-1.4	1.2

1. One year deposit rates in "Capital Deepening in a Changing Financial Structure" by Ranee Jayamala, Central Bank News Survey, Feb. 1985.

2. Column 1 minus CCPI
3. Column 1 minus WPI
4. Column 1 minus GNP Deflator

real rates have probably been positive over the period, so that there has been a "reasonable" return to saving. Currently (end of 1985) one year deposit rates are 13 to 15 percent and inflation is low (currently zero, though expected to rise) so that real rates are probably quite large.

Access

If we add up the number of accounts at the major deposit institutions (Bank of Ceylon, People's Bank and the National Savings Bank (NSB)) we come to a figure of over 10 million accounts. While some of these are "dormant" (perhaps 2 million at People's) this is still a number that is of the same order of magnitude as the level of population and is several times the number of households. These institutions have over 1,000 branches, and NSB receives deposits through post office branches. Furthermore, there is a network of Thrift Cooperative Credit Societies which goes out into very small villages.

Hence, on the surface, there appears to be both good access to deposit institutions and a reasonable return to saving. However, in discussions with various Sri Lankans we frequently heard that, in fact, there is a population that is not served, largely because the bank branches, while numerous, are inefficiently operated, and transactions are time-consuming as an even short trip to a branch can involve significant time costs. A major reason cited for the inefficiency of the branches was that in many cases branches were "forced" on banks in compliance with requests from the Central Bank and are not profitable, providing an incentive to run them inefficiently. Furthermore, the cooperative movement does not reach everywhere.

Hence, there is a suggestion that there is some potential for raising new funds. An indicator of this is the relatively small share, some 10 to 14 percent,¹ of funds raised for housing in formal markets. Most finance is done informally and much saving is done outside of institutions, for instance in the form of gold and jewels. It is not possible to sort out how much of this results from inefficiency or lack of outreach of the formal sector and how much is rational diversification; nor is it clear how many of the relatively low income households missed by the system would be able to save, were it easier.

Furthermore, a good deal of household wealth accumulation is done "involuntarily" through the Employee Provident Fund (EPF), which collects 8 percent of salary directly from workers and 12 percent from employers, and the Employee Trust Fund (ETF) which collects 3 percent from employers. Hence, a significant share of the nonagricultural wage-earners in the country (ETF has 1.5 million members and EPF has some 4 million accounts, with actual membership being lower than this because some members have more than one account) are "forced" to save a significant share of their income. For these people the willingness to save more than that amount (plus wealth accumulated through housing and durable goods) may be very small.

Saving Elasticity

Because of shakiness of the data there is little point in trying to estimate a savings elasticity, although this is a key parameter. If

1. See Knight, op cit., p. 25. The 10 percent number is an estimate of total formal financing in 1984 divided by estimated housing needs. The 14 percent figures comes from a background paper by D. Weerapana and S. Rajalingham.

saving elasticities are high, then increased housing investment could be paid for by increased saving rather than decreased investment in other sectors. The previous section suggests, however, some skepticism at least about a high short-run saving elasticity. That is, there has been no significant repression of the return to savings and at least some access to secure deposit accounts for most of the population. Hence, there appears to be no legacy of repressed saving waiting to be tapped, and a significant share of saving is mechanically run through EPF and ETF leaving even less room for elasticity should new opportunities arise.

However, there is some (weak) historical evidence of interest elasticity in that (as can be seen from Table 3.1) saving rates did rise briefly after the sharp interest rate increases in 1977.¹ A recent paper by Alan Roe² shows the rise in deposits that occurred after 1977, with deposit levels (saving and time deposits at banks and NSB) eventually doubling by mid 1979, but the paper does not estimate effects on total (including non-deposit) savings.

Allocating Saving to Different Types of Investment

Analyzing capital allocation in Sri Lanka is complicated because Sri Lanka has a fairly multifarious system in which capital is allocated by both markets and regulations, and some of the regulation is of an

1. The evidence is probably stronger than appears at first, because along with the interest rate increases in 1977 was a lifting of some import controls and rationing, which probably shifted the saving schedule, making the change due to interest rate increases look smaller than it actually was.

2. "High Interest Rates: A New Conventional Wisdom for Development Policy? Some Conclusions from Sri Lankan Experience," World Development, Vol. 10, No. 3, pp 211-222, 1982.

implicit, hard-to-identify nature. There are explicit attempts to direct capital to favored industries, such as agriculture, and exports via subsidies and credit controls. And implicit regulation or moral suasion has apparently been used by the Central Bank to get the two state-owned banks to invest in certain areas. There has, however, been some recent deregulation, and there is a good deal of competition in some areas.

There are 25 banks, 21 of them branches of foreign banks which do, indeed, compete for business. On the other hand, the three major deposit institutions, the two state banks (Bank of Ceylon and People's Bank) and the NSB, still have a certain amount of monopoly power.

Finally, in the background, are the large government deficits of the past few years (see Table 3.4) which, depending on how much can be financed abroad (lately over half has been), have the potential to "crowd out" much of Sri Lanka's private investment. Furthermore, the desire to finance these deficits cheaply has important effects on the behavior of Sri Lanka's major financial institutions.

Here we present a brief outline of the structure of Sri Lanka's financial markets. We begin with a discussion of financial policy, mainly with respect to the Central Bank of Ceylon (CBC) and the Ministry of Finance and Planning (MFP). Given these policies, both implicit and explicit, we move on to the incentives that they create in the system. Then given these incentives, we briefly discuss the sorts of markets that emerge.

TABLE 3.4

GOVERNMENT DEBT AND DEFICIT* (RS. MILLION)

<u>Year</u>	(1) <u>Total Debt</u>	(2) <u>Domestic Debt</u>	(3) "Publicly" Held ¹ <u>Domestic Debt</u>	(4) <u>Δ (2) GDP</u>	(5) <u>Δ (3) GDP</u>
1975	14,564	10,859	5,839		
1976	17,659	12,691	6,900	6.1%	3.5%
1977	24,986	14,392	8,286	4.7	3.8
1978	30,950	16,368	9,571	4.6	3.0
1979	35,475	19,634	11,386	6.2	3.5
1980	51,656	29,379	13,171	14.7	2.7
1981	64,999	35,827	14,316	7.6	1.4
1982	80,173	45,575	18,608	9.8	4.3
1983	98,380	52,355	21,670	5.6	2.5
1984	105,918	52,237	25,396	4.2	2.4

1. Column (2) minus debt held by Central Bank, Sinking Funds and Official Funds

2. Change in Column 2 divided by GDP

3. Change in Column 3 divided by GDP

* Source: Central Bank of Ceylon, Review of Economy, 1984

Implicit and Explicit Regulations and Subsidies

The Central Bank. The Central Bank is involved in two sorts of activities: first, traditional central banking activities involving stabilization policy and regulation of banking activities; and, second, a combination of development banking and credit allocation. We focus first on the latter activities.

The major devices for allocating credit are refinancing schemes, particularly in agriculture and export-related industries, which provide subsidized lending. For instance, a short-term agricultural loan will, under the refinancing program, be made by a bank at 9 percent and refinanced through the CBC at a 1.5 percent rate. Rates and spreads vary with term and program. These loans were at one time coinsured by the CBC. They no longer have any guarantee, although there is talk of reintroducing some coinsurance.

The CBC imposed credit allocations in 1984 in an effort to control credit growth. These controls limited lending by banks in areas other than agriculture or export.

The CBC also has some indirect control over the two state banks. It is generally agreed that the CBC directed these banks to expand agricultural loans in recent years, beyond what they would have done otherwise. Its ability to do this does not come from statutory authority but rather "moral suasion" and the possibility that if suggestions are not followed, they will be implemented by statutory changes.

But control is not absolute. The People's Bank recently refused to follow a suggestion that it make loans to agricultural borrowers who were in arrears, provided that they pay 10 percent of what they then

owed. The People's Bank argument apparently involved a desire to have the CBC coinsurance reinstated. In any event, the two banks do have the power to say no. There is apparently a negotiation process that goes on between the CBC and the banks, which often leads to the banks doing what the CBC wants; but, if the cost is too high, the banks can refuse.

With respect to more traditional central banking issues, the Central Bank does have "targets" for monetary growth; but these are not a major issue because the targets are not taken very seriously. In the first place the money supply is hard to control; there is not a very well-developed market for open market operations so that the main tools for credit control are reserve ratios and credit controls. Those obstacles could, however, be overcome; but the Central Bank chooses not to make much of an effort to control the money supply. Rather, it seems to be mainly concerned with minimizing the effects of the budget deficits on the economy.

Table 3.4 shows measures of debt and deficits over time. Column (2) shows the domestic debt and column (3) the domestic debt that is held by the public (mainly excluding that which is held by the Central Bank). Changes in the first measure can be deduced from column (2). It is this change in outstanding debt that would tend to crowd out private borrowing and investment were it not for that part of the debt held by other government agencies, i.e., the difference between columns (2) and (3). The major component of this is Central Bank purchases, i.e., the Central Bank's "monetization" of the debt. Were it not for these holdings of government paper, the share of borrowing relative to GDP would be as depicted in column (4). This is a volatile and frequently

large number, which shows the large potential that deficits have had for crowding out private borrowing.

However, the net effect is different. Column (5) depicts relative changes in column (3); it gives net borrowing from the public as a share of GDP. It is a very stable and generally smaller number. That is, the effect of Central Bank monetary policy (monetization of the debt) has been to stabilize the share of net government borrowing from the public, that is, to insulate the economy from the "crowding out" effects of the deficit. This, of course, has its costs. It means that monetary growth is highly uncontrollable, and inflation can be a chronic problem. Not only can inflation be large, it can be volatile because the deficit is volatile. This means that given current types of lending instruments, which are denominated in nominal terms, real returns are apt to be very volatile, adding some "artificial" uncertainty to the system.

Ministry of Finance and Planning (MFP). The MFP is of interest to us because of its concern with financing the deficit. The publicly held debt depicted in Table 3.4 is held almost entirely by the NSB, the EPF and the two state-owned life insurance companies, the first two representing 95 percent of the total. This structure of lending to the government is a significant feature of the system.

The EPF is prohibited (in its charter) from holding anything but government and government-guaranteed securities; and it is therefore a captive audience, as are the two insurance companies. Hence, these institutions can be made to hold government paper at low rates. However, the NSB raises its money in a competitive deposit market, and it must pay a competitive rate. The MFP, until recently, controlled the

deposit rate paid by the NSB, keeping it high enough to attract funds. Because this rate may be higher than the rate on government securities, the MFP pays the NSB a subsidy that assures it a positive spread between government rates and borrowing rates.

In effect, then, the government pays higher rates on money raised through the NSB than it does for money raised through the EPF (whose clients, again, are compulsory contributors). This may seem like an awkward arrangement, but it is, in effect, a classic form of price determination, where a higher price is paid to elastic suppliers, NSB depositors, than is paid to inelastic suppliers (EPF pension recipients). Hence, it is apparently a device to minimize the cost of debt finance to the government.

Note that this produces an anomaly that deposit rates may actually be higher than Treasury rates. The interpretation is that Treasury rates are "too low," but deposit rates are at competitive levels. It has been proposed that this "spread subsidy" be removed, but no official action has been taken.

Other. The government operates two development banks, the National Development Bank (NDB) and the Development Finance Corporation of Ceylon (DFCC), which act to channel funds via long-term loans. There is also a long list of government-owned corporations in a variety of areas, which receive direct allocations from the government's capital budget. While we have no idea of the size of subsidy, we suspect that these corporations are quite heavily subsidized. Their lending rates are certainly below what would be market-clearing rates.

The Central Bank is starting up a system of Regional Rural Development Banks (RRDBs), which will be development banks for agriculture. To some extent these are designed to perform functions that were meant to be performed by the Cooperative Rural Banks (CRBs) associated with People's Bank but which have not done well. The RRDBs will provide small, medium and long term financing at below market rates.

Incentives

Banks. The incentives of the two state-owned banks are, again, mixed. They have had a history of state control and government ownership, and are not generally considered to be very entrepreneurial; nor do they have many incentives to be so.

For instance, it is generally agreed that there are too many bank branches, and that branches are crowded and offer bad services to customers. Apparently, much of the branch expansion in the past few years was at the Central Bank's request and indeed involved putting branches in uneconomical places. Hence, it did not pay to run the branches at high levels. It is also argued that problems with high delinquency rates on agricultural loans have come from these being priority loans that were produced too quickly to underwrite carefully, and an inability of the two state-associated banks to hire well-trained people to keep track of the loans. Similarly, credit controls, imposed in 1984 have diminished some of the incentive to attract deposits and invest in nonpriority sectors.

There are, however, also areas in which banks compete. There are two private domestic and 21 foreign banks that compete with the two

state banks and among themselves. The main area of competition are in commercial and import-export lending, and, on the liability side, in the deposit markets. In these areas the incentives are apparently the usual profit-seeking ones in competitive markets.

NSB. NSB is required to put 60 percent of its assets into government securities; it has, in fact, been lending about 98 percent to the government. This is largely because the NSB is essentially constrained to take on as many government securities as is requested. But beyond that, there is very little incentive to hold other assets as long as the spread on governments (but not on other assets) is guaranteed. The situation in which NSB would compete for other assets would have to involve a decline in demands by the government and a surplus of deposits and/or a favorable spread between borrowing and lending rates.

Other. The EPF is, again, currently constrained to invest in government and government-guaranteed securities. Hence, its behavior is quite simple. The ETF is new and has essentially no constraints on its asset holdings. Hence, it is a potential source of much competition. However, it is currently invests about 65 percent of its assets in bank deposits with only a small amount of equity investment into areas selected by Government and which are not very profitable. A recent study of ETF done for AID¹ goes into some detail in criticizing political interference with ETF investment and staffing, and it suggests that as currently constituted ETF is much too conservative and not

1. "Report on Investment, Organization and Management Aspects of the Sri Lanka Employees' Trust Fund," by Hilary B. Miller, March 1985.

really up to serving the best interests of its clients. Hence, while it is possible that ETF will become more competitive and industrial under range of investments, it appears currently to be quite constrained.

Finally, the two life insurance companies are state-owned and pursue conservative investment policies that largely involve government securities. However, it is likely that private companies will soon be allowed, which will presumably have more profit-oriented incentives. These may provide an important element of competitiveness.

Markets

Given the incentives in the system financial markets could certainly not be expected to be very competitive. A large share of the formal financial system is not profit-seeking, and transactions do not always occur at market-clearing rates. Hence, there is probably significant and inefficient credit rationing. This is apparently the case in the agricultural sector;¹ although because there is a good deal of informal agricultural lending, complete characterization of agricultural finance is difficult. Similarly there is a good deal of investment done directly by the government or by government corporations. In 1984 this sort of investment was about 15 percent of Sri Lanka's Rs. 38 billion in gross investment.

There are however, several competitive financial markets:

- o Again, some of the banking sector is competitive, particularly the markets for commercial and export-import loans and deposit markets, although the latter has been mitigated somewhat by credit controls.

1. See "Rural Savings Mobilization" by Nimal Sanderatne, Central Bank of Ceylon Occasional Paper, number 8, 1984.

- o There are about three dozen deposit-taking finance companies which are largely (except for reserve requirements) unregulated. They pay high deposit rates which are not guaranteed. They are mainly active in leasing.
- o There is an active and in some ways competitive cooperative system. Of particular interest are the Thrift Cooperative Credit Societies, which are generally quite small and local and seem to be successful at making small loans and collecting payments.
- o There is a large informal sector, which while perhaps inefficient, in the sense of involving large risks and transaction costs, is apparently financing most investments. In 1984 the increase in outstanding loan balances by the banking system was only about Rs. 3.5 billion, which is quite small relative to the Rs. 32 billion in private investment.¹

Finally, we have not discussed the foreign sector. This is a large factor (over 50 percent) in financing the government deficit. It may be an important long run source of funds, and it could certainly add competition in several markets. However, it is apparently not a major factor in private markets, and even the foreign bank branches do not receive much financing from abroad.

The picture then is of a financial system that is "in between." It is headed in a more competitive direction, but it does not yet have very competitive markets. The formal sector revolves largely around deposit institutions with no real bond market² and a very thin equity market. There has been very little in the way of innovation, such as new borrowing instruments, something which we discuss in the next section.

1. Actually, the proper comparison should be with net investment, which we do not have. But the comparison with gross investment is probably not too distorting.

2. To date there has been one public-offered debenture issue.

However, legally, the system is fairly deregulated, and so there is some room for fluid competitive markets and competition.

Finally, a characteristic that is lacking in the system is a division of labor among the different parts of making loans. In particular there is very little in the way of secondary markets or investment or mortgage banking activities, which separate the issuing and servicing of a security from the ultimate investment. Exceptions to this are Central Bank's refinancing activities, which are simply a way of making a subsidy, and the NHDA's new use of Thrift Cooperatives as vehicles for servicing loans in its Rural Housing SubProgram. This will be discussed later along with this problem in mortgage markets.

Risk

The allocation of risk is a central issue in any financial system. It has not been a major policy issue in Sri Lanka, but it promises to become one as markets become more competitive and more sophisticated. At present we suspect that risks are not well-allocated because: (1) there is apparently very little notion of attaching a premium for borrowing for risky investments, (2) where there is some notion of risk premium, there is no real notion of how to measure risk; in particular, there is no distinction between diversifiable and undiversifiable risk, and (3) the government implicitly subsidizes a wide variety of risky investments.

So far, risk has not been a major problem for financial institutions; none seem to be in immediate danger of bankruptcy. But as interest rates increase in volatility and competition pushes lenders into riskier type loans there is a great deal of potential for

institutions, particularly government-sponsored ones, to get into trouble. While there is no explicit scheme of deposit insurance, the NSB, Bank of Ceylon and People's Banks, as government-owned institutions are clearly viewed as backed by the government, so that they can borrow at risk-free rates even if their balance sheets are (e.g., due to high leverage and/or interest rate or credit risk) quite risky. Hence, as with U.S. financial institutions with government deposit insurance, there are potentially strong incentives for these institutions to take risks and potentially large losses for the government.

Currently there is no explicit mechanism for controlling risk-taking either in the form of penalties for investing in risky assets or in the form of net worth requirements. We do not have an estimate of the economic (mark to market) net worth of major institutions, but we can evaluate the accounting net worth of the Bank of Ceylon and Peoples Bank by taking the ratio of Capital and Reserves to assets.¹ These ratios are: for Bank of Ceylon, 4.7 percent at the end of 1983 and a preliminary estimate of 3.7 percent at the end of 1984, and for People's Bank 2.1 percent at the end of 1983.

These are low ratios; both institutions would have trouble getting FDIC insurance in the U.S. In the past these may have been acceptable ratios, but if risk-taking increases they may present a serious problem. Similarly, there is some anecdotal evidence that some government agencies (the DFCC in particular) are aware of their ability

1. This excludes "Engagements on Behalf of Customers" which enters into both assets and liabilities equally. We have data from 1983 annual report of Peoples Bank and preliminary data for 1984 from the Bank of Ceylon.

to borrow at low rates despite risky, underwater portfolios, and these present more immediate problems.

Comments

It is difficult to evaluate the "efficiency" (in the sense of allocating capital to its highest uses) of Sri Lanka's capital markets. However, given the substantial distortions that probably come from subsidies to favored industries, credit controls and the government's deficit; we suspect that capital is not being allocated very efficiently.

There has been an element of, at least nominal, deregulation recently; and there is some movement toward operating subsidies more efficiently. The emphasis on decentralization and small loans for housing in the Million Houses Program is an example. Hence, some of the inefficiencies in the system will go away as competition increases, but there will probably be considerable distortions remaining for some time. As markets become more competitive the inefficiency due to inappropriate pricing may (as has been U.S. experience) be replaced by inefficiency due to inappropriate risk-taking.

The Current Housing Finance System

This section concentrates on the overall housing finance system, not individual institutions. As was mentioned above, we have reproduced the parts of the Knight report in Annex I that describe the Sri Lankan institutions to which we shall be referring. In addition to analyzing the current system, we provide short run and long run options for its future development. Our focus, again, is on options that help attain goals of increasing the funds available to the housing sector, but also,

and equally important, which promote overall efficiency of capital markets and which redirect rather than increase government programs.

General Issues

Delinquency and Default Risk

Sri Lanka has a well-documented¹ history of problems in collecting payments on loans, both for mortgages in particular, and, indeed, for all loans. Some of this is apparently a result of past policies, including a tendency of politicians before elections to lead voters to believe that they would not have to pay off their debts; this has been especially problematic for government-connected institutions. Perhaps more important, insufficient incentives for timely payment have been built into the system. It generally takes considerable time to carry out foreclosure procedures, particularly because of the time (measured in years) to bring a foreclosure through the courts. Because rates on loans from government-related agencies are generally low to begin with, and penalty rates are usually a small (typically 3 percent) mark-up over base rates, borrowers have an incentive to undertake "arbitrage" by borrowing in the form of delayed payments and investing at higher rates such as local bank or thrift deposits (recall that deposit rates have been fairly high) or riskier but higher yielding deposits at finance companies or informal lenders. We do not have quantitative evidence of the extent of this arbitrage, but discussions with actors in the system revealed a strong belief that this is an important issue.

1. See Knight op cit., and "Sri Lanka Housing Finance Study" by Donald Gardner et al, done for AID, March 1982.

But delinquency does not generally lead to default. This is because there is substantial equity in the homes resulting from both high recent inflation rates and down payments that are generally more than 20 percent. Furthermore, those that have low rates have further implicit equity because the market value of their liability is less than par. It has been the experience in Sri Lanka, confirmed recently by the State Mortgage Investment Bank (SMIB), that when foreclosure is close borrowers pay off what they owe. Hence, foreclosure rates are quite low.

All of this makes mortgages, as well as other types of lending expensive, both because of the interest arbitrage losses and because of the costs of collections and legal procedures. Two ways of lowering these costs have developed.

First, the SMIB, Housing Development Finance Corporation (HDFC) and People's Bank now have a special power that allows them to foreclose without going through judicial procedures, cutting time and administrative costs. The SMIB, in particular, has emphasized this power and used it to cut its costs. This does not solve all of lenders problems, as discussed below. There has been a proposal to extend this power to institutions, but no action has been taken.

A second solution used by the NHDA has been to rely on things (such as the borrower's income) other than the house as security. An example is the current switch to the use of Thrift Cooperative Credit Societies (TCCSSs) as collection agents. The TCCSSs (see Annex I) are essentially local (village level) credit unions with an average of about 150 to 200 members, which have share and deposit accounts and make small loans for

a variety of reasons. The cooperatives are very small, members know one another, and losses from late payments fall rather directly upon the members. Hence, peer pressure is apparently an important collection device. More substantively, these cooperatives are run on a shoestring, with quite low costs, and are likely to be the main or only source of cheap credit at the margin.¹ Late payments can cause lack of future access to these loans. The typical loan is small, perhaps \$300, but borrowers will want to engage in a series of such loans. Hence, the gain from defaulting on one of these loans is likely to be less than the cost of lost access to future loans.²

While extensive data are not available, the TCCSs have apparently had very low delinquency rates for some time. Recently, they have been chosen by NHDA to be collection agents for the Rural Housing Sub Program, which makes a small (less than \$300) subsidized (3-6 percent) loans in rural areas. A pilot program was begun this year in Kandy. While data are preliminary, they suggest very low delinquency rates. It is intended to expand the Kandy experiment to the entire program, which makes some 40,000 loans a year.

Title

A well-documented³ problem in Sri Lanka concerns the existence of clear title to land. The problem is that land is often inherited by

1. That is, while there are usually other sources of cheap (subsidized) credit, these sources are rationed and limited on purpose. The TCCS loans can be made quickly, through what are essentially line of credit arrangements and are elastic in supply.

2. Furthermore, TCCSs do, in the case of housing loans, have an ultimate claim on property so that a defaulter will not "gain" the value of the loan in the event of default.

3. See Knight op cit. and Gardner op cit.

several heirs, so that after a few generations a piece of land may be owned by dozens of people, and the records of exactly who the owners are are likely to be incomplete.

Knight discusses this issue in some detail, and we have nothing to add to his discussion. With respect to the true issue of lender incentives, SMIB and HDFC require title insurance. They do not seem to be concerned that this problem will constrain their activity. With respect to rural housing, the nice thing about using small loans through the TCCSs is that the property is not the major source of security, and so lack of clear title is not the major issue.

Mortgage Instruments

The basic "formal" mortgage instrument in Sri Lanka is a 15 to 20 year, level payment, "quasi-fixed rate" mortgage with a 20 to 25 percent down payment. We say "quasi" fixed because while most mortgages do, as a legal matter, allow the lender to change the rate, lenders have not actually done so as yet.

Fixed rate, level payment mortgages are not flexible enough to meet the demands of all borrowers and lenders. In a period of inflation nominal (as opposed to real) interest rates rise, as the market requires increased nominal rates for investors to earn a market real rate. This leads to an increase in monthly payments, which, in turn, leads to a high ratio of monthly payments to income. That ratio will decline to very low levels over time as income grows with inflation; but it implies a large burden in the early years. Those that have some wealth or can borrow against the rising value (induced by inflation) of their house can eliminate this "cashflow" problem. We have no firm data on how this

problem is managed in Sri Lanka. However, as the refinancing of mortgages is rare and a second mortgage market virtually nonexistent, we conjecture that the burden of initial payments is a significant one.

From the lender's perspective, fixed rate mortgages are risky if they are financed, as is the case with most lenders, by short term deposits. This is because rising interest rates will raise deposit rates without raising lending rates, or, alternatively, rising interest rates will lower the market value (discounted present value) of fixed rate mortgages by more than they will lower the value of short term deposits, lowering the economic net worth of the institution. This risk has not as yet been a major issue in Sri Lanka, partly because interest rates have tended to be sluggish and partly because most lenders (banks) have not been specialized in mortgages and, hence, do not have much interest rate risk for their portfolio as a whole. However, as was mentioned above, both major banks are highly leveraged, so that increases in interest rate risk is potentially serious. With the growth of two specialized lenders, SMIB and HDFC and the move toward rate deregulation of both SMIB and HDFC, interest rate risk promises to become more of an issue. Currently, SMIB has a net worth (share capital plus reserves) ratio of 16.2 percent, which suggests that it is not risky. However, it is planning to grow, and a growth scenario worked out for it in a report by HDFC-Bombay implies a ratio of 6.1 percent in 1990.

While there has been a variety of proposed and actual solutions to these mortgage instrument problems, major ones can be grouped into four categories:

1. Graduated Payment Mortgages (GPMs). These are directed at the cash flow problem. They are fixed rate mortgages whose payments start out low, but have prescheduled increases over time. GPMs have attained some popularity in the U.S. A typical GPM has payments increase at 7 1/2% for 5 year and remain constant thereafter. On a 20 year loan at current nominal rates (in the vicinity of 18%) this instrument lowers initial monthly payment by about 20% while keeping yield to investor at the same (e.g., 18%) level.
2. Adjustable Rate Mortgages (ARMs). These address the interest rate risk problem by automatically adjusting mortgage interest rates to a predetermined index, like one year Treasury rates, at predetermined intervals, e.g., annually. Note that caps on annual and lifetime increases can be set to protect the borrower from precipitous payment increases and that ARMs can be used in conjunction with GPMs to help solve both problems. A problem with applying ARMs to Sri Lanka is the unavailability of a good index of interest rates.
3. Price Level Adjusted Mortgages (PLAMs). These address both cash flow and interest rate risk problems partially, by indexing (perhaps partially) payments to the level of prices. They help the cashflow problem because they can greatly lower initial payments, although they present risks for households whose incomes may not increase with inflation (but note again that partial indexing is possible). A problem is there is not a reliable index of consumer prices.
4. Long Term Borrowing. This addresses interest rate risk by making the term of liabilities closer to that of assets (mortgages). For instance, the issuance of debentures to finance mortgages limits interest rate risk, but as debentures in Sri Lanka are generally shorter

(3 to 6 years) than the maturity of mortgages, the hedge is only partial.¹

Rental Markets

Sri Lanka has rent controls; they do not apply to new units, but it is conceivable that the possibility of future rent controls is inhibiting current production. More importantly, there are restrictions on the number of rental units that a household can own, two per household plus one for each child; and corporations cannot own rental housing. There are also renters rights laws that make evictions extremely difficult.

All of this must certainly inhibit housing production. This is a finance as well as a housing issue, because it is probably more efficient in many cases to have funds raised by landlords, who, because they are raising money for a large number of units (scale economies) or simply because they have better access to credit markets, can raise money more efficiently than individual households.

Taxes

Homeowners can deduct the entire purchase of their house when they buy it or they can take some deductions over time by deducting both principal and interest on their mortgage. That is, owner-occupied housing is effectively expensed. This is a major break for a small group of owners. Only about 3 percent² of all workers pay taxes, both because of a high exemption and because of tax avoidance. However, the

1. There are problems with the use of debentures stemming from the ability to prepay or "call" mortgages. This makes non callable debentures an imperfect ledge. Of course one can design callable debentures that ledge mortgage's interest rate risk.

2. See "Financing Housing in Sri Lanka," by Donald Gardner and John Tucillo, Working Paper, January 1983.

highest marginal tax rate is 55 percent, so that this deduction is very valuable to those who use it. Since the households in the top 10 percent of the income distribution have¹ over 40 percent of all income, it is possible that in rupees the value of this tax expenditure is quite high. If, for instance, (a) the 3 percent that pay taxes are the top 3 percent and they have 15 of the 40 percent of the income that goes to the top 10 percent of households, (b) the group spends 15 percent of its income on housing, and (c) they are in the 40 percent bracket on the average, then the subsidy is $.15 \times .15 \times .4$ or 0.9 percent of National Income, which is about Rs. 1 billion per year. It would appear that at a minimum several hundred million rupees in tax losses are involved while no public purpose is being served.

Landlords also receive some tax breaks in the form of a few years of tax exemption. Given the above-mentioned problems with producing rental units we conjecture that tax breaks for landlords are not a major issue.²

Incentives for Mortgage Lenders

This section builds on the earlier analysis of general incentives in the financial system. For reference we briefly repeat our basic points about financial markets: (1) The major actors in the system are explicitly or implicitly regulated by the government and are less free to change their portfolio than might appear to be the case on paper, (2) the need to finance the government's deficit is a major factor in the

1. See Central Bank of Ceylon, Survey of Sri Lanka's Consumer Finances, 1981/82.

2. See Gardner, op cit., Annex 3 for a discussion of tax breaks.

financial system and (3) many sectors in the economy receive implicit or explicit capital subsidies.

SMIB/HDFC

The creation of the HDFC has provided an important addition if only because of evolving competition between it and the SMIB. We expect this competition to grow. That in itself is useful; perhaps the incentives to cut cost and to innovate will have unpredicted benefits, particularly with respect to the older, more settled-in SMIB.

Both institutions have low interest rate loans from the government. In 1984, 72 percent of SMIB's Rs. 237 million increase in long term liabilities came from 10 percent government loans. HDFC has received a Rs. 45 million loan at 7 percent from NHDA. SMIB also raises money by selling debentures to the Central Bank, most recently at a 16 percent rate, which is probably below its borrowing rate were it private. HDFC also raises funds from deposits that pay only 9 percent. These are not subsidized rates; borrowers deposit their money voluntarily. Presumably, depositors accept low rates in anticipation of low borrowing rates later on. However, a history of deposits at HDFC is not a prerequisite for a loan. Potential borrowers need only deposit the 20 percent "down payment" to get a loan. Hence 9 percent deposits are not likely to be a successful long run source of funds. HDFC is considering using debentures in the future.

Given their current low borrowing costs, both SMIB and HDFC can lend at below-market rates. Currently both lend at rates between 12 and 18 percent with the lower rates for lower incomes (in the case of SMIB) and/or loan amount (with both HDFC and SMIB). The low rates are to some

extent a reflection of the social purpose of the institutions, but beyond that, competition between the two will, given their low borrowing rates, tend to keep their lending rates down.

Both institutions are expecting to grow rapidly. SMIB approved Rs. 367 million in loans in 1984 and is expecting to do Rs. 500 million in 1985. HDFC, which just got underway, is expecting to double its business in 1986. Currently it does about 50 loans per month at an average balance of Rs. 155,000 or about Rs. 7.75 million per month or Rs. 93 million per year. If it doubles next year to about Rs. 200 million, it will still be well behind SMIB's volume.

Both institutions face long run barriers to growth. First, as mentioned above, there may well be limits on their ability to continue to get subsidized funds. Second, in the deposit market they will have to pay market rates; and they have no particular advantage over anyone else in this reasonably competitive market. This can be alleviated to the extent that both institutions take advantage of the less used debenture market, in which they might have an advantage.

Third, and more important, both institutions, as currently set up, are not in a position to reach much of the rest of the country. SMIB has all three of its offices located in Colombo. Applicants from outside Colombo can apply by mail, but that is likely to be an expensive and time-consuming undertaking. There is a substantial list of documents required by both institutions in order to get a loan. Without counseling or even much marketing for these applicants, an applicant will probably be required to take several trips to Colombo. SMIB is currently moving to hire agents in the field which should help; but the

agents will mainly be there to collect applications (and deposits), and it does not look like they will provide much service. HDFC is opening a new office in Kandy, but otherwise it is also oriented toward the Colombo area. Currently just over half (54 percent) of applications to HDFC come from the Colombo district and just under half (46 percent)¹ of the SMIBs applications come from the Colombo district which has about 10 percent of Sri Lanka's population. This suggests the possibility of considerable "latent" demand for mortgage money, perhaps for rather small loans, in the countryside; but it is a demand which, as currently set up, HDFC and SMIB cannot profitably satisfy.

TCCSs and Mortgage Banking

As has been discussed above, the TCCSs after an initial pilot program are about to be used by the NHDA in a manner similar to that of mortgage bankers as originator/servicers. This is primarily because of the advantages they have in collecting payments. This division of labor between originator/servicer and investor is virtually unique in Sri Lanka and is worth dwelling upon. There are several institutions, HDFC/SMIB, EPF, NSB, banks, etc., that have potential for investing in mortgages. A limitation that all of them have is a way of reaching most of the country, and, in some cases, there are serious problems in making collections.

The TCCSs appear to be one way of handling the latent demand in the countryside because of their small scale (low overhead) of operation, which makes small loans profitable and because of their apparent superiority in underwriting and in making collections. Indeed, at least

1. Data supplied to us by HDFC and SMIB.

one bank, the People's Bank, is contemplating using the TCCSs for some of its housing loans. There are probably several ways that the TCCSs could be used as a device for channeling funds from a range of investors. One way would be to reach an agreement with SMIB or HDFC to act as agents for one or both and to use funds raised through SMIB or HDFC debentures (perhaps from EPF or ETF) to indirectly finance housing. Alternatively, they could act as mortgage bankers, directly placing loans with a range of investors and then servicing the loans.

Of course, the TCCSs are not the only possibility, and they may be much less important in the long run, if more traditional, profit-maximizing intermediaries develop. There is already some concern¹ that rapid growth of TCCSs will change their local nature and undermine some of their current strong points. Furthermore, TCCSs are uncommon in urban areas, where the cooperative movement is less likely to flourish.² Perhaps better use of bank branches or well-trained agents will prove to be the answer.

Hence, other types of "mortgage bankers" may well have to be tried. But it appears that there are incentives for this sort of service to emerge and to emerge producing loans at unsubsidized rates.

Other Investors

We have already sketched the incentives facing other potential lenders. Here we briefly sketch incentives as they apply to mortgage markets:

- o EPF and the life insurance companies are essentially constrained to buy government

1. This was expressed to us in several interviews.

2. See Knight, op cit., p 21.

paper. EPF, the major source of the two can buy government insured securities and has bought SMIB debentures. Broader investments would require legislative changes.

- o ETF is freer to invest in mortgages and is a potential source of funds. It is interested in doing mortgages, but lacks origination capacity, suggesting a normal demand for HDFC or SMIB debentures.
- o NSB is a captive of the deficit, but the only investments besides government securities that it is currently allowed to hold¹ are mortgages. Hence, should the deficit diminish, there is potential for mortgage lending. NSB is currently planning to expand its mortgage lending and to do larger loans (it has varied its maximum loan amount to Rs. 400,000) on the grounds that these are cheaper to take care of. Like SMIB/HDFC it charges higher (but perhaps still subsidized) rates for bigger loans, and it has limited capacity outside Colombo. Unfortunately, current rates do not allow the NSB to hold mortgage-backed securities like SMIB debentures because they are not mortgages.
- o Banks are free to make mortgage loans, but they are doing relatively few, partly because of the low rates that HDFC/SMIB offer. Were these two to make mortgages at market rates, there would be potential for banks to enter, although there activity might be limited if they stick with fixed rate mortgages and are reluctant to take interest rate risk. Furthermore, given that bank branches in the countryside are already unprofitable, and bank mortgage lending is constrained by credit controls, there is little incentive for banks to expand into the countryside and supply the latent demand discussed above.
- o The informal sector² provides several times the amount of the money that the above formal market provides. It will probably be a residual sector diminishing in concert with the

1. NSB has also recently been allowed to start a rural lending program.

2. See Knight op cit., p. 25.

growth of the formal sector. The nature of the informal sector. It turns out we know very little about it. Indeed, one of the outcomes from Knight's study was a proposal that this sector be carefully studied. In this chapter we have little to say about the informal sector, focussing on things about which we know something in the formal sector.¹

Summary of Major Points

- o A significant part of Sri Lanka's capital markets involves subsidized lending. For instance, HDFC and SMIB both make mortgage loans from as low as 12 percent to 18 percent in a market where unsubsidized rates would probably be at least 20 percent. We have calculated the present value of the difference between payments on SMIB loans if they were made at 20 percent and the payments made at actual rates. We estimate the present value of these lower payments to be Rs. 107 million for loans originated in 1985. This can be viewed as an annual flow, which is about half as much as was spent in 1984 on the entire Rural Housing SubProgram.
- o It has been argued that homeowners cannot afford to pay such high rates, but that is belied by the existence of the TCCSs who regularly make loans at 20 percent interest rates to relatively low income borrowers.
- o The prevalence of just one type of mortgage is a hindrance in the market. The simple GPM described above lowers initial monthly payments by about 20 percent. Hence, we could allow rates to rise from say 16 percent to a market rate of say 20 percent without raising initial monthly payments. This would partially compensate borrowers for the loss of below-market financing.
- o The delinquency issue appears to be improving and solvable.

1. On the potential importance of the informal sector and rural savings, see "Rural Savings Mobilization" by Nimal Sandaratne, Central Bank of Ceylon Occasional Paper, number 8, 1984.

- o It is clear, as was brought out in Chapter 2, that the middle part of the income distribution is underserved. The high end has SMIB, HDFC, banks, etc., the low end has subsidized funds from NHDA; but the middle part (income in the Rs 1,000 to 1,500 per month) is apparently not served well either by the financial system or in the rental market. The same is apparently true of the lowest end (first two percentiles) who are not heavy participants in NHDA programs.
- o A major problem is the lack of easy access to borrowing outside of Colombo. Some sort of mortgage banker-like conduit (like the NHDA use of TCCSs) may have to develop to solve this.
- o There is much potential for SMIB/HDFC debentures to work as an indirect source of housing loans.

Possibilities for Mobilizing Funds

We consider two sets of changes that might attract funds. First we discuss what might be described as short or intermediate term changes which take the current institutional structure as more or less given and analyze some narrow changes. Then we consider longer run institutional changes. We also discuss alternatives which we have considered and rejected. The focus in all of our possibilities has been on ways of expanding housing finance which focus on change that will help promote competition in general and which emphasize shifting rather than increasing subsidies.

Short Run Changes

- o Expand Mortgage Instruments. We have already discussed the logic of new instruments above. Techniques discussed with GPMs appear to be the most useful because they are simple instruments, and they can be used to keep mortgage payments down even as rates move toward market rates.

We do not think that either PLAMs or ARMs are of immediate interest, largely because these both involve considerable risk and there is no reliable index which can be used for either.

- o Increase Lending by Current Lenders. We consider (1) expanded sales by SMIB/HDFC debentures at unsubsidized rates to the Central Bank to be used to make mortgage loans at market rates, (2) increased lending by NSB (perhaps as a result of a smaller deficit), (3) expanding purchases by ETF and insurance companies, (4) expansion of NHDA, either unsubsidized or with shallower subsidies, programs, and (5) EPF purchases of SMIB and/or HDFC debentures.

HDFC and SMIB together are expected to do over Rs. 700 million in loans in 1986. Given the untapped nature of other lenders (EPF has over Rs. 11 billion in assets and has around Rs. 1.5 billion available per year and NSB has authority to make mortgages and is well above its 60 percent required holding of government paper), it is not out of the question to expect this amount to double or even to increase by Rs. 1 billion by increasing the entire capital market.

The main mechanism for these sales would be private placements (the market for public placements is virtually nonexistent) of debentures, which would be designed to fit the characteristics of the lenders. Currently EPF, again, takes in about Rs. 1.5 billion per year, ETF about Rs. 420 million per year,¹ and in 1984 NSB's deposits increased by over Rs. 2 billion. Hence, there are flows of about Rs. 4 billion per year, a mere 10 percent of which would generate Rs. 400 million. Indeed in the short run flows from these three could be much higher if they reallocated some of their existing portfolios.

1. See Knight, op cit., p 32.

Accomplishing this would require allowing NSB to hold debentures (rather than direct holding of mortgages themselves) and clarifying the ability of the EPF to hold SMIB or HDFC debentures.

- o Cap HDFC/SMIB Loans at Rs 150,000. This is not a device for mobilizing funds. Rather it is a device for directing their allocation.
- o Change rent laws, allowing larger holdings and easier eviction. This would channel private investment into rental housing.
- o Promoting the use of private originators, such as the TCCSs or branches of SMIB and HDFC to act as "mortgage bankers": (1) the TCCSs (or branches) would make the mortgages and service them, and (2) they would either be refinanced by investors (ETF, EPF, etc.) or they would be sold to SMIB or HDFC, who would in turn finance the mortgages with debentures.

We considered and rejected:

- o Reliance by HDFC and SMIB on deposits. As deposit institutions these two have nothing new to offer. They are more likely to profit from selling debentures.
- o Expanded use of low rate mortgages by SMIB/HDFC. These do not necessarily serve the lowest income groups, and they are expensive. As was indicated above, this year's low rate SMIB loans may cost Rs. 107 million which could be used more effectively elsewhere.

Structural Changes

- o Privatizing SMIB and HDFC, giving them power to issue debentures privately at whatever the market will bear. This will presumably be accompanied by higher market rates for their mortgages.
- o Eliminating tax breaks for borrowers and use the savings from this and subsidies to SMIB and HDFC capital costs for expansion of NHDA Urban and Rural Sub Programs. We have calculated that

the annual cost of homeowner tax breaks may be close to Rs. 1 billion, which is several times the Rs. 200 million per year which NHDA is lending through the Rural Housing Sub Program.

- o Continue with proposals to cut distortions in other parts of the financial system by selling off government-owned enterprises and eliminating most subsidies. Subsidies should be directly targeted to low income households, and other policies should be directed toward helping markets work more efficiently.

Implication of some of these proposed changes are discussed in Chapter V.

Further Issues

The size of the deficit will be a major factor in determining the level of interest rates and the ability of NSB, EPF and the insurance companies to make housing loans. It will also limit the size of NHDA programs. Hence, budget changes will be important issues, and these are largely unpredictable. Additionally, changes in tax rates and subsidies will affect the ability of housing and other investments to compete for funds.

We considered and rejected, for the time being, implementing some sort of mortgage insurance scheme, at least at the public level. While such a scheme (FHA) has worked fairly well in the U.S., the Sri Lanka situation in which foreclosure and clear title are problems makes a similar scheme less desirable. This is principally because the delinquency/default issue has been worse for government-related loans. Hence, allowing private lenders, who do have an incentive to control delinquency and default risk, to pass the risk on to a government agency that may not have such incentives, could be very costly. We favor instead, promoting institutions that can foreclose, or who (like the

TCCSs) have other ways of collecting payments, and improving foreclosure laws in general before thinking about a Sri Lankan FHA. This does not preclude private insurance; but since all insurance is currently nationalized and if private companies (as may soon be the case) are allowed, they will develop only gradually, we doubt this is likely for some time.

Overall Effects

Quantitative effects of many of the above changes on housing quality are discussed in Chapter V. Here we discuss effects outside of housing markets.

We begin by noting that these effects are very difficult to measure and are well beyond the scope of our demand-oriented housing sector model. Hence, we provide what are essentially qualitative and back-of-the-envelope analyses of what appear to be the major issues.

Market Efficiency and Resource Allocation

The thrust of the proposed changes is to move toward a system in which most borrowers pay market rates, interest rates are determined competitively and policy is designed to promote market efficiency. Subsidies and tax advantages are intended to be directed toward those with lowest incomes. It is important that changes be made with this in mind, and not simply involve adding new distortions on top of old ones.

The increased housing generated will have to be financed by some combination of:

1. increased saving
2. decreased investment in other sectors

3. a smaller government deficit
4. borrowing from abroad

We have suggested that there are limitations on increased saving; a smaller deficit is a separate issue; and, borrowing from abroad is unlikely to be significant at the margin. Hence, the extra housing will almost certainly lead to less investment in other sectors.

This may well be acceptable. As indicated above, much of the rest of the capital in the economy is heavily subsidized and there are probably lots of inefficient investments. Unfortunately, we cannot be sure that it is the inefficient investments that will be crowded out. If they continue to be heavily subsidized, it will probably be the remaining, unsubsidized capital that is crowded out, such as investments financed by the informal sector (increased demand for funds will bring funds into the formal sector at the expense of the informal) perhaps in agriculture, investment financed by finance companies and commercial lending.

These are likely to be the most competitive parts of the economy. Hence, proposals for stimulating housing will do the most good (i.e., incur the smallest cost) if they are accompanied by cuts in subsidies to other sorts of capital.

In the long run these costs will be less severe as there is room for a larger saving response and foreign capital. However, if the result is higher interest rates, because the overall demand for funds has risen, there is a danger that the government deficit will worsen as interest costs rise.

Overall Saving, Investment and Growth

Again, while in the short run we must be skeptical about the ability of our proposals to increase saving, the experience after 1977 does suggest that saving might respond to increased return. Hence, increased housing investment will not simply "crowd out" an equal amount of private investment.

However, the bulk of the increase in housing will come at the expense of other investment, and that raises the question of effects on economic growth. We begin by noting that housing promotes growth in much the same way as any other investment. Other investments, like those improving, say, agricultural productivity affect growth by producing a stream of future income, in this case in the form of agricultural output. Housing does the same thing. It produces future output from the services provided by housing. In rental markets this is measured directly in the rent of the units. In owner-occupied housing it takes the form of "imputed" rent, which is more difficult to measure, but no less real than the return on rental units or the return on any other investment.

Hence, housing is an investment, just like other investment; whether housing investment has greater or smaller effect on growth depends simply on whether or not housing is more productive than the investment it helps, i.e., on whether it produces a more valuable income stream. On this we are again, agnostic. The existence of wide-spread capital subsidies suggests the existence of low productivity investments, whose departure would not be sorely missed. Again, these are not likely, absent a change in policy, to be the investments that

are crowded out. We simply reemphasize here the importance of limiting mortgage rate subsidies so as to assure that the most productive housing investments will be undertaken.

Balance of Payments

Raising more money for housing will have two sorts of effects on the balance of payments. First, to the extent that there is upward pressure on interest rates from the increased demand for funds there will be a tendency for capital to flow into the country. We have no way of estimating the size of this, but conversations with actors in financial markets suggested a "small" effect.

Second, since housing has a relatively small import content, there will tend to be a direct improvement on the trade balance. In 1984 imports were just under 40 percent of GDP at factor cost. We do not have good estimates of the import content of housing, but we expect it to be small. For instance, the Rural Housing SubProgram is reported to finance housing using very largely local materials. However, some local materials may indirectly use imports, and, for instance, electricity uses up imported oil. If we assume, say, that housing has a total import content of 20 percent, then our Rs. 1 billion switch to housing from the representative bundle of goods in the GDP would have a direct improvement on the trade balance of (40 percent - 20 percent) times Rs. 1 billion or Rs. 200 million.

Qualitatively, both effects (through interest rates and through trade) will tend to improve Sri Lanka's exchange rate. The increase in interest rates will lead to a worsened trade balance, while the direct effect of import substitution will improve it.

CHAPTER 4

DEFINING THE POLICY PACKAGES

The previous chapters have implicitly and explicitly indicated a number of changes in housing policy in Sri Lanka that would result in a more efficient housing sector and a greater concentration of government resources on lower income households. Here we define three "packages" of policy changes -- changes that effect both formal housing finance and the use of formal finance and government resources. We begin by outlining several changes that are common to all of the packages; and then the specific elements in each package are addressed. The next chapter presents the results of implementing each of the packages, based on analysis with the Housing Quality Model.

Common Elements

These elements derive from policy changes made to encourage additional development of rental housing and to direct fewer housing resources to the highest income households.

Rental Housing

As indicated earlier, the present system of limited ownership of rental units, the extremely strong tenant protection laws, and the implicit possibility that rent controls could be extended to new rental units create a very strong disincentive to expansion of the adequate-quality stock through investment in such properties. At a minimum, legislation should be passed clearly exempting new rental properties

from all of these controls.¹ If this were done, the share of new rental units in urban areas might double from 5 to 10 percent of the total, with most of the invested funds coming in the form of equity.² Indeed such investment might well be good outlet for workers' remittances from the Middle East. Our expectation is that such units would be affordable by households in the 50-80th percentiles of the income distribution.³

Redirect Financial Resources

Under current policies higher income homeowners obtain considerable assistance from government, through the income tax system and in low mortgage interest rates. We would propose two changes in this regard. First, the provision of the income tax code under which the homeownership expenses for new units are now deductible should be amended to delete this benefit. Large homes for the well-to-do (the only persons paying the income tax) encouraged by this provision serve no public purpose. Second, mortgage loans made by the SMIB, HDFC, or other government-affiliated institutions should not exceed Rs. 150,000. (This loan limit would be indexed to keep it constant in real terms over time.) Households would be free to obtain additional loans from other sources. But the actual and implied government guarantees to SMIB and HDFC, which result in lower interest rates,

1. Another change that should be made in order to encourage maintenance of existing rental properties is to transfer ownership of many rental properties to the tenants in exchange for continued rental payments which would then constitute mortgage payments and a simplified contract.

2. Rent controls have not been enforced in most rural areas and so little effect is expected there.

3. We have not been able to take fully into account the effects of this policy change on the quality distribution because of the particular way the simulation model handles the quality allocation of newly constructed units which are built without mortgage financing.

should not be used to direct very large loans to small number of households. We do not have any precise estimate of the effect of this change but have assumed that it would moderate the amount invested to some degree.¹

A third redirection of resources is the allocation of mortgage credit from urban to rural areas. Presently, the allocation is about 70 percent of funds to urban areas. This is at odds with the housing quality distribution -- there being greater deficits for higher income households in rural areas. In the future the SMIB, HDFC and other loan originators should work hard at marketing loans in rural areas; our simulations do not incorporate this shift from current lending operations.

Specific Packages

In addition to the common elements just enumerated, the policy packages differ in their assumptions about the quantity of funds mobilized by formal finance institutions and the magnitude of the expenditures under the Million Houses Program. Three packages are defined.

Package A: Little deregulation; MHP constant.

This package assumes that in the short-run financial markets in Sri Lanka remain quite tightly controlled with only a limited scope for the housing sector to compete for funds. We assume that by paying market interest rates, SMIB and HDFC will be able to place debentures of

1. In particular we have assumed that the household invests only one-half of the amount in excess of the Rs. 150,000 mortgage for which it would have applied in the absence of the limitation.

Rs. 500 million annually with various institutions, as discussed in the last chapter. In turn, they would have to charge mortgage rates of about 20 percent (given the interest rate structure in effect in the Fall of 1985). We also assume that SMIB and HDFC continue to be able to obtain funds from the government but that it pays market rates for them as well. To counter the affordability problem engendered by the higher cost of funds, Graduated Payment Mortgages of the type discussed earlier are implemented. This lowers the effective interest rate in the first year of the mortgage to 16 percent.¹

The extra Rs. 500 million in funds is to be allocated to households between the 50-80th income percentiles. That is, it is concentrated on those households underserved by present policies. Maximum loan amounts would be Rs. 70,000, with a .80 maximum loan-to-value ratio. One-half of the funds are targeted to rural areas. Only new units would be eligible for financing, or upgrading of existing units. If loans average about Rs. 40,000 then some 12,500 households per year could obtain mortgage financing.²

There are two important assumptions behind this use of funds. This first is that private developers will respond to the availability of housing finance for houses in the Rs. 50,000-84,000 price range.³ It

1. This is a GPM with 7.5 percent steps for five years. In light of Sri Lanka's inflation experience over the last decade, these terms appear conservative.

2. Although some households in their income ranges have historically allocated less than 20 percent of their incomes to housing investment, we have assumed that when presented with the opportunity of obtaining a mortgage, that they would spend 20 percent of income on such investment.

3. We have not been able as part of this mission to investigate the exact cost of units of various specifications. However, based on data gathered in early 1984, this price range appears to be realistic.

may be necessary for government to strongly promote construction of such units and the banks may have to provide bridge as well as take-out financing. Still, the supply of suitable units should be forthcoming, as they have been in other countries such as the Philippines and Barbados where mortgage finance has been available for houses in defined price ranges affordable by households in a similar part of the income distribution. The second assumption is that a network of mortgage originators and servicers outside of the Colombo district is established. Advertising the availability of the mortgage funds and making the cost to borrowers to accessing these funds low is essential to tapping the latent demand for these funds that we believe exists.

Package B: Greater deregulation; MHP constant

This case simulates the world in which the pressure of financing government deficits has abated sufficiently that the monetary authorities believe it safe to allow greater freedom of market forces to establish interest rates and allocate credit. The cost of government debt will rise as the government bids for resources. Large institutional investors -- notably the pension funds, life insurance companies, and the National Savings Bank -- will have vastly greater latitude in determining their investment strategies. We have assumed that housing will be able to compete successfully for funds in this environment at the interest rates stated earlier. The presumption is that the demand for funds by activities and public enterprises formerly receiving funds at highly subsidized rates will be sharply curtailed, thus allowing the interest rates offered by SMIB and HDFC on debentures to remain competitive.

Under these circumstances, we believe it possible for Rs. 1 billion annually to be mobilized for the housing sector, compared with the Rs. 500 million under limited deregulation. All of those funds would be allocated to the middle income funding program described in the previous section.¹ This should allow the financing of 20,000 new units annually.

Package C: Little deregulation; MHP expanded

We noted in Chapter 3 that very substantial subsidies have been present in the mortgage financed by HDFC and SMIB; charging true market interest rates as assumed here would eliminate these subsidies. Additionally, dropping the deductibility of mortgage payments from income taxes would also generate substantial savings. This package uses some of the various savings in government expenditures to increase the scale of the rural segment of the Million Houses Program. In particular, the funding level of the program is roughly doubled by increasing it by Rs. 200 million per year.² Expansion of the rural program is indicated because of the much larger housing deficits present there compared to urban areas.

At the same time as the annual funding of the program is raised, the interest rate charged to borrowers should be increased. The objective is to reduce the degree of subsidy and to increase the level of

1. One change that is made in the expanded program is to include households in the 40-50th income percentiles among those eligible for loans.

2. In addition to expanding the program, we have assumed that a higher proportion of lower income households among those eligible to receive assistance will participate. In the program's early operations, beneficiaries appear to be drawn from the higher income groups. As more resources are made available we anticipate a combination of more interest by lower income families and greater outreach efforts by local program administrators.

reflows available in future years for lending. Thus, in this case we have raised the interest rates on all MHP loans (urban and rural) by 3 percentage points. The new minimum rate is 6 percent, and the maximum is 13 percent. This is still comfortably below the 20 percent rate charged by SMIB and HDFC. We have also assumed that the program continues to use a fixed rate mortgage instrument, because of the administrative (and possible collection) difficulties that a shift to GPM scheme could cause.

In this package the modified and expanded Million Houses Program is coupled with the increase of Rs. 500 million in market-rate mortgage lending to middle income households.

A final point is worth noting before turning to an assessment of the effects of these policy packages on the distribution of housing quality. The increase in resources flowing to the housing sector just described (as well as some deficits such as capping SMIB and HDFC loan amounts) are only those from the formal financial sector and government. The total resources mobilized must also include the amount of funds households are able to add to those from savings and borrowing from informal financial sources, including their extended families. Estimates of those additional resources are included in the next chapter.

CHAPTER 5

IMPACTS OF HOUSING QUALITY

This chapter presents a summary of our analysis of each of the four policy packages outlined in the last chapter. The analysis relies heavily on simulations done using the Housing Quality Model. Our primary interest is on two aspects of the many that could be addressed using the Model's output files: (a) the effectiveness of the policies in shifting households in various income groups into housing meeting minimum quality standards; and (b) the total amount of investment occurring in the housing sector and the sources of this investment. Several indicators are employed in examining effectiveness. These include the total number of households achieving acceptable housing, i.e., units built of permanent materials and having adequate water and sanitation services; the total investment per household realizing this improvement; the distribution of improvement among households of different income groups; and the amount of government subsidy per household achieving an acceptable unit. As to investment, our interest is both in the total resources devoted to the sector -- a concern of economic planners as well as housing officials -- and the composition of investment, especially the share of resources which government has contributed.

This section begins with an exposition of the "base case," i.e., a continuation of current policies. Then the three policy packages are examined comparatively. The base case and policy packages have been simulated for the 1983-1990 period, with the policy initiatives coming

into effect beginning in 1986. The comparative analysis is for the impact of each package in a single year as well as cumulative differences from sustaining the different programs for the 1986-1990 period.

Current Policies: The Base Case

The continuation of current policies over the 1986-1990 period involves the following. First, the funding level for the Million Houses Program is sustained in real terms at the same level as in 1985. Second, the SMIB continues to expand the number of loans made by 1,500 per year. Third, the HDFC expands at a rate of 50 percent per year in real terms from its 1985 base. For both SMIB and HDFC, the distribution of loans among income groups and urban and rural areas is held constant, and their mortgage terms also remain the same as those in effect in 1985. Fourth, the improvements in water and sanitation services follow the program being implemented by the National Water Supply and Drainage Board under which all urban households are to have access to adequate water services by 1990 and rural households by 1995. In terms of sanitation, we schedule about 6,000 urban and 5,000 rural households to obtain adequate services annually between 1986-1990. Thus, the "base case" is one under which quite substantial improvement in the housing sector should be realized by the end of the decade.¹

Before turning to the results of the simulation, several important assumptions about the effectiveness of government policies which are

1. Annex G shows the number of households participating in such program in the base case and in each of the policy packages; figures are provided separately for urban and rural areas.

embodied in the simulations should be noted. Together these assumptions give a quite optimistic picture about the rate of improvement. These are, however, offset to some extent by some of the calculations in the model; these latter are reviewed after the assumptions.

One assumption is that housing constructed or upgraded through the Million Houses Program and with financing from SMIB and HDFC do not substitute for investments that would otherwise have taken place.¹ In other words, for example, the same number of new units is assumed to have been built without program resources even though the MHP was operating as would have been built in its absence. On the other hand, unless explicitly specified to the contrary as in the MHP, households already living in fully adequate housing are able to obtain mortgage loans. Another assumption is that all of the units built or improved in the MHP would possess minimally adequate infrastructure services after the completion of the construction. As of now, no firm information at this point exists; so this assumption may prove overly optimistic.² A final assumption concerns the efficiency with which resources are targeted to intended beneficiaries. Generally, we have assumed that the designated income groups are in fact those who participate in the program. We have, however, permitted up to 10 percent of participants in the the MHP to be drawn from the 50-60th percentiles of the income distribution (i.e., the ten percentiles above the income cutoff) in

1. Note that SMIB and HDFC loans made for the purchase of existing units are excluded from these calculations.

2. On the other hand, not all MHP loans necessarily result in the unit passing the structure standard of being built fully of permanent materials. Whether a unit does depends on the amount invested, i.e., the loan amount plus other value added by the household.

light of the difficulty of verifying incomes of farmers and the self-employed.

As indicated, some of the computations in the Housing Quality Model may understate the extent of improvement occurring. In upgrading programs, like some parts of the MHP and the provision of infrastructure services, the calculations do include the investment made by households from saving, informal financing, and in-kind contribution of labor and materials that occur within the year or so after the household obtains the loan or services are upgraded. The structural quality of the units is reclassified to the "permanent" category if the total investment is great enough. In the calculations made here we have not made assumptions about the time-path of additional improvements for those whose units do not initially reach the permanent category. The model can handle such phased investment, but we were unable to develop information about these patterns.

Another element of the model's workings that will effect the extent of improvement arises under new construction programs. In particular, when a household already living in fully adequate housing shifts to a new unit, the "filtering" process that ultimately determines all of the consequences of this construction is somewhat limited in that shifts among units can only occur yearly. Hence, the overall amount of improvement will be understated in the short-term. In the following we will indicate a "maximum improvement" figure, as well as the "actual" estimate, which assumes that all upgrades under government programs yield fully satisfactory units and that and newly built unit results in

another household living in such a unit. This figure certainly overstates the short term effects of the programs.

The broad results of continuing present policies to 1990 are shown in Table 5.1. The overall pattern is essentially the same as that reviewed in Chapter 2 for changes between 1985 and 1986. In general, the progress of rural households is substantially lower than those of their urban counterparts: while an additional 11.7 percent of urban households advance to minimally acceptable units, only 6.3 percent of those in rural areas do. The effect of the MHP is amply evident for households in income deciles 3-6. One of the sharpest contrasts is between the highest income rural and urban households; the concentration of mortgage funds in urban areas is primarily responsible for this difference.

The table also shows that annually over the five year period about 63,000 additional fully acceptable units would be created. The corresponding maximum improvement figure is about 20,000 units greater. Thus, under the most optimistic assumptions, Sri Lanka will meet about 42 percent of its housing needs under current policies and funding levels.

Impacts of Policy Changes

We consider three aspects of the effects of the policy packages and housing quality: (a) the distribution of improvements among households, (b) the comparative efficiency of the packages, and (c) how close the packages would bring the country to being on schedule to meet fully its housing needs.

TABLE 5.1

**PERCENTAGE OF HOUSEHOLDS LIVING IN FULLY
ACCEPTABLE UNITS IN 1990 UNDER CURRENT POLICIES
BY INCOME CLASS AND CHANGE, 1985-1990**

<u>Income Decile</u>	<u>1990</u>		<u>Change 1985-1990</u>	
	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1 (lowest)	4.8	5.2	1.8	3.1
2	9.9	5.4	2.8	2.9
3	30.1	14.8	4.8	9.0
4	30.7	24.6	8.1	15.3
5	57.4	22.3	26.4	12.6
6	38.6	14.2	8.5	5.9
7	33.5	11.6	4.8	2.8
8	47.6	13.8	9.9	2.8
9	89.5	17.2	28.3	3.8
10 (highest)	90.0	27.3	22.2	5.2
Average % in class	43.1	15.6	11.7	6.3
Total units in class	306.6	441.7	104.3	210.4

Source: Simulations with the Housing Quality Model.

Distribution of Beneficiaries

The basic information on the distribution of beneficiaries for the 1986-1990 period is provided in Table 5.2 for the base case and the Policy Packages. The first distribution issue is the split between urban and rural areas of those achieving fully adequate housing. Since rural households were worse off in 1985, relatively more improvement might be channeled there. The last two lines of the table show the change in the percentage of households living in such units and the absolute numbers of households. In the base case and in all of the policies the absolute number of households achieving adequate housing is greater in rural areas; rural areas do better under all of the policy packages, but especially well under Package C which includes an expansion of the rural segment of the MHP. However, when one examines the percentage of households who achieve fully adequate units, a rather different pattern is evident. In all cases the rate of improvement is greater in urban areas; the gap between urban and rural areas is smallest under Package C. It is worth noting that the gap is large in Package A and B despite the fact that average loan amounts are considerably lower in rural than urban areas.¹

Another distributional question of concern is how improvements are allocated among households in different income groups. Of course, the rural-urban division bears on this, since incomes of rural households average about 65 percent of their urban counterparts. Table 5.2

1. The higher share of rural households in the fifth income decile obtaining fully acceptable housing in Package B, compared to Package A, is due to these households being made eligible for loans only in Package B.

TABLE 5.2

**COMPARISON OF BASE CASE AND POLICY PACKAGES FOR IMPROVEMENT
IN HOUSING QUALITY BY 1990^a**
(percentages)

Income Decile	Base Case ^a		Change from the Base Case ^b					
	Urban	Rural	Package A		Package B		Package C	
			Urban	Rural	Urban	Rural	Urban	Rural
1 (lowest)	4.8	5.2	--	--	--	--	--	9.4
2	9.9	5.4	--	--	--	--	--	10.2
3	30.1	14.8	--	--	--	--	--	4.0
4	30.7	24.6	--	-.1	--	-.1	--	2.2
5	57.4	22.3	3.0	-.1	3.0	7.9	4.0	.9
6	38.6	14.2	18.5	5.9	33.9	9.4	18.7	8.7
7	33.5	11.6	15.7	5.7	30.2	9.2	15.7	5.7
8	47.6	13.8	14.6	5.6	28.4	9.1	14.6	5.6
9	89.5	17.2	-1.6	-.5	-1.7	-.5	-1.7	-.5
10 (highest)	90.0	27.3	.4	--	.4	--	.4	--
Average for all households	43.1	15.6	5.1	1.7	9.5	3.6	5.3	4.3
Total number of households	306.6	441.7	34.0	46.6	64.9	93.4	36.9	120.1

a. Percent of households living in fully adequate housing.

b. Change in the percent of households living in fully adequate housing.

presents data on those obtaining fully acceptable housing by income deciles separately for urban and rural areas. As one might expect, Policy Packages A and B, which expand mortgage credit and target it to income deciles 6-8, help middle income households in particular.¹

Because the increased credit is allocated evenly between urban and rural areas, the proportional increases are all greater among urban households. By contrast, Package C, which combines Package A with roughly a doubling of the rural MHP, achieves important gains for lower income households as well. None of the policies results in an increase in the housing quality of households in the highest income quintile compared to the base case.

Comparative Efficiency. We rely primarily on two efficiency measures: total resource cost per household achieving fully acceptable housing and the cost to the government per household achieving fully acceptable housing. Figures for these and related measures are presented in Table 5.3 for the housing improvements realized in 1986, a typical year over the period simulated.

To begin, it is worth noting that the number of additional fully satisfactory units is greater under every Policy Package than under the base case. On the other hand, subsidies represent a smaller share of total investment and are smaller in absolute amounts under all of the Policies than in the base case. This result is due to the removal of the subsidies embodied in loans made by SMIB and HDFC in the base case.²

1. For example, when Package A, in 1986 the average loan amount in urban areas for the income group-targeted loans is Rs. 36,100 while it is Rs. 24,500 in rural areas.

2. The results of reduced tax expenditures are not included.

TABLE 5.3

**COMPARISON OF BASE CASE AND POLICY PACKAGES
FOR EFFICIENCY AND COMPOSITION OF INVESTMENT: 1986**

	<u>Base Case</u>	<u>Policy Package</u>		
		A	B	C
Increase in number of fully satisfactory units (000) ^b	58.6	76.6	92.9	91.3
Total investment per increased acceptable unit ^a	77.1	69.7	67.2	63.0
Gov't subsidy per increased acceptable unit ^a	4.7	2.2	1.9	2.4
Percent distribution of investment				
formal finance ^d	20.8	26.7	30.8	28.3
gov't subsidies	6.1	3.2	2.8	3.9
Total investment (Rs. millions) ^c	4,518	5,342	6,254	5,749
<hr/>				
Memorandum item:				
maximum increase in fully satisfactory units	78.1	95.1	113.5	129.2

a. Thousands of rupees.

b. Increase occurring in 1986.

c. Excludes allowance for investment beyond that going to meet housing needs.

d. Includes loans made by HDFC and SMIB, and loans under the Million Houses Program.

Turning to the efficiency measures themselves, one sees that the base case rates worse on both measures than any of the policies. Policy Packages A and B are more efficient than the base case because they bring total unit costs down by imposing maximum loan limits and directing additional loanable funds to middle income households who apply for smaller loans. Subsidies per unit are down since all SMIB and HDFC loans are now made at market interest rates. Policy Package C has the lowest cost per additional household obtaining fully acceptable housing, because the increase in the Million Houses Program adds a large number of low cost acceptable units. Subsidies per unit rise somewhat, however, in Package C compared to the other Packages, because of the subsidies involved in the expansion of the MHP. Still, because of the high interest rates being used in the MHP in Package C (for both the base program and the increment), the rise in subsidy is smaller than it would have been to operate an equivalent program in the base case.¹

Meeting Housing Needs. In Chapter 2 we saw that a gap of about Rs. 2.5 billion existed between investment occurring in 1985 and the minimum amount necessary to meet housing needs. The Policy Packages increase investment in the range of Rs. 0.8 to 1.7 billion above the base case, with Package B having the largest increment.² How close do

1. It is perhaps worth emphasizing that subsidies in the MHP are computed on the discounted present value of the difference in monthly payments due to charging below market interest rates on the loans. Full collections are assumed.

2. We say minimum for reasons outlined in Chapter 2. We have made a couple of assumptions in implementing the Policy Packages that have the effect of increasing the level of investment necessary. In particular, we have assumed that middle income households obtaining loans from HDFC and SMIB in Packages A and B would use 20 percent of their incomes for mortgage payments versus the somewhat smaller percentages used in the housing needs calculations.

we come to producing the 198,000 units used per year? The short answer is possibly quite close. The longer answer is rather complicated. It will help to use one case, Policy Package C as a concrete example. As shown in Table 5.3, in 1986 some 91,300 additional households would obtain fully acceptable units under this program. At the same time, a number of other households have received assistance from the government to improve their units; some improvement was realized but not enough to make the housing fully acceptable. If we added all of those units, on the ground that they will eventually meet the standards, the figure rises to 129,200.

Lastly, we must return to the issue of sanitary services. About one-third of the housing stock will be fully satisfactory by 1995, except for proper sanitary services. In the base case and other simulations we have included only about 10,000 sanitation improvements per year beyond those in MHP units and units built with formal financing. The NWSDB has plans for many more improvements per year over this period -- about 45,000 more, concentrated exclusively in rural areas. We did not include these as we were concerned not to paint an overly optimistic picture. Our estimates indicate that presently, 40 percent of the rural units which would receive sanitation services would shift into the fully acceptable category; this would be about 16,000 units per year. Thus, the new maximum-possible-improvement figure is 141,200.¹ So the range of improvement under the Policy Packages being considered here runs from 76,600 households obtaining fully acceptable

1. A similar upward adjustment for units obtaining upgraded sanitation services would apply to all estimates, including those cited in Chapter 2.

housing (Package A, no adjustments) to 141,200 (Package C) with maximum adjustments. This is equivalent to a range of 39 to 71 percent of Sri Lanka's housing needs.

This analysis stops short of adding enough resources to the housing sector to actually meet the housing need requirements because it seems that the nation would face very serious constraints to doing so -- the imperatives of holding the line on the deficit and financing it are simply overriding. However, the analysis of the Policy Packages strongly points to a complementary mix of expanded private market-rate mortgage financing and further use of the MHP in rural areas. If resources beyond those necessary for Policy Package C are available, it would be most efficient to further expand the urban and rural MHP and even better to expand it at interest rates clear to true market rates. Expansion of the MHP, with special attention to drawing in the lowest income households, would also have the most desirable targeting to household groups with the greatest housing deficits.

CHAPTER 6

RECOMMENDATIONS: FIRST STEPS

Our basic framework is that housing is a capital good, like other capital goods; and because of the scarcity of capital it is important that it be allocated efficiently, both in terms of allocation within the housing sector and between housing and other goods. That is, its overall yield should be at least as high as the yield on alternatives. The basic premise of Chapter 3 was that a fluid, competitive financial system would do the best job of allocating capital. That is, that competition among different users would insure allocation to users with the highest private returns and that the lack of significant external or third party effects means that private and overall or social returns are approximately equal.

This is likely to be true if markets are truly competitive and if there are no distortions in the form of taxes and/or subsidies. Both of these are problems in Sri Lanka. Hence, a starting point for policy recommendations needs to emphasize both the promotion of competition and changing the role of taxes and subsidies.

We have at various places in the text suggested both short run and long run policy changes. Many of these represent fairly fundamental changes, in terms of deregulation and reform of taxes and subsidies. Here we undertake a narrower task, by listing a series of "first steps" that provide "desirable" policies within the existing framework.

HDFC/SMIB

It is important that emphasis be placed on market rate financing with subsidies reserved for the lowest income groups. We recommend that HDFC and SMIB be induced to make market rate loans by raising funds at market rates from the public. We recommend the use of debentures as well as deposits, both because these will help promote finance markets in general and because they will limit these institutions' interest rate risk. We recommend low rate government loans only for specific programs (like NHDA's) that are targeted for low income borrowers, leaving HDFC/SMIB's role as helping to improve the market mechanism.

Second, we recommend considering a limit of Rs. 150,000 (indexed for inflation) on loan size. The reason for considering the limit is that borrowing from the public will probably not be enough to eliminate subsidies. This is because these institutions will certainly be perceived, at least, as government-guaranteed, and that perception will enable them to borrow at lower rates than would a truly private HDFC or SMIB. If that is the case, then there should be an attempt to keep the subsidy away from the highest income groups.¹

Finally, we suggest adding GPMs to the menu of mortgage loans as a device to "compensate" borrowers whose rates will be higher than otherwise. They will be helped by the lower initial payment burden.

Government-Sponsored Agencies

A major problem with Sri Lanka's financial system is that it is too concerned with the cost of financing the deficit. As a result it has

1. This, of course, leads to the suggestion to privatize HDFC and SMIB, which we think should be seriously considered in the future.

limited the ability of housing to compete for funds from some government-sponsored agencies. We recommend two changes that seem relatively easy.

First, we recommend that the EPF, which is currently allowed to hold only government-guaranteed paper, be allowed to hold a wider range of assets including mortgages and mortgage-related securities. A minimal first step would be to allow it to hold HDFC debentures (which are not, technically, government-guaranteed). Second, we recommend that the NSB, which is now allowed to hold mortgages, be allowed to hold mortgage-related securities like HDFC or SMIB debentures.

Rent Laws

Three major impediments to the development of the rental market are: (1) limits of the number of rental units a family can own plus not allowing corporations to own rental units, (2) limits on the ability of landlords to evict tenants, and (3) fear of imposing rent control in the future. All of these are important, and we recommend addressing all of them, beginning first with some assurance that rent controls will not be imposed and second with elimination of restrictions on units held. The limitations on eviction power are probably more difficult, but they are also a very powerful disincentive.

Taxes

As was pointed out in Chapter 3 tax subsidies to owner-occupied housing could be costing Rs. 5 to 1.0 billion per year, and the subsidies go to the highest income groups. This is inequitable both directly due to the transfer and indirectly because it allows high

income groups to bid up the cost of housing for everyone. Both equity and efficiency could be improved by lowering these subsidies and using the proceeds to help lower income groups, e.g., by using the money to expand the Million Houses Program. An alternative way of limiting the subsidy would be to lower marginal tax rates.

There are also subsidies for landlords, which are currently overshadowed by the disincentives mentioned above. As these disincentives are removed so too should these subsidies.

**DEVELOPING A HOUSING FINANCE
STRATEGY FOR SRI LANKA**
Annexes

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U.I. Project 3558-01

002960

February 1986

Prepared under Contract for
The Office of Housing and Urban Programs
U.S. Agency for International Development

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Annex A

The Million Houses Program Urban and Rural Sub-Programs

This annex presents a brief description of some of the essential elements of the Million Houses Program (MHP). It is designed to highlight those aspects which directly effect the rate of improvement in housing quality expected from the program and the way in which the program is modeled in the Housing Quality Model. More complete descriptions of the program are available elsewhere.[1]

The key feature of the program is the conviction that the availability of small housing loans at low interest rates will result in very marked improvement in the quality of housing occupied by low income households, i.e. households with incomes in the lower half of the income distribution. Administratively, the hallmark of the program is its extreme flexibility. The program incorporates multiple upgrading and new construction options for borrowers which differ appropriately between urban and rural areas. Moreover, a great deal of latitude has been provided to those actually administering the program locally. This decentralization contributes importantly to the rapid rate at which implementation of the program is proceeding.

The program provides loans at interest rates ranging from 3 to 10 percent, depending on the size of the loan taken. (The rate charged by government institutions for mortgages is about 15 percent and a full market rate would be about 20 percent.) Maximum loan amounts are constrained by the type of option (e.g., maximums for new units are greater than those for upgrading units) and by the mortgage payments the household can reasonably afford to make: the lower the household's income, the smaller the share of income it is generally permitted to commit to repayments. Although the actual program has several interest rate-loan amount-maximum income share to housing combinations, we have simplified these to two versions each for upgrading and new construction in urban and rural areas that roughly encompass all of the variants.

While the program is targetted on the lower half of the income distribution, the extreme difficulty of verifying incomes, particularly in rural areas, likely means that some of the loans go to somewhat higher income households. Moreover, few households in the lowest two income deciles appear to be participating.

In obtaining a loan the borrower is not obligated to make investments beyond the amount borrowed. In other words, the formal loan-to-value ratio is effectively 100 percent. In practice, program officials stress that a good deal of additional investment is typical, although statistical evidence on this has not yet been developed.

The borrower is assisted by the local Housing Officer in preparing a plan of the improvements to be made with the funds borrowed, and this plan must be approved prior to a the final commitment of the loan. The work

planned must meet reasonable construction standards. However, the borrower ultimately determines which improvements are made. Hence, it is possible for a dwelling in an rural area to be upgraded and expanded but still lack basic sanitary facilities. As of this date full descriptions of the units after completion are not available. Loans are disbursed in several increments, following the completion of various phases of the work stated in the approved plan.

For these computations we have assumed that all of the units financed under the MHP obtain acceptable infrastructure services. Hence, in this dimension the estimates indicate an upper bound to the amount of improvement that could be attributed to the program. If and when more complete monitoring information on the quality of completed units is available, it may be necessary to revise this assumption. On the other hand, the extent of improvement in unit quality depends on the amount invested. In general the investment must be sufficient to meet the cost of an upgrade or minimal new unit used in the Housing Needs Assessment to be rated as fully satisfactory. For households not investing this much, who initially occupy improvised units, the new unit is rated as being made of semi-permanent materials.

It is important to emphasize that the program is very young -- beginning operations in rural areas in 1984 and urban areas in 1985. Consequently, it is expected that the extent of documentation available on the program will be limited. The quantitative description of the program which appears in the following two tables is for the "base case" in which no changes to the financial sector are enacted. It is based on the data available and interviews with program managers. The particular information included is dictated by the requirements of the Housing Quality Model. A number of the entries are informed judgements. While these are certainly rough, they appear to be sufficient for use in the Model.

As suggested earlier, the MHP is treated as four separate programs in the Housing Quality Model -- separate upgrading and new construction programs in urban and rural areas. Households are assumed to borrow the maximum that they can under the program rules, even though higher loan amounts carry higher (but still well below market) interest rates. For lack of more definitive information it has been assumed that the funding level for the program approved for 1986 will remain in effect in real terms through 1990.

1. National Housing Development Authority, Million Houses Implementation Guidelines: Rural Subprogram (Colombo: Ministry of Local Government, Housing and Construction, 1984); and, National Housing Development Authority, Million Houses Program: A Guide to the Urban Housing Subprogram for Low Income Groups (Colombo: Ministry of Local Government, Housing, and Construction, 1985).

TABLE A.1

MILLION HOUSES PROGRAM DEFINED IN TERMS OF HOUSING
QUALITY MODEL INPUTS^c

<u>Eligibility</u>	<u>Urban Areas</u>		<u>Rural Areas</u>	
	<u>upgrading</u>	<u>new units</u>	<u>upgrading</u>	<u>new units</u>
Program Income Limits (Annual)	Rs 18,000	18,000	12,000	12,000
Distribution of Beneficiaries Among Income Deciles (%) ^a				
50-60	10	10	10	10
40-50	50	70	30	30
30-40	30	20	40	40
20-30	10	—	20	20
<u>Long Terms</u>				
<u>Package A</u> ^b				
Maximum Loan Amount	Rs 8,000	17,000	5,000	7,500
Average Loan Amount ^d	Rs 6,000	14,000	3,000	6,000
Down Payment Required	-0-	-0-	-0-	-0-
Interest Rate (%)	6	10	3	6
Maximum Share of Income Used for Mortgage Payments (%)	15	18	12	18
<u>Package B</u>				
Maximum Loan Amount	Rs 5,000	11,500	7,000	
Average Loan Amount ^d	4,500	8,000	6,000	NA
Downpayment Required	-0-	-0-	-0-	
Interest Rate (%)	3	6	6	
Maximum Share of Income Used for Mortgage Payments (%)	12	12	15	
<u>Minimum Loans</u>	Rs 3,000	3,000	2,000	2,000

- a. Beneficiaries drawn from all housing quality tenure groups, except those living on fully acceptable housing. Households served with incomes above 50 percentile reflects difficulty of documenting income.
- b. Households are assumed to take maximum loan it can qualify for; it compares both financing packages and takes out which it can afford which yields loan amount.
- c. Several sub-programs have been aggregated into single upgrading and new construction programs for each sector (urban and rural). Values in table may vary from those appearing in official documents based on program experience reported by officials in interviews.
- d. This is only a "starting value" for model calculations, not a program output.

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TABLE A.1 (Continued)

MILLION HOUSES PROGRAM DEFINED IN TERMS OF HOUSING
QUALITY MODEL INPUTS^c

	Urban Areas		Rural Areas	
	upgrading	new units	upgrading	new units
<u>Mortgage Term (Yrs)</u>	15	15	15	15
<u>Additional Investment</u>				
Investment by borrowers in Addition to Loan as a Percent of the Amount of the Loan	25	80	80	80

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TABLE A.2

PRODUCTION UNDER THE MILLION HOUSES PROGRAM
URBAN AND RURAL AREAS

Year	Urban Areas ^c				Rural Areas			
	Rs Mill. ^b	Units		Percent New Units	Rs Mill. ^b	Units		Percent New Units
		Total No.	Percent Upgrade			Total No.	Percent Upgrade	
1984	—				220	42,230	50	50
1985	80.0	7,000	65	35	197	37,500	50	50
1986-90 ^a	120.0	10,000	50	50	236	44,900	50	50

a. Same program assumed for each year.

b. Estimated commitments not disbursements which appear in budget documents, based on crude projections by program officials.

c. In urban areas the Slum and Shanty Improvement Programs continues in operation until 1986. Over the period 1983-1985 an estimated 8,200 units were upgraded under this program. For purposes of the model calculations have assumed these to be evenly distributed between slums and shanties.

Source: Interviews with NHDA officials.

Annex B

The State Mortgage and Investment Bank Inputs for the Housing Quality Model

For purposes of the calculations performed by the Housing Quality Model there are several key points about the SMIB and our stylized treatment of it which should be noted. An accounting of our ultimate treatment of the SMIB is given in Table B.1 and B.2.

1. Of the total housing loans made, about 80 percent are made for newly constructed units. The balance is for purchase of existing units. The Housing Quality Model (HQM) only considers the newly constructed units.
2. The experience of the SMIB has been for 70 percent of its loans to be for properties in urban areas and the balance to be in rural areas.
3. As to loan terms, while the loan length and maximum loan-to-value ratios are fixed at 20 years and 75 percent, respectively, interest rates vary with the size of the loan, with smaller loans carrying lower rates. In the HQM we have treated these as two separate programs, with the program for lower income households having a 12 percent interest rate and the other "regular" program carrying an average rate of 16 percent. We have added another feature to the "low income program" by setting an income limit on borrowers at Rs.1,500 per month -- the income limit established by USAID for loans made to qualify for reimbursement under the Housing Guaranty Loan. Note that administratively the SMIB does not make the type of distinctions we are making; however, this separation is necessary for properly treating the programs in the HQM.
4. There is vast uncertainty about the volume of mortgage lending the SMIB will be able to make in the years ahead, particularly compounded by the possible reduction in GSL support for the Bank. Moreover, the SMIB does not have a long-term corporate plan. We have assumed that the Bank will expand at a steady rate of an additional 1,500 loans per year. This implies that the SMIB will either be permitted by the GSL to compete for funds or will receive credit allocations sufficient to carry out this program. We have also assumed that the urban-rural lending mix will hold as it has been. On the other hand, we have assumed that the "low income program" will expand to account for 20 percent of the number of loans made, up from approximately 10 percent in 1984. The same urban-rural split is applied to both the "low income" and "regular" programs.
5. The SMIB was unable to provide information on the incomes of borrowers, save for the number of borrowers with incomes of less than Rs.1,500 per month. We have therefore assumed the distribution of incomes based on the income required to support the mortgages being written by the institution.
6. Average loan amounts are assumed to remain constant in real terms over the period.

Lastly, it worth emphasizing that many of parameters cited above are not based on careful tabulations prepared by the SMIB. Rather, they reflect the judgement of program managers on these points.

TABLE B.1

STATE MORTGAGE AND INVESTMENT BANK
LOAN TERMS AND CONDITIONS

	Regular Program ^a		Low Income Program	
	Urban	Rural	Urban	Rural
Interest Rate (%)		16		12
Loan Term (Years)		20		20
Average Loan Amount (Rs) ^d		116,000		30,000
Maximum Loan Amount (Rs)		1,000,000		200,000
Maximum Loan/Value		.75		.75
Minimum Dwelling Value ^b		30,000		20,000
Maximum Downpayment Mobilized by Borrower as % of Annual Income		50		50
Income Limit (Rs/Mo)		—		1,500
Income Distribution of Borrowers by Income Decile ^e				
	Urban	Rural	Urban	Rural
90-100	40	90	—	—
80-90	50	10	—	—
70-80	10	—	—	—
60-70	—	—	—	—
50-60	—	—	15	15
40-50	—	—	85	50
30-40	—	—	—	35

- a. The SMIB does not distinguish between these two programs administratively. They are defined separately here as this is consistent with the inputs needed for the model. Both "programs" are available in urban and rural areas.
- b. Value consistent with unit meeting minimum underwriting standards.
- c. Inferred from income required to support mortgage payments.
- d. If average loan amounts are twice as large in urban areas as in rural areas, then average loan amounts in the regular programs are Rs 72,500 in rural areas and Rs 145,000 in urban areas. Under the "low income program," the values are Rs 18,750 and 37,500, respectively.

TABLE B.2

STATE MORTGAGE AND INVESTMENT BANK
FUTURE LENDING ACTIVITY ^a

	<u>Total Units^b</u>	<u>Regular Program</u>		<u>Low Income Program</u>	
		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1983	1,206	724	482	--	--
1984	2,730	1,477	984	162	107
1985	3,840	2,064	1,376	240	160
1986	5,000	2,400	1,600	600	400
1987	6,200	2,976	1,984	744	298
1988	7,400	3,552	2,368	888	355
1989	8,600	4,128	2,752	1,032	413
1990	9,800	4,704	3,136	1,176	470

- a. These are planning projections only. In the HQM, the volume of funds available is allocated to urban and rural areas and the number of loans is determined by the amounts borrowers can afford to borrow, based on loan terms and share of income devoted to housing.
- b. Only newly constructed units are included; i.e., loans for purchase of existing units are excluded. Loans for new units are estimated to account for 80% of housing loans.

Annex C

Home Development Finance Corporation - Sri Lanka Inputs for the Housing Quality Model

Once again this annex presents a quite partial review of an institution, the HDFC, that is geared toward the explaining its representation in the Housing Quality Model. A few salient points are summarized in the text, and Tables C.1 and C.2 provide further information. Since the HDFC only began operations in late 1984, projections made at this time of its future development and lending patterns are tenuous indeed.

1. Of the total housing loans made, about 80 percent are made for newly constructed units. The balance is for purchase of existing units. The HQM only considers those made for newly built units.

2. To date the HDFC's lending has been somewhat concentrated in urban areas with 60 percent of its loan in such places, according to the rough estimates of corporate officials.

3. Like the SMIB, the HDFC varies its interest rate with the size of the loan; it also varies the rate explicitly with the level of the borrower's income. For loans of up to Rs. 200,000 by borrowers with incomes of less than Rs. 66,000 per year, the interest rate is 12 percent.⁽¹⁾ For others the rate averages about 16 percent. Loan term varies, but averages around 15 years. A 20 percent downpayment is required.

4. In 1985 HDFC will likely make around 350-400 loan commitments. Three-fourths of these are for new units. HDFC has not yet developed a corporate plan for its future development, so there is little to base projections upon. We have assumed that in its early few years the number of loans sanctioned will increase by about 50 percent per year. We have also assumed that the general patterns of lending will remain consistent with the experience to date. In the absence of other data, the current urban-rural distribution is assumed to hold and this distribution is applied to both large and small loans.

5. HDFC provided income information for those households who have opened accounts with it. Since HDFC pays below market interest rates on savings in exchange for the promise to make a loan to the saver that is consistent with its underwriting standards, one would expect that this income information would be a reasonable profile of borrowers. However, according the HDFC officials, some low income savers apparently will not eventually apply for loans. Hence, this data is not completely reliable. We have based the income distribution of borrowers shown in the following tables, therefore, on a combination of the data provided and the incomes needed to support the payments on the loans being made.

6. Average loan amounts are assumed to remain constant in real terms over the period.

1. Actually, there is a further division for loans below these amounts, with the smaller loans carrying a 11 percent rate. We have combined these for use in the housing quality model.

TABLE C.1

HOME DEVELOPMENT FINANCE CORPORATION - SRI LANKA
LOAN TERMS AND CONDITIONS

	<u>Large Loans</u>	<u>Small Loans</u>
Interest rate (%)	16	12
Loan Terms (Years)	15	15
Average Loan Amount (Rs) ^a	309,000	77,000
Maximum Loan Amount (Rs)	500,000	200,000
Maximum Loan/Value	.80	.80
Minimum Dwelling Value	30,000	30,000
Maximum Downpayment Mobilized by Borrower as % of Annual Income	.50	.50
Maximum Income Level (Rs/Mo)	—	5,500
Income Distribution of Borrowers		
90-100	50	—
80-90	50	50
70-80	—	30
60-70	—	20

a. Assumes small loans average one-half the value of large loans; large loans are 20 percent of all loans.

TABLE C.2

HOME DEVELOPMENT FINANCE LOANS ^a

	<u>Total</u> ^b	<u>Small Loans</u>		<u>Large Loans</u>	
		<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
1985	288	130	86	43	29
1986	432	194	130	65	43
1987	648	291	194	98	65
1988	972	438	291	146	98
1989	1,458	656	437	219	146
1990	2,186	984	656	328	219

a. These are not the number of loans allocated by the HQM. In the model, the mortgage funds available are allocated to households by income class and loan amounts and determined by loan teams and borrower's affordability. The number of loans is thus determined by the interaction of these factors, unless otherwise adjusted.

b. Includes only loans for new units.

Annex D

Computing Needed and Actual Housing Requirements for 1985

This annex describes the way in which we have estimated the level of actual housing activity in Sri Lanka and the level which would be needed in order for the country to reach the objective of providing all households with minimally adequate housing over a 20 year period. Separate calculations were made for investment levels and the number of units being constructed and upgraded. It is stressed that the purpose of these calculations is only to obtain order-of-magnitude estimates. These estimates exclude the estate sector.

Investment

Needed investment. The principal source for this figure is the set of estimates made using the Housing Needs Assessment Model for Sri Lanka. These estimates have been recomputed as part of the present exercise to convert them to 1985 prices and to take advantage of additional information that has been developed about the quality distribution of the housing stock in 1983.[1] The investment figure produced by this Model, however, excludes investment in the housing area beyond that necessary to meet net new household formations, replace obsolete units, and other sources of housing needs. Additional investment by higher income households is certainly taking place as these households improve their housing circumstances. It is necessary to include such investment in our estimates to determine the total volume of financing required to be mobilized.

We have arbitrarily assumed that such investment is double that "needed" by households in the highest income quartile. In 1985, some 2,830 urban and 13,360 rural units were needed for households in the highest income quintile to meet household formations and to replace obsolete and destroyed units. These households on average could afford units costing Rs. 205,300 and 49,360, respectively. Hence, total investment would be about Rs. 1.24 billion.

Finally note that we have used the investment figures from the Housing Needs Model for 1988 (in 1985 prices) and adjusted them to 1985 by the ratio of total new and upgraded units needed in 1985 and 1988.

Actual investment. The figures on the amount of investment in the housing sector provided by the national income accounts in Sri Lanka are quite weak. Consequently, it is necessary to derive figures independently. We have relied upon the Housing Quality Model (HQM) for this purpose. As described elsewhere[2], the HQM first computes investment in a year as the sum of that needed to provide housing for net newly formed households equivalent to that occupied by similar households, to replace units leaving the stock, and to achieve the volume of upgrading that has been occurring historically. It then adds the investment accounted for by the lending

programs of the SMIB and HDFC, and government's Million Houses Program. Both the loan amounts and the households' contributions (from savings and other forms of borrowing) are included in the investment figures.

The HQM is designed as a direct follow-on to the Housing Needs Model, and therefore does not include investment made beyond that necessary to meet a country's housing needs.[3] For this reason we also add to the HQM estimated investment, the allowance of Rs. 1.24 billion made above for investment by higher income households beyond that necessary to satisfy housing needs as defined here.

New and upgraded dwelling units.

Units needed. The number of new units and upgraded units comes from the Housing Needs Model. Note that one of the inputs into the computations of this model is the government's "plan" for dealing with the back-log of units in the housing inventory that do not meet minimum standards at the start of the plan period. In recomputing housing needs for this analysis, we have continued to assume that government will try to erase back-logs present at the start of the period at the rate of 5 percent per year -- rather higher than the rates implied by the Million Houses Program.

Units produced. This figure comes directly from the computations of the housing quality model. We take the total additional units moving into the highest quality category (made of permanent materials and passing the infrastructure standard) as the total production of acceptable units which would be consistent with those meeting housing needs.

Note that both of the calculations just described exclude the number of units constructed by higher income households beyond those necessary for strictly meeting housing needs. Because we are interested in the shortfall between current production and that necessary to meet the needs, we can safely omit this "extra construction" from both figures without effecting the difference between them.

1. Revised tables for the Housing Needs Assessment are included as Annex E.

2. A full description is provided in M. Turner and R. Struyk, The Housing Quality Simulation Model: Basic Description (Washington, D.C.: The Urban Institute, Paper 3492-04, 1985).

3. It is possible that some of the lending by the HDFC and the SMIB in effect goes for construction beyond housing needs. However, at current levels their combined lending is small compared to the total investment being made even for meeting the housing needs of the households in the highest income quintile.

Annex E

Revised Housing Needs Estimates

In 1984 estimates of the housing needs in Sri Lanka for the period 1983-2003 were prepared. As part of the current analysis, these estimates have been revised to take advantage of additional information and to convert all money values from 1983 to 1985 prices. The analysis period has remained the same. In particular, the following changes have been made in the inputs to the calculations.

1. Incomes and prices of housing solutions were both increased by 20 percent from their 1983 values to convert them to values at the start of 1985. The 20 percent factor is based on an examination of various price indices. These indices gave no reason to believe that housing costs were rising more rapidly than other prices.

2. The extent of overcrowding in rural areas shown by the 1980-81 Socio-economic Survey was considerably lower than that shown in the 1981 Census, approximately 2 vs. 6 percent of households. Housing experts in Sri Lanka thought the 2 percent figure to be more realistic. We believe that this was about as low as crowding could be expected to go. Adjusting for this change presented something of a problem, since it should mean altering either the number of households or dwellings indicated by the Census data used in the initial model calibration. Since we had no firm basis for doing either, we elected to leave these alone, allowing the model to calculate the 6 percent level of overcrowding but then not treating this overcrowding as an element of housing needs.

3. In urban areas the amount of crowding indicated by the two data sources was similar. However, the group of experts consulted said that some of this overcrowding might be false in that unit sharing was being indicated where separate units existed in order to avoid rent control laws. They also argued that some frictional overcrowding was probably useful. To accommodate these points, the housing needs estimates now reduce overcrowding from 14.5 percent of units in the base year to 5 percent of the base year stock at the end of the period.

4. The rate at which units are expected to be withdrawn from the stock has also been changed. In the original estimates, units were withdrawn at the same rate that they had been during the 1971-1981 periods: approximately 1.5 and 2.2 percent per year in urban and rural areas, respectively. Use of this rate does not take account of the fact that withdrawal rates should decline as the quality of the housing stock is improved. To account for this effect, the withdrawal rates have been lowered to 1.0 and 1.5 percent per year for urban and rural areas, respectively.

5. To carry out the analysis with the housing needs model reported in the text, we examined the distribution of the housing stock by

quality class in much greater detail than we had for the original needs analysis. As described in Annex H, this included analysis with the micro-data file from the Socio-economic Survey as well as extensive consultations in Sri Lanka. The resulting classification of units by quality level in the Housing Quality Model differs significantly from that used in the housing needs calculations. We have adopted the changed estimated quality distribution for the revised needs estimates. As shown below, the principal difference is a reduction in the percentage of units rated as acceptable. This change reflects the more precise application of somewhat more stringent standards for the quality of unit and infrastructure services necessary to pass the minimum standard. The original and revised percentage distributions are:

	<u>Original</u>		<u>Revised</u>	
	Urban	Rural	Urban	Rural
Acceptable	40	14	27	6
Non Upgradable	9	8	8	7
Upgradable	50	78	65	87

The tables making up the balance of this Annex show the highlights of the revised housing needs estimates. In reading these tables, note that the heading "metropolitan areas" should be "urban areas;" "other urban areas" should be "rural areas;" and, "rural areas" should be "estates."

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SRI LANKA REVISED 10/85
HOUSING STOCK AND REPLACEMENT

	1983	1988	1993	1998	2003
	----	----	----	----	----
Metropolitan Area					
Dwelling Units by Construction Standard					
Acceptable Construction	146.25	317.96	491.37	662.98	831.11
(Annual Planned Repl.)	0.00	1.46	3.18	4.91	6.63
Non-Upgradable Construct.	40.23	30.18	20.13	10.08	0.03
(Annual Planned Repl.)	0.00	2.01	2.01	2.01	2.01
Upgradable Construction	341.52	256.17	170.82	85.47	0.12
(Planned Ann. Upgrading)	0.00	17.07	17.07	17.07	17.07
Total Dwelling Units	528.00	604.31	682.32	758.53	831.26
Total Overcrowded Units	76.62	66.07	55.52	44.97	34.42
Planned Annual Construction to					
Relieve Overcrowding	0.00	2.11	2.11	2.11	2.11
New Households/Year	0.00	13.15	13.49	13.13	12.43
Construction New Units/Yr	0.00	18.73	20.79	22.17	23.18
Total Construction/Year	0.00	35.80	37.86	39.24	40.25

Other Urban Areas

Dwelling Units by Construction Standard					
Acceptable Construction	123.15	962.21	1814.07	2591.82	3344.47
(Annual Planned Repl.)	0.00	1.23	9.62	18.14	25.92
Non-Upgradable Construct.	142.30	106.70	71.10	35.50	-0.10
(Annual Planned Repl.)	0.00	7.12	7.12	7.12	7.12
Upgradable Construction	1661.55	1396.20	930.85	465.50	0.15
(Planned Ann. Upgrading)	0.00	93.07	93.07	93.07	93.07
Total Dwelling Units	2127.00	2465.11	2816.02	3092.82	3344.52
Total Overcrowded Units	151.49	151.49	151.49	151.49	151.49
Planned Annual Construction to					
Relieve Overcrowding	0.00	0.00	0.00	0.00	0.00
New Households/Year	0.00	67.62	70.18	55.36	50.34
Construction New Units/Yr	0.00	75.97	86.93	80.62	83.38
Total Construction/Year	0.00	169.04	180.00	173.69	176.45

SRI LANKA REVISED 10/85
HOUSING STOCK AND REPLACEMENT (CONTINUED)

Rural Areas

Dwelling Units by Construction Standard

Acceptable Construction	60.00	98.00	136.23	178.81	223.26
(Annual Planned Repl.)	0.00	0.90	1.47	2.04	2.68
Non-Upgradable Construct.	2.00	1.50	1.00	0.50	0.00
(Annual Planned Repl.)	0.00	0.10	0.10	0.10	0.10
Upgradable Construction	151.00	113.50	76.00	38.50	1.00
(Planned Ann. Upgrading)	0.00	7.50	7.50	7.50	7.50
Total Dwelling Units	213.00	213.00	213.23	217.81	224.26
Total Overcrowded Units	0.14	0.00	0.00	0.00	0.00
Planned Annual Construction to					
Relieve Overcrowding	0.00	0.00	0.00	0.00	0.00
New Households/Year	0.00	-0.21	0.05	0.92	1.29
Construction New Units/Yr	0.00	1.00	1.62	3.06	4.07
Total Construction/Year	0.00	8.50	9.12	10.56	11.57

TOTAL COUNTRY

New Construction/Year	0.00	95.71	109.33	105.85	110.64
Total Construction/Year	0.00	213.35	226.97	223.49	228.28

SRI LANKA REVISED 10/85
NATIONAL AND HOUSEHOLD INCOMES

	1983	1988	1993	1998	2003
	-----	-----	-----	-----	-----
National Income (Constant Units)					
GDP (Millions of units)	130298.00	166296.90	212241.60	270879.90	345718.90
GDP Ann. Growth Rate %	0.00	5.00	5.00	5.00	5.00
Agricultural GDP (Mill.)	91206.59	116407.80	148569.10	189615.90	242003.20
Non Agri. GDP (Mill.)	39097.40	47889.07	63672.48	81263.98	103715.70
Metropolitan Area					
Mean Annual Disposable Income					
All Households (1000s)	33.62	38.70	44.88	52.59	62.30
Annual Growth Rate of					
Mean Household Income %	0.00	2.85	3.01	3.22	3.45
Quintile Mean Incomes (1000s)					
1	9.92	11.42	13.24	15.52	18.38
2	14.46	16.64	19.30	22.62	26.79
3	20.84	23.99	27.82	32.61	38.63
4	33.62	38.70	44.88	52.59	62.30
5	89.60	103.13	119.59	140.16	166.04
Other Urban Areas					
Mean Annual Disposable Income					
All Households (1000s)	21.75	24.17	27.20	31.76	37.61
Annual Growth Rate of					
Mean Household Income %	0.00	2.13	2.39	3.14	3.44
Quintile Mean Incomes (1000s)					
1	7.50	8.34	9.38	10.96	12.98
2	11.09	12.33	13.87	16.20	19.18
3	16.42	18.25	20.54	23.98	28.40
4	22.62	25.14	28.29	33.03	39.12
5	51.00	56.68	63.79	74.47	88.20
Rural Areas					
Mean Annual Disposable Income					
All Households (1000s)	17.65	22.64	28.86	36.06	44.69
Annual Growth Rate of					
Mean Household Income %	0.00	5.10	4.98	4.55	4.39
Quintile Mean Incomes (1000s)					
1	7.68	9.85	12.55	15.68	19.44
2	12.09	15.51	19.77	24.70	30.61
3	15.97	20.49	26.12	32.63	40.44
4	19.68	25.24	32.18	40.20	49.83
5	32.65	41.86	53.39	66.70	82.67

SFI LANKA REVISED 10/95
 DESIGN STANDARDS AND COSTS

	1983	1988	1993	1998	2003
	-----	-----	-----	-----	-----
Average Inflation Rate %	0.00	12.00	12.00	12.00	12.00
Construction Cost Esc. %	0.00	14.40	14.40	14.40	14.40
Metropolitan Area					
Price Minimum Standard Formal					
Sector Housing (Level 3)	54.00	60.04	66.75	74.22	82.52
Design Cost New Housing Unit					
(Level 2)	34.80	38.69	43.02	47.83	53.18
Design Cost Upgrade Existing Unit					
(Level 1)	10.80	12.01	13.35	14.84	16.50
Value of an Upgradable Unit					
(Add. to upgrade cost)	6.00	6.00	6.00	6.00	6.00
Other Urban Areas					
Price Minimum Standard Formal					
Sector Housing (Level 3)	48.00	53.37	59.34	65.97	73.35
Design Cost New Housing Unit					
(Level 2)	31.20	34.69	38.57	42.88	47.68
Design Cost Upgrade Existing Unit					
(Level 1)	6.00	6.67	7.42	8.25	9.17
Value of an Upgradable Unit					
(Add. to upgrade cost)	4.20	4.20	4.20	4.20	4.20
Rural Areas					
Price Minimum Standard Formal					
Sector Housing (Level 3)	48.00	53.37	59.34	65.97	73.35
Design Cost New Housing Unit					
(Level 2)	31.20	34.69	38.57	42.88	47.68
Design Cost Upgrade Existing Unit					
(Level 1)	6.00	6.67	7.42	8.25	9.17
Value of an Upgradable Unit					
(Add. to upgrade cost)	4.20	4.20	4.20	4.20	4.20

SRI LANKA REVISED 10/85
AFFORDABLE CAPITAL COSTS

Metropolitan Area

Interest Rate (%) 8.00
Loan Term (Years) 20.00
Downpayment Required (%) 10.00

	1983	1988	1993	1998	2003
Thousands of Currency Units					
Quintile 1					
Mean Annual Income	9.92	11.42	13.24	15.52	18.38
% Available for Housing	17.60				
% Needed for Recurr. Exp.	18.00				
Monthly Income for Mortg.	0.12	0.14	0.16	0.19	0.22
Affordable Dwelling Cost	15.84	18.24	21.15	24.79	29.36
Quintile 2					
Mean Annual Income	14.46	16.64	19.30	22.62	26.79
% Available for Housing	16.60				
% Needed for Recurr. Exp.	18.00				
Monthly Income for Mortg.	0.16	0.19	0.22	0.26	0.30
Affordable Dwelling Cost	21.78	25.07	29.08	34.08	40.37
Quintile 3					
Mean Annual Income	20.84	23.99	27.82	32.61	38.63
% Available for Housing	14.10				
% Needed for Recurr. Exp.	18.00				
Monthly Income for Mortg.	0.20	0.23	0.27	0.31	0.37
Affordable Dwelling Cost	26.68	30.71	35.61	41.73	49.44
Quintile 4					
Mean Annual Income	33.62	38.70	44.88	52.59	62.30
% Available for Housing	17.10				
% Needed for Recurr. Exp.	18.00				
Monthly Income for Mortg.	0.39	0.45	0.52	0.61	0.73
Affordable Dwelling Cost	52.19	60.07	69.66	81.64	96.71
Quintile 5					
Mean Annual Income	89.60	103.13	119.59	140.16	166.04
% Available for Housing	23.80				
% Needed for Recurr. Exp.	18.00				
Monthly Income for Mortg.	1.46	1.68	1.94	2.28	2.70
Affordable Dwelling Cost	193.57	222.81	258.37	302.80	358.71

SRI LANKA REVISED 10/85
AFFORDABLE CAPITAL COSTS

Other Urban Areas

Interest Rate (%)	8.00
Loan Term (Years)	20.00
Downpayment Required (%)	10.00

	1983	1988	1993	1998	2003
	----	----	----	----	----
Thousands of Currency Units					
Quintile 1					
Mean Annual Income	7.50	8.34	9.38	10.96	12.98
% Available for Housing	16.30				
% Needed for Recurr. Exp.	7.00				
Monthly Income for Mortg.	0.09	0.11	0.12	0.14	0.16
Affordable Dwelling Cost	12.59	13.99	15.75	18.38	21.77
Quintile 2					
Mean Annual Income	11.09	12.33	13.87	16.20	19.18
% Available for Housing	13.00				
% Needed for Recurr. Exp.	7.00				
Monthly Income for Mortg.	0.11	0.12	0.14	0.16	0.19
Affordable Dwelling Cost	14.85	16.50	18.57	21.68	25.67
Quintile 3					
Mean Annual Income	16.42	18.25	20.54	23.98	28.40
% Available for Housing	19.00				
% Needed for Recurr. Exp.	7.00				
Monthly Income for Mortg.	0.24	0.27	0.30	0.35	0.42
Affordable Dwelling Cost	32.12	35.70	40.17	46.90	55.54
Quintile 4					
Mean Annual Income	22.62	25.14	28.29	33.03	39.12
% Available for Housing	11.40				
% Needed for Recurr. Exp.	7.00				
Monthly Income for Mortg.	0.20	0.22	0.25	0.29	0.35
Affordable Dwelling Cost	26.55	29.50	33.20	39.76	45.91
Quintile 5					
Mean Annual Income	51.00	56.68	63.79	74.47	88.20
% Available for Housing	9.00				
% Needed for Recurr. Exp.	7.00				
Monthly Income for Mortg.	0.36	0.40	0.44	0.52	0.62
Affordable Dwelling Cost	47.26	52.52	59.10	69.00	81.72

Rural Areas

Interest Rate (%) 8.00
 Loan Term (Years) 20.00
 Downpayment Required (%) 10.00

	1983	1988	1993	1998	2003
Thousands of Currency Units					
Quintile 1					
Mean Annual Income	7.68	9.85	12.55	15.68	19.44
% Available for Housing	13.40				
% Needed for Recurr. Exp.	77.00				
Monthly Income for Mortg.	0.02	0.03	0.03	0.04	0.05
Affordable Dwelling Cost	2.62	3.36	4.28	5.35	6.63
Quintile 2					
Mean Annual Income	12.09	15.51	19.77	24.70	30.61
% Available for Housing	10.20				
% Needed for Recurr. Exp.	77.00				
Monthly Income for Mortg.	0.02	0.03	0.04	0.05	0.06
Affordable Dwelling Cost	3.14	4.03	5.13	6.41	7.95
Quintile 3					
Mean Annual Income	15.97	20.49	26.12	32.63	40.44
% Available for Housing	9.40				
% Needed for Recurr. Exp.	77.00				
Monthly Income for Mortg.	0.03	0.04	0.05	0.06	0.07
Affordable Dwelling Cost	3.82	4.90	6.25	7.81	9.68
Quintile 4					
Mean Annual Income	19.68	25.24	32.18	40.20	49.83
% Available for Housing	11.00				
% Needed for Recurr. Exp.	77.00				
Monthly Income for Mortg.	0.04	0.05	0.07	0.08	0.11
Affordable Dwelling Cost	5.51	7.07	9.01	11.26	13.96
Quintile 5					
Mean Annual Income	32.65	41.88	53.39	66.70	82.67
% Available for Housing	12.00				
% Needed for Recurr. Exp.	77.00				
Monthly Income for Mortg.	0.08	0.10	0.12	0.15	0.19
Affordable Dwelling Cost	9.98	12.80	16.31	20.38	25.26

SRI LANKA REVISED 10/85
 TARGET GROUP IDENTIFICATION

	<u>1983</u>	<u>1988</u>	<u>1993</u>	<u>1998</u>	<u>2003</u>
Thousands of Households					
Metropolitan Area					
Affordable Level 0	0.00	0.00	0.00	0.00	0.00
Affordable Level 1	0.00	29.96	31.19	32.02	32.63
Affordable Level 2	0.00	0.00	0.00	0.00	0.00
Subtotal, Target Group	0.00	29.96	31.19	32.02	32.63
Affordable Level 3	0.00	5.85	6.67	7.22	7.63
Total	0.00	35.80	37.86	39.24	40.25
Other Urban Areas					
Affordable Level 0	0.00	0.00	0.00	0.00	0.00
Affordable Level 1	0.00	101.42	108.00	119.24	120.90
Affordable Level 2	0.00	67.62	72.00	39.75	40.30
Subtotal, Target Group	0.00	169.04	180.00	158.99	161.20
Affordable Level 3	0.00	0.00	0.00	14.70	15.25
Total	0.00	169.04	179.99	173.69	176.45
Rural Areas					
Affordable Level 0	0.00	6.60	7.29	8.45	6.94
Affordable Level 1	0.00	1.70	1.82	2.11	4.63
Affordable Level 2	0.00	0.00	0.00	0.00	0.00
Subtotal, Target Group	0.00	8.50	9.12	10.56	11.57
Affordable Level 3	0.00	0.00	0.00	0.00	0.00
Total	0.00	8.50	9.12	10.56	11.57

SRI LANKA REVISED 10/85
 TARGET GROUP INVESTMENT AND SUBSIDY REQUIREMENTS

	1983	1988	1993	1998	2003
	----	----	----	----	----
Country					
Target Households (1000s)					
Not Requiring Subsidy	0.00	142.03	146.41	128.12	130.17
Requiring Subsidy	0.00	65.47	73.89	73.45	75.23
Total	0.00	207.50	220.30	201.57	205.40
Target Group Cost (Millions)					
Subsidy Portion	0.00	820.67	1001.82	1029.09	1057.62
Supported by Target Group	0.00	3224.02	3994.45	3726.59	4415.92
Total	0.00	4044.68	4996.27	4755.69	5473.54
Metropolitan Area					
Target Households (1000s)					
Not Requiring Subsidy	0.00	17.07	17.07	17.07	17.07
Requiring Subsidy	0.00	12.89	14.12	14.95	15.56
Total	0.00	29.96	31.19	32.02	32.63
Target Group Cost (Millions)					
Subsidy Portion	0.00	180.67	203.48	213.72	209.36
Supported by Target Group	0.00	522.98	631.98	754.62	899.75
Total	0.00	703.64	835.45	968.34	1109.12
Other Urban Areas					
Target Households (1000s)					
Not Requiring Subsidy	0.00	123.46	127.84	109.55	110.10
Requiring Subsidy	0.00	45.58	52.15	49.44	51.09
Total	0.00	169.04	180.00	158.99	161.20
Target Group Cost (Millions)					
Subsidy Portion	0.00	575.55	716.60	687.07	682.03
Supported by Target Group	0.00	2680.76	3326.29	2907.21	3419.47
Total	0.00	3256.32	4042.89	3594.27	4101.50
Rural Areas					
Target Households (1000s)					
Not Requiring Subsidy	0.00	1.50	1.50	1.50	3.00
Requiring Subsidy	0.00	7.00	7.62	9.06	8.57
Total	0.00	8.50	9.12	10.56	11.57
Target Group Cost (Millions)					
Subsidy Portion	0.00	64.45	81.74	128.31	166.23
Supported by Target Group	0.00	20.28	36.19	64.76	96.70
Total	0.00	84.72	117.93	193.07	262.92

SRI LANKA REVISED 10/85
HOUSING INVESTMENT IN RELATION TO GDP

	<u>1983</u>	<u>1988</u>	<u>1993</u>	<u>1998</u>	<u>2003</u>
(Millions of Currency Units)					
Country					
Total Housing Expend.	8973.48	11452.68	14616.83	18655.19	23809.25
Non-target Group Invest.	0.00	826.79	1093.75	2401.83	2982.83
Target Group Investment	0.00	5279.92	6446.79	5653.87	6918.65
Subsidy Required	0.00	820.67	1001.82	1029.09	1057.62
Total Housing Investment	0.00	6927.39	8542.35	9084.80	10959.10
Metropolitan Area					
Total Housing Expend.	3386.96	4322.71	5516.99	7041.24	8986.59
Non-target Group Invest.	0.00	826.79	1093.75	1387.57	1736.45
Target Group Investment	0.00	636.77	790.07	971.22	1193.69
Subsidy Required	0.00	180.67	203.48	213.72	209.36
Total Housing Investment	0.00	1644.24	2087.29	2572.51	3139.50
Other Urban Areas					
Total Housing Expend.	5489.98	7006.75	8942.58	11413.25	14566.51
Non-target Group Invest.	0.00	0.00	0.00	1014.26	1246.38
Target Group Investment	0.00	4619.99	5613.49	4605.99	5609.55
Subsidy Required	0.00	575.55	716.60	687.07	682.03
Total Housing Investment	0.00	5195.54	6330.09	6307.31	7537.96
Rural Areas					
Total Housing Expend.	96.54	123.21	157.26	200.70	256.15
Non-target Group Invest.	0.00	0.00	0.00	0.00	0.00
Target Group Investment	0.00	23.16	43.23	76.66	115.41
Subsidy Required	0.00	64.45	81.74	128.31	166.23
Total Housing Investment	0.00	87.61	124.97	204.97	281.64
Total Housing Investment in the Base Year	5976.00				
Subsidy as a Percent of Public Expenditures	0.00	76.55	73.22	58.93	47.41
Total Housing Investment					131

Annex F

Water Supply and Sanitation Improvements Inputs for the Housing Quality Model

The Government of Sri Lanka has undertaken a very ambitious program aimed at providing all Sri Lankans with adequate water services by the 1995; it has also initiated a complementary program to improve the disposal of human wastes. These programs extend to both urban and rural areas and have been underway for several years, with substantial improvements already realized. The overall program and accomplishments to date are adequately described in other sources.[1]

The key point for the present analysis is that the Government has launched these programs quite independently of its substantial housing initiatives. Since individual households are much more able in general to upgrade their own structure incrementally than they are to improve the water and sanitation services -- particularly in urban areas -- these programs are especially important in determining the overall rate of increase in housing quality. This annex briefly outlines the way in which these programs are treated in the Housing Quality Model.

Production levels

Urban areas. According to recent Government figures, by 1983 69 percent of the households in urban areas had access to adequate water supplies, up from 47 percent at the time of the 1981 census. By 1990 all urban dwellers will have adequate service. To reach this goal, about 48,800 additional households will be provided service each year during the 1986 - 1990 period. During the same period about 6,000 households yearly will be provided adequate sanitation services.[2] We have not found data on the extent to which the same households will receive both services, but in general the picture seems to be one of improved coordination over time.

Rural areas. In 1983 27 percent of the rural households had adequate water services -- up from 18 percent in 1981. Government's plan is to provide 50 percent with adequate service by 1990 and the balance by 1995. This implies that about 71,000 additional households will receive services over the 1986-1990 period.[3] In the sanitation area, about 50,000 households per year are scheduled to receive adequate facilities (typically a pit latrine).

Cost recovery.

Urban areas. The policy of Government appears to be one in which there is not an initial assessment for the provision of water services in urban areas and no cost recovery at all for sanitary services. As to tariffs for water, a rate of Rs. 2 per 1,000 liters has been assumed as the base case in the budget projections for the administering agencies. After making

allowance for the fact that the 30 percent of the population with the lowest incomes will not be charged for water services (assuming they consume 10,000 liters or less per month), we calculate that other households will pay about Rs. 28 per month for water service. In the Housing Quality Model's calculations of housing affordability, this amount is being subtracted from the income available for housing investment.

Rural areas. As far as we have been able to determine, no cost recovery program has been implemented or designed for rural areas.

Treatment in the Model

The first step in introducing these programs into the Housing Quality Model was to revise the number of units with adequate services in 1983 to align with the figures published in 1985 for 1983 by the National Water Supply and Drainage Board. The general rule for distributing additional services has been that they are allocated to households not now have them. (There are separate programs for upgrading and rehabilitating existing systems.)

The treatment of these services in the model is based on the premise that sanitation services are the limiting factor to obtaining acceptable housing. This was found to be the case in constructing the matrix of household tenure and income groups by housing quality for the base year. And it will certainly be the case as adequate water supplies are increased. Hence in the model, additional units are rated as having adequate infrastructure when they obtain sanitary services. We have assumed that about 5,000 units per year are provided with such services annually in both urban and rural areas over the period under analysis. This figure is considerable lower than the plans for rural areas, in light of some problems with production in this sector in the past. In chapter 5 of the text, we provide some estimates of the full change in acceptable units that would occur if this full production did occur. Lastly, note that we assume that new sanitary services are provided proportionately to all households not having them at the start of the analysis period.

There is little known as to the degree to which receipt of water or sanitary services causes Sri Lankan households obtaining such services to improve their dwellings. Evidence for the experience in urban areas of other countries indicates that such upgrading effects can be substantial.[4] There are no similar studies of which we know for rural areas. We have assumed that urban households make investments in their home equivalent to three months income; in some instances this will be sufficient to result in the unit shifting from one classification to another. Minimal upgrading effects, equivalent to a single month's income, are assumed for rural households receiving these services.

1. The source of the figures used here is Sri Lanka National Water Supply and Drainage Board, Strategic Plan (Macro-Investment), (Colombo:

author, 1985). Another source for a general description of the programs is The World Bank, Sri Lanka: Water Supply and Sanitation Sector Study, Washington, D.C.: Urban Water Supply Division, South Asia Project Department, 1984).

2. These calculations assume 5 persons per household.

3. These annual production figures assume that the same number of units is done each year over the 1983-1990 period to produce the total target figure of 500,000 units.

4. For a review of this evidence, see M. Turner and R. Struyk, *op. cit.*, Annex B.

Annex 6

Number of Households Participating in Various Government
and Formal Lending Programs: Base Case and Policy Packages

ANNEX TABLE G-1

**NUMBER OF PARTICIPANTS OR BORROWERS IN MHP, FORMAL FINANCE LENDING,
AND SANITATION UPGRADES IN 1986: BASE AND POLICY CASES^a**

	<u>Base Case</u>		<u>Package A</u>		<u>Package B</u>		<u>Package C</u>	
	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>	<u>Urban</u>	<u>Rural</u>
Million Houses								
upgrade	7,339	19,819	7,339	19,819	7,339	19,819	7,339	36,614
new construction	3,851	19,819	3,851	19,819	3,851	19,819	4,461	36,614
SMIB								
regular	4,210	1,090	4,210	1,091	4,210	1,091	4,210	1,091
small	1,660	232	2,080	291	2,080	291	2,080	291
HDFC								
regular	190	211	190	211	190	211	190	211
small ^b	249	220	6,989	9,975	13,863	20,811	6,989	9,975
Sanitation Upgrade	5,005	4,995	5,005	4,995	5,005	4,995	5,005	4,995
Total	22,504	46,386	29,664	56,201	36,538	67,037	30,274	89,792

a. For program details, see Annexes A, B, C, and F.

b. Includes loans made in targeted loan program by both SMIB and HDFC.

Annex H

Developing Input Data for Sri Lanka

This Annex discusses the derivation of some of the data used in the Housing Quality Model for Sri Lanka. It is limited, however, to those inputs not developed as part of the application of the housing needs methodology to the country.¹ Among the inputs developed in the housing needs application are those on trends in population and households, macro-economic conditions, average household income by sector as well as the distribution of household income, expenditures by households on housing investment, and total expected investment in housing over the 20-year plan period.

Most of the discussion in this Annex is devoted to describing the derivation of the classification of dwellings in the base year (1983) into six mutually exclusive groups, on the basis of whether the unit is rated as acceptable, upgradable, or non upgradable, and infrastructure services are rated as acceptable or not acceptable. Other topics covered are the estimation of the rate at which units shift among these statuses over time, and the cost per unit of reaching various dwelling quality standards.

Income, Tenure, and Housing Quality

Data Sources and Definitions. The data used in this analysis were obtained from the third and fourth rounds of the Labour Force and Socio-Economic Survey of 1980/81, conducted by the Department of Census and

1. D. Manson and R. Struyk, Housing's Needs and Investment in Sri Lanka, 1983-2003, (Washington, D.C.: The Urban Institute, 1984).

Statistics of Sri Lanka. Data on tenure, income, housing expense, unit type and infrastructure were extracted for each household in the urban and rural sectors. A total of 4,655 observations were obtained from the data tape - 1,015 from the urban sector, 3,640 from the rural sector. Forty-seven households were later eliminated due to insufficient tenure information, resulting in a base of 1,001 observations for the urban sector and 3,607 for the rural sector. The weights provided on the tape were used in obtaining the final distribution of households.

For each income decile in each of the two sectors, the households are defined according to the following categories:

- o tenure -- owner, unit renter, room renter
- o infrastructure -- pass, fail
- o structure type -- permanent, semi-permanent, improvised

These three characteristics yield 18 possible permutations -- (three types of tenure) x (two possible infrastructure labels) x (three structure types) = 18. The distribution of households across these 18 cells sums to 100 percent within each of the twenty income decile-sector categories. In assigning each household to the appropriate category, the following definitions and procedures were followed.

Income for each household is defined in accordance with the Department of Census and Statistics of Sri Lanka.¹ It is the sum of monetary as well as non-monetary income. The monetary income includes:

- o wages and salaries
- o profit from agriculture
- o profit from other businesses
- o rents, dividends, etc.
- o pensions, remittances, etc.
- o other periodic cash receipts.

1. For more detail, see pp. 2, 3, 11, 13 of Labour Force and Socio-Economic Survey 1980/81 Sri Lanka Household and Expenditure.

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Non-monetary income, estimated at the prevailing market prices,

includes:

- o goods and services provided free by the employer or received free from other sources, such as food, clothing, housing, and medical services.
- o the value of home produce consumed by the household
- o the estimated net rental value of owner occupied housing.

"Net rental value" is computed for owner-occupied units as rental value less the cost of maintenance and property tax payments expenditure. All household incomes were adjusted for underreporting as described in the Housing Needs Assessment.

After income is defined, all households are first weighted, sorted by income and then assigned to income deciles. This is done separately for urban and for rural households.

Tenure for owner occupied units is simply classed as "owner."

While the model can accommodate "squatters" as well as secure owners, the distinction is not made here because of the lack of data on the incidence of squatting, wide-spread confusion about land titles, and the strong legal protections afforded to squatters in Sri Lanka after they have been in a location for a short period. Those who specified "rented" or "rent free" are assigned a tenure of "unit renter" if they do not share their unit with other households. If renters do share their living space with another household, however, the household is assigned "room renter" status. Households failing to specify tenure as owner or renter were deleted from the analysis. These households formed less than one percent of the unweighted sample.

As to infrastructure classes, toilet facilities as well as the source and proximity of drinking water determine whether a household passes or fails the infrastructure standard. A pass is needed for both facilities in order to pass overall. The standards for these facilities differ by sector.

Possible responses for toilet facilities include:

- o flush toilet
- o water seal
- o bucket system
- o cess pit
- o none

Only "flush toilet" or "water seal" are acceptable facilities for urban dwellers. In rural areas, some cess pits are also acceptable, but many pits are of low quality and unsanitary. Allowing all households with cess pits to pass would mean that 72.2 percent of the rural households would be determined as having acceptable toilet facilities. It was the judgment of experts we consulted in Sri Lanka that only about a quarter of the units with cess pits would pass a reasonable standard of acceptability. We assume that fewer than 25 percent of the units with pits should pass in the lower income deciles, and more than 25 percent of the units with pit latrines should pass in the higher income deciles. We arbitrarily set the passing rate at 12.5 percent for the (lowest) income decile and at 37.5 percent for the tenth decile. Since the proportion of households with cess pit facilities is nearly the same across income deciles, we constructed a linear formula which overall passes about 25 percent of the units, while allowing variation in the pass rate across income deciles. The formula allows an increase of 2.78

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percent with each decile; the pass rates of cess pits are shown in Exhibit 1.¹

EXHIBIT 1

PROPORTION OF CESS PITS PASSING TOILET ACCEPTABILITY TEST IN RURAL SECTOR

<u>Income Decile</u>	<u>% with Cess Pits</u>	<u>Cess Pit² Pass Rate</u>
1	9.5	12.5
2	11.3	15.3
3	10.5	18.1
4	10.0	20.9
5	11.0	23.6
6	10.9	26.4
7	10.2	29.2
8	10.0	31.9
9	9.0	34.7
10	7.7	37.5

The water acceptability standard in the urban sector is that units pass only if they have piped water, either inside or outside of the unit. In the rural sector, protected well water within 100 yards from the unit is also acceptable.

Although the Socio-Economic Survey does not differentiate between protected and unprotected wells, another source, the Census of Population and Housing 1981, does provide some information. According to these data,² 68.8 percent of all wells in the rural sector are protected wells. This proportion is applied to the number of households in each decile that have a well as their main source of drinking

1. The formula is $\text{Pass rate} = \frac{(\text{decile} - 1/2) + 4}{36}$.

2. Table 19, Housing Tables, Census of Population and Housing, Sri Lanka, 1981.

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water. The proportion of households of a given tenure group that pass the drinking water standard in one of the rural deciles is, then, the number of units with piped water plus 68.8 percent of those with a well within 100 yards, divided by the total number of units for that tenure group of that decile.

Computing the overall pass rate for the urban sector involves summing the units which pass both the drinking water and the toilet acceptability criteria and dividing by the total number of units. This is done for each tenure group in every income decile. From the National Water Supply and Drainage Board we also know that 8000 additional urban households were given adequate sanitation facilities between 1981 and 1983. Assuming that sanitation was the limiting factor for adequate infrastructure for those households, we distribute these 8000 passing dwellings evenly across all deciles, tenure groups and structure types.

The procedure for obtaining the overall pass rate for each of these groups in the rural sector combines the application of the pit latrine pass rate and the well pass rate. From the data tape we produce tables of toilet facilities cross-tabulated with source of drinking water for each tenure group and income decile. Those responses which are definitely "pass" responses are aggregated for the table, as are those responses which definitely fail. The "cess pit" and the "well within 100 yards" are left as separate categories. The table for owner occupied units in the third income decile is reproduced below, to illustrate the procedure for obtaining the overall pass rate. The proportion of cess pits allowed to "pass" in the third income decile was set at 18.1 percent (See Exhibit 1). The proportion of wells which are

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EXHIBIT 2

**IDENTIFYING INFRASTRUCTURE ACCEPTABILITY
(rural homeowners in third income decile)**

<u>Toilet Facilities</u>	<u>Water Facilities</u>		
	<u>Pass</u>	<u>Close Well</u>	<u>Fail</u>
Pass	1,642	10,453	5,494
Cess Pit	1,233	77,341	19,710
Fail	3,555	47,466	24,075
		Total =	190,969

protected is 68.8 percent. The estimated number of units which pass both the toilet and drinking water acceptability standards is, then $1642 + (.7191.7) \times 10453 + (.181) \times 223.2 + (.688) \times (19209.0) \times 77,341 = 28,266$. The overall infrastructure pass rate is therefore 28,266 divided by the total number of units which are owner occupied in the third income decile. $28,266 \div 190,969 = 14.80$ percent.

Because the Socio-Economic Survey does not contain information on dwelling unit quality, the distribution of dwelling units among structure types utilizes data from Sri Lanka's Census of Population and Housing, 1981. Counts of housing units defined as "permanent," "semi-permanent" or "improvised" (based on the materials with which they are constructed) are cross-tabulated by main source of drinking water in Table 19 of the Census Report¹, and by toilet facility in Table 21. The tables present figures for urban and rural areas separately.

1. Census of Population and Housing Sri Lanka - 1981 Housing Tables, Department of Census and Statistics Ministry of Plan Implementation, June 1982, pp. 66-68.

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The distribution of structure type for urban units passing the drinking water standard involves summing the units with piped water for each structure type, then expressing these sums as percentages of all units with piped water.

A portion of Table 19 is reproduced as Exhibit 3 to help illustrate this procedure. The total number of permanent structures with piped water is $113,197 + 64,160 = 177,357$. Similarly, for semi-permanent units, the number is $9281 + 36,597 = 45,878$; and the figure for improvised structures is $1772 + 12,020 = 13,792$. The distribution by structure type for housing units with piped water is then obtained by dividing each of these numbers by the total number of units which have piped water ($177,357/237,027 = .748$). This yields the percentages shown in Exhibit 4.

The distribution in Exhibit 4 is a conditional distribution; given that we know a household in the urban sector has piped water, there is a 74.8 percent chance that the unit is a permanent structure.

The procedure for the rural sector is similar, though not so straightforward. In this sector protected wells within 100 yards are acceptable. Since the Census does not distinguish distance to wells, we use data from the Socio-Economic Survey to obtain the proportion of households with wells which were within 100 yards. This proportion, 71.8 percent, is applied to the number of households using protected wells for each structure type. Again, the number of units passing is summed by structure type, and then each sum is divided by the total number of passing units in the rural sector.

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EXHIBIT 3

MAIN SOURCE OF DRINKING WATER

<u>Sector and type of Housing Units</u>	<u>Total</u>	Piped Water	
		<u>Within Premises</u>	<u>Outside Premises</u>
Urban	509459	124247	112779
Permanent	346623	113197	64160
Semi-permanent	124013	9281	36597
Improvised	38820	1772	12020

EXHIBIT 4

URBAN HOUSEHOLDS PASSING THE
DRINKING WATER STANDARD

	<u>With Piped Water</u>	<u>Percent Distribution</u>
Permanent	177,357	74.8%
Semi-permanent	45,878	19.4%
Improvised	13,792	5.8%
Total	237,027	100.0%

Distributions are obtained in a similar way for those units passing the toilet acceptability standard. In the urban sector, flush toilets or water seal facilities are acceptable. In the rural sector, since it had been decided to allow only 25 percent of the units with cess pits to pass, the number of such units in each structure type category is reduced by 75 percent. The distributions of structure type for households passing the toilet standard are presented in Exhibit 5.

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EXHIBIT 5

DISTRIBUTION OF UNITS PASSING TOILET STANDARD¹

<u>Structure</u>	<u>Urban</u>	<u>Rural</u>
Permanent	.8836	.5735
Semi-permanent	.1046	.4068
Improvised	.0118	.0198

The distribution of structure types for units passing both acceptability standards is not obtainable from published census tables; therefore the distribution of the more restrictive of the two standards is chosen. In most income deciles for both sectors, the proportions of units passing the toilet standard are lower than the proportions passing the water standard. The distribution of structure type for those units which pass the toilet standard is therefore used as the distribution of structure type for those units passing the overall infrastructure test. The distribution of structure type for all housing units is also computed for each sector from the census tables. The results are presented in Exhibit 6.

Further information obtained from the National Water Supply and Drainage Board after our arrival in Sri Lanka suggested that the drinking water pass rate for rural areas had improved from 18 percent in 1981 to 27 percent in 1983. To update our results, we distributed this increment according to existing patterns and repeated our calculations of rural infrastructure pass rates.

1. These distributions were adopted for the "overall" pass distribution. From Table 21, Census of Population and Housing 1981, Republic of Sri Lanka.

Final Computations. From the data tape for the Socio-Economic Survey, we obtain for each of the 20 sector-income divisions:

1. tenure distribution
2. proportion passing overall infrastructure standard, given tenure.

From the census tables we have, by sector:

1. distribution of structure type, given a "pass" on toilet facilities
2. distribution of structure type, given a "pass" on water facilities
3. distribution of structure type overall.

EXHIBIT 6

DISTRIBUTION OF STRUCTURE TYPE BY SECTOR¹

<u>Structure</u>	<u>Urban</u>	<u>Rural</u>
Permanent	.6804	.3725
Semi-permanent	.2434	.5606
Improved	.0762	.0669

For simplicity and lack of better data, the conditional distributions involving structure and infrastructure acceptability were first applied to all income deciles and tenure groups (see Exhibit 5). For example, the census table shows that of the units in the urban sector which pass the toilet acceptability criteria, 88 percent are permanent structures. We assume first that this proportion applied regardless of tenure or income. The simple distribution of structure

1. From Table 21, Census of Population and Housing 1981, Republic of Sri Lanka.

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types for both sectors are also applied to each decile and tenure group (see Exhibit 6).

Although the resulting distributions were consistent with all available data, they seemed unreasonable in other respects. One would expect, for example, that the number of highest decile owners living in adequate dwellings with adequate infrastructure would be quite high. The method just described, however, predicted that only about half of households in the highest income group would be of that type. After discussions with others familiar with the Sri Lanka housing market, we concluded that the proportion of permanent dwellings should range from 80-90 percent for the highest decile to near 0 for lowest decile owners. Similarly, we concluded that the proportion of improvised dwellings should be near 0 for owners in the highest decile.

We therefore varied the conditional distributions by decile so that these conditions would obtain, but did so in such a way that none of the original averages or probabilities described above were violated. A table of the conditional distributions employed is provided as Exhibit 7, and the final distributions are presented in Exhibit 8.

To illustrate how the final distribution is obtained in each of the 20 income-sector divisions, we present a particular example for one tenure group with one structure type -- owners with permanent structures in the fifth rural income decile. The distribution across the other cells utilizes the same procedure.

From the data tape, we know that 88.01 percent of the households in this decile are owners. We also know that 8.34 percent of the owners in this decile have passed the overall infrastructure standard. As

described above, we have assumed that for rural units in the fifth income decile passing the infrastructure standard, 36 percent are permanent structures, 61.8 percent are semi-permanent, and 2.2 percent are improvised. Thus, we estimate that 36.0 percent of the 8.35 percent of owner-occupied units are units which pass the overall infrastructure standard, are owner occupied, and are of permanent construction. Since 88.0 percent of the households in this decile are owner occupants, 2.64 percent ($.360 \times .0835 \times .880 = .0264$) of all the units are owner-occupied, permanent structures which have passed the overall infrastructure test.

We now have to compute the percentage of all units that are owner-occupied and made of permanent materials so we can determine the portion of such units failing the infrastructure standard. We have assumed that 30.0 percent of the structures in this decile are permanent; 62.5 percent are semi-permanent, and 7.5 percent are improvised. Since we apply this structure distribution regardless of tenure, an estimated 26.4 percent ($.300 \times .880 = .264$) of the units are owner-occupied and of permanent construction. We have already estimated that 2.64 percent of the units were owner-occupied permanent structures passing the infrastructure test. Thus 23.8 percent ($26.4\% - 2.64\% = 23.8\%$) of the housing units are owner-occupied permanent structures which do not pass the overall acceptability standard for infrastructure.

Dwelling Unit Costs

The model requires two types of cost information. First, it needs the "minimum cost" of a unit in each of the six dwelling quality categories. (Costs may differ between urban and rural areas.) Second,

EXHIBIT 7

ESTIMATED DISTRIBUTION OF URBAN DWELLING TYPES

<u>Decile</u>	-- DWELLINGS PASSING INFRASTRUCTURES --			-- ALL DWELLINGS --		
	<u>Perm.</u>	<u>Semi-Perm</u>	<u>Improv.</u>	<u>Perm.</u>	<u>Semi-Perm.</u>	<u>Improv.</u>
1 (low)	.1000	.8150	.0850	.1000	.7480	.1520
2	.4000	.5600	.0400	.3400	.5300	.1300
3	.8400	.1300	.0300	.5200	.3610	.1190
4	.9200	.0640	.0160	.7300	.1680	.1020
5	.9400	.0470	.0130	.8200	.0950	.0850
6	.9700	.0200	.0110	.8400	.0920	.0680
7	.9700	.0220	.0080	.8600	.0890	.0510
8	.9800	.0150	.0050	.8800	.0860	.0340
9	.9800	.0170	.0030	.9000	.0830	.0170
10 (high)	.9800	.0190	.0010	.9000	.0800	.0200
All Deciles:	.8830	.1020	.0140	.6890	.2330	.0780

ESTIMATED DISTRIBUTION OF RURAL DWELLING TYPES

<u>Decile</u>	-- DWELLINGS PASSING INFRASTRUCTURES --			-- ALL DWELLINGS --		
	<u>Perm.</u>	<u>Semi-Perm</u>	<u>Improv.</u>	<u>Perm.</u>	<u>Semi-Perm.</u>	<u>Improv.</u>
1 (low)	.0200	.8800	.1000	.0200	.8376	.1424
2	.0800	.8920	.0280	.0500	.8300	.1200
3	.1600	.8140	.0260	.1000	.7915	.1085
4	.2400	.7360	.0240	.2000	.7084	.0916
5	.3600	.6180	.0220	.3000	.6253	.0747
6	.5000	.4800	.0200	.4000	.5423	.0577
7	.6000	.3820	.0180	.5000	.4592	.0408
8	.7000	.2840	.0160	.6000	.3761	.0239
9	.8000	.1860	.0140	.7200	.2700	.0100
10 (high)	.9000	.0990	.0010	.8400	.1590	.0010
All Deciles:	.5740	.4070	.0190	.3730	.5600	.0670

EXHIBIT 8

ESTIMATED DISTRIBUTION OF URBAN HOUSEHOLDS IN 1983

Decile	Tenure	Ferm Pass	Ferm Fail	Semi Pass	Semi Fail	Impr Pass	Impr Fail
One	Owner	0.629	3.812	5.130	28.073	0.535	6.234
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	0.395	3.000	3.216	22.162	0.335	4.838
	Room Rent	0.761	1.403	6.204	9.975	0.647	2.651
Two	Owner	2.655	11.848	3.718	18.890	0.266	5.280
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	0.833	9.218	1.166	14.501	0.083	3.760
	Room Rent	1.911	7.535	2.675	12.050	0.191	3.421
Three	Owner	9.533	17.009	1.475	16.976	0.340	5.708
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	8.763	8.208	1.356	10.442	0.313	3.555
	Room Rent	5.106	3.381	0.790	5.110	0.182	1.752
Four	Owner	10.729	30.591	0.746	8.786	0.187	5.564
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	6.153	13.699	0.428	4.152	0.107	2.656
	Room Rent	2.901	8.927	0.202	2.527	0.050	1.596
Five	Owner	10.848	29.362	0.541	4.132	0.151	4.002
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	9.788	17.993	0.488	2.741	0.136	2.733
	Room Rent	5.122	8.887	0.255	1.373	0.071	1.376
Six	Owner	10.678	31.951	0.215	4.469	0.116	3.320
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	11.254	21.219	0.226	3.342	0.122	2.495
	Room Rent	5.366	3.532	0.108	0.870	0.058	0.659
Seven	Owner	12.065	42.558	0.275	5.390	0.098	3.129
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	13.159	11.794	0.300	2.288	0.107	1.367
	Room Rent	1.363	5.060	0.031	0.635	0.011	0.368
Eight	Owner	18.381	34.856	0.277	4.932	0.098	1.953
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	14.807	17.675	0.223	2.955	0.079	1.172
	Room Rent	0.960	1.320	0.014	0.209	0.005	0.083
Nine	Owner	33.626	32.284	0.596	5.489	0.090	1.148
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	14.563	2.999	0.258	1.363	0.039	0.291
	Room Rent	4.436	2.092	0.079	0.524	0.012	0.111
Ten	Owner	54.386	27.595	1.054	6.233	0.055	1.766
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	6.048	1.971	0.117	0.596	0.006	0.172
	Room Rent	0.000	0.000	0.000	0.000	0.000	0.000
ALL HOUSEHOLDS:		27.722	41.178	3.216	20.118	0.449	7.316

EXHIBIT 8 (continued)

ESTIMATED DISTRIBUTION OF RURAL HOUSEHOLDS IN 1993

Decile	Tenure	Perm Pass	Perm Fail	Semi Pass	Semi Fail	Impr Pass	Impr Fail
One	Owner	0.069	1.708	3.050	71.368	0.347	12.300
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	0.016	0.160	0.694	6.653	0.079	1.170
	Room Rent	0.001	0.046	0.058	1.936	0.007	0.330
Two	Owner	0.311	4.035	3.463	68.671	0.109	10.330
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	0.048	0.485	0.533	8.310	0.017	1.240
	Room Rent	0.011	0.111	0.126	1.897	0.004	0.280
Three	Owner	0.703	7.742	3.576	63.264	0.114	9.040
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	0.261	1.141	1.329	9.769	0.042	1.470
	Room Rent	0.022	0.131	0.112	1.100	0.004	0.160
Four	Owner	1.152	16.379	3.533	58.562	0.115	7.910
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	0.333	1.660	1.023	6.037	0.033	0.870
	Room Rent	0.114	0.362	0.348	1.338	0.011	0.200
Five	Owner	2.644	23.758	4.539	50.491	0.162	6.410
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	0.663	2.217	1.138	4.866	0.041	0.670
	Room Rent	0.063	0.655	0.108	1.389	0.004	0.170
Six	Owner	4.271	32.464	4.100	45.704	0.171	5.120
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	0.429	2.284	0.412	3.267	0.017	0.370
	Room Rent	0.149	0.403	0.143	0.605	0.006	0.070
Seven	Owner	5.527	39.366	3.519	37.711	0.166	3.490
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	1.100	3.740	0.701	3.745	0.033	0.360
	Room Rent	0.159	0.108	0.101	0.144	0.005	0.010
Eight	Owner	6.084	46.772	3.280	31.105	0.185	2.000
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	0.762	3.499	0.309	2.362	0.017	0.150
	Room Rent	0.167	0.717	0.068	0.486	0.004	0.030
Nine	Owner	10.527	56.397	2.448	22.649	0.134	0.740
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	0.821	3.701	0.191	1.505	0.014	0.040
	Room Rent	0.074	0.481	0.017	0.191	0.001	0.000
Ten	Owner	17.848	60.802	1.963	12.924	0.020	0.070
	Squatter	0.000	0.000	0.000	0.000	0.000	0.000
	Unit Rent	1.643	3.247	0.181	0.745	0.002	0.000
	Room Rent	0.032	0.428	0.004	0.084	0.000	0.000
ALL HOUSEHOLDS:		5.800	31.500	4.106	51.888	0.191	6.510

the model requires that the cost of units developed under government programs be specified. Only the derivation of the first of these two sets of figures is described here.

Minimum costs. The basic data on minimum cost came from the experience of the government in developing new units and providing improvements to units in slum and shanty areas. Based on these figures, and estimates of the cost of providing infrastructure services, the following estimates were obtained:

<u>Dwelling Quality Status</u>		Cost (in 1985	
		rupees)	
<u>Unit</u>	<u>Infrastructure</u>	<u>Urban</u>	<u>Rural</u>
A	A	Rs.34,800	Rs.31,200
A	I	29,800	26,200
I,U	A	17,400	15,600
I,U	I	12,400	10,600
I,N	A	3,000	3,000
I,N	I	3,000	3,000

where A = acceptable, I = inadequate, U = upgradable, and N= not upgradable.

Dwelling Transitions

One input into the model is the rate at which existing units shift between quality classes because of spontaneous (non government induced) investment by property owners. The model considers only net transitions from lower housing quality categories to higher categories. In Sri Lanka for unit quality this means from a unit made of less than permanent materials to one made of permanent materials, and for infrastructure it means a unit moving from lacking water and sanitation services consistent with the definition given earlier to having such services.

We have relied on the analysis by Gunatilleke of data from the 1971 and 1981 censuses to obtain the transition rates. Since the census data are for all units, including those whose improvement was due to government intervention, the rates calculated may be biased upwards. We believe that this bias will be small, however, because government housing programs were highly focused on the construction of new units. Improvement of water supply in rural areas may have been more affected but the major programs did not have much impact until after the time of the 1981 census.

In any event Exhibit 8 shows the rates calculated using the figures provided by Gunatilleke.¹ Interestingly, the rate of improvement in rural areas exceeds that in urban areas.

EXHIBIT 9

RATE AT WHICH SUBSTANDARD UNITS ARE IMPROVED TO MEET ACCEPTABILITY CRITERIA (percent per year)

	Average Annual Percentage Change	
	<u>Urban</u>	<u>Rural</u>
Units to standard quality as percent of standard units in 1971	0.94	2.19
Units with standard infrastructure as percent of those with standard infrastructure:		
of permanent units ^a	0.94	2.19
of semi-permanent or permanent units	-	1.58

a. Assumes all permanent units added to stock (either by new construction or upgrading) and adequate infrastructure.

1. See N. Gunatilleke, "Measuring the Transformation of the Housing Stock in Sri Lanka," Marga Journal, Vol. 7, No. 4, pp. 103-23.

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New Rental Units

The model requires that the number of new rental units constructed each period be supplied as an exogenous data input. Sri Lanka has had tough rent control laws as well as laws limiting the number of rental units a household can own (rental housing cannot be owned and operated by businesses) since the mid-1970s. This has had the expected negative effect on the development of new rental properties. In urban areas there was actually a net decrease in the number of rental units by 14,000 between 1971 and 1981. In rural areas on the other hand, rental units increased by 55,300, presumably reflecting less stringent enforcement of the laws in the countryside. The consensus of those we consulted, however, was that construction of urban rental units would return to higher levels in the future. In calibrating the model we have assumed that new rental units equivalent to about 5.0 and 2.8 percent of the base year rental stock are being built annually in urban and rural areas respectively. For policy simulations, we further assume that after 1986 the rental share of new construction in urban areas rises from 5 percent to 10 percent, that the new units go to households in the sixth to eight income deciles, and that they are all constructed of permanent materials and meet the infrastructure standard.

Annex I

**Descriptions of Selected Financial Institutions
in Sri Lanka**

(This Annex reproduces pages from the report by Alan Knight,
"A Study of Housing Finance in Sri Lanka with Particular
Reference to Government's Million Households Programme,"
which was prepared for the United Nations Centre for Human
Settlements in 1985.)

PART II - THE FINDINGS OF THE STUDY.

- 4 The conduct of the study.
- 4.1 The study was undertaken by a consultant recruited by the United Nations Centre for Human Settlements. It took place in Sri Lanka from the 28th of July to the 28th of September, 1985 with two day stop over in Nairobi at the beginning and the end for briefing and debriefing
- 4.2 The consultants T.O.R. were prepared by UNCHS in Nairobi but it was realised at the time that recent administrative changes and also local changes of priority would mean that substantial alterations to the terms were necessary. The T.O.R. which are in Annex 1 were prepared in Colombo from discussions with senior officers of the NHDA and the Ministry.
- 4.3 The Ministry of Local Government, Housing and Construction and the NHDA have provided counterpart staff for the assistance of the consultant and have readily responded to requests from the consultant for information and guidance. Most discussions took place in Colombo but the study was able to visit Kandy and Negombo. A substantial draft of the report was circulated to a selected group of senior officials for consideration and comment.
- 4.4 The meeting took place on 13th September and is described in Part IV together with the specific additional requests for further study that were made and the recommendations that these requests have produced.
- 4.5 The somewhat unusual shape of this report is that it contains in Part IV details of some responses to proposals that were made in Part I. This speed of response came from the keen interest that has been shown in the subject, the attention that has been given to the draft report, and to the importance that is attached to finding suitable housing finance solutions.
- 5 Existing Housing Finance
- 5.1 The State Mortgage and Investment Bank
- 5.1.1 SMIB began business in its present form on 1st January 1979 being then formed from an amalgamation of the State Mortgage Bank and the Agricultural and Industrial Credit Corporation. In October 1982 Cabinet authorised its reorganisation as a specialised Housing Bank with increased powers, an enlarged Board and a tenfold increase in authorised share capital. Even at the time of this reorganisation it was noted that more than 95 percent of its loans were being made in the housing sector.

5.1.2 A very much simplified version of SMIB's balance sheet at the end of 1984 shows the following picture.

<u>Source of Funds</u>		<u>Use of funds</u>	
(In Millions of Rupees)			
Share capital	75	Loans secured on mortgage	492
Debentures	276	Government securities	24
Loans from Government	190	Special loans	13
Loans from Treasury	5	Property development	10
Miscellaneous loans		Staff housing	8
and deposits	1	Balance of current	
Reserves	7	liabilities over current	
Profit	9	assets	15
		Land buildings furniture	
		and vehicles	1
	<u>563 M</u>		<u>563M</u>

(Special loans are those made to victims of communal violence.)

5.1.3 The source of funds is all from Government or from the sale of debentures to State Institutions. Debentures sold recently are for three years at an interest rate of 16 per cent. Previously debentures were for much longer periods and some of the earlier interest rates, showing what was current at the time, were for 4.25 and 5.5 percent.

5.1.4 SMIB's progress during the six years since its incorporation is shown in the following table (figures are in millions of Rupees)

Year	Loans approved	Amount approved	Amount disbursed
1979	533	27.4	22.9
1980	554	35.8	26.8
1981	779	68.9	50.2
1982	1,069	89.4	74.0
1983	1,508	158.4	95.2
1984	<u>3,413</u>	<u>367.6</u>	<u>248.3</u>
TOTAL	<u>7,856</u>	<u>747.5</u>	<u>517.4</u>

The table shows an impressive rate of progress and though a still modest total for an institution designated as the National Housing Bank.

5.1.5 Loans approved have not been separated into categories according to loans sizes but the number of loans applied for in the last three years have.

Range of Loans	1982	1983	1984
Rs. 5,000 - 10,000	12	2	7
Rs. 10,000 - 25,000	100	131	185
Rs. 25,000 - 50,000	530	503	899
Rs. 50,000 - 100,000	300	839	1309
Rs.100,000 - 200,000	233	599	959
Above 200,000	<u>111</u>	<u>536</u>	<u>730</u>
Total	<u>1336</u>	<u>2615</u>	<u>4089</u>

The trend shown is a relative increase in applications for loans in the higher ranges

5.1.6 In August 1985 SMIB reduced its lending rates for smaller loans and the range of rates is now as follows.

- I. To buy or build a new house:
 - a) Area not more than 750 sq.ft.

up to Rs.50,000	10%
Up to Rs.100,000	11%
Up to Rs.200,000	12%
 - b) Area above 750 sq.ft.

Up to Rs.300,000	16%
Up to Rs.400,000	18%
Up to Rs.500,000	20%
Up to Rs. 1 Million	22%

 (The limit)
- II To repair or renovate a house

Up to Rs.100,000	20%
Up to Rs.300,000	22%

Loans for new houses are repaid over 15 years and loans for repairs over 10 years.

5.1.7 SMIB inherited a neglected arrears situation from the State Mortgage Bank and has taken determined action to improve the position. Threat of foreclosure has produced payment in the large majority of cases but a total of 25 houses had been sold at auction by the end of 1984. The present arrears position is that amounts due and outstanding at the end of 1984 were approximately 3 per cent of total mortgage asset, a considerable improvement on the 14 per cent outstanding at the end of 1978.

5.1.8 SMIB operates from a Head Office and two branches but all three are in Colombo. The foundation stone for a large new office building was laid on 19th September by the Honourable Minister of Finance and Planning. It has recently computerised its accounting systems. It appears as a well run institution, modest in size but expanding rapidly. Concerns about its future might rest on its total reliance on Government for funds and on its relative failure (so far) to respond to the challenge of its designation as the National Housing Bank.

5.2 The Housing Development Finance Corporation of Sri Lanka Limited.

5.2.1 HDFC is very new, being incorporated in December 1983. Its first Annual Report and Accounts is for the year ending 31st March 1985. This reports that the first loan was made in November 1984 and by the end of the first year of operations 37 loans were approved. Up to the week ended the 13th September, the cumulative picture was as follows.

	Applications	Approved	Disbursed
Up to Rs.100,000	181	112	73
Rs.100,000/- to Rs.250,000/-	79	38	20
Over Rs. 250,000/-	<u>54</u>	<u>42</u>	<u>33</u>
TOTAL	<u>314</u>	<u>192</u>	<u>116</u>

In total the volume of loans approved is some Rs.20 Million and this is an impressive start showing a strong unsatisfied demand for housing loans.

5.2.2 Rates of interest charged by HDFC are shown below, unlike other housing finance institutions the variations in interest rates relate to income levels and not just to loan sizes.

Loan		Interest
(i) Income Rs.18,000 - 36,000	upto Rs. 100,000	11%
(ii) Income Rs.36,000 - 66,000	upto Rs. 200,000	12%
(iii) All incomes	upto Rs. 300,000	15%
(iv) Higher Incomes	first Rs. 300,000	15%
(Rs.600,000 and above)	Next Rs. 200,000	17%
	and above Rs. 500,000	20%

These rates apply to new houses, for the purchase of houses that are not new the rate is 2 per cent higher for (i), (ii), & (iii) above.

Loans are repaid in equal monthly instalments over 10, 15 and 20 years and there is in the conditions of the loan a provision that interest rates can be varied from time to time:

5.2.3 HDPC is a private company organised under the sponsorship of the NHDA. It is owned by fourteen separate institutions, four in the private and ten in the public sector, who have collectively contributed to a paid up share capital of Rs.5.4 million. The main source of funds is a loan for Rs.45 Million from NHDA at a below market rate of 7 per cent.

5.2.4 The remaining source of funds in subscriptions from members. They undertake to contribute by regular savings up to 20 per cent of the sum they intend to borrow. Interest is paid on these savings only on multiples of Rs.500 and then only at 9 percent. During the savings period these are funds that HDPC can use but when the 20 per cent target has been reached the remaining 80 per cent has to be found from other sources. This strictly limits the volume of loans that can be approved and already after some twenty months of existence HDPC is approaching the limits of its available resources.

5.2.5 This is a well managed and resourceful institution. It has imaginative ideas and it wishes to expand and set up branches in other districts. It too is constrained by its inability to obtain access to the bulk funds, now accumulating in state owned institutions, at interest rates that will enable it to continue to make affordable housing loans.

5.3 Commercial Banks

5.3.1 The commercial banks can be classified as either state owned local banks, privately owned local banks and branches of foreign banks and it is only the first of these categories that makes any contribution to housing finance and even then the contribution is modest. Throughout this enquiry the extent to which companies, both state owned and private, provide staff housing loans has not been pursued. In the first place there has not been enough time and secondly these loans can perhaps to more correctly considered as part of staff benefits. The total in any case is probably small.

5.3.2 The largest of the state owned banks, the Bank of Ceylon made housing loans until the middle of 1982 when credit limitations caused it to change its policy. At that time its loans outstanding to the housing sector totalled about Rs.325 million less than 5 per cent of total loans and advances. This bank with 653 branches throughout the country could make an important contribution to the house loan interest rate subsidy scheme described in Annex 2 and discussions on this possibility could usefully be continued.

5.3.3 In other state owned Bank, the Peoples Bank, has a greater involvement in the housing sector. It was established in 1961 and is jointly owned by Government and co-operative societies. It has in consequence a particular concern with the development of the co-operative movement. Its housing loans come under three different sector, there are normal banking loans, loans made under an Investment Savings Account scheme and loans made

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5.3.4 In the five years to the end of 1983 the Peoples Bank made about 11,000 loans for the construction of new houses and about six times as many for extension and repairs. The total value of these loans was Rs.590 million, which at the end of 1983 was 12 per cent of all loans outstanding. Distribution of the loans made for new houses is shown in the following table.

Size of Loan	Number of Loans	Amount in Rs.M.
Less than Rs.10,000	5,940	25.6
Rs.10,000 to Rs.25,000	2,272	37.8
Rs.25,000 and above	<u>2,683</u>	<u>198.6</u>
	<u>10,895</u>	<u>252.0M.</u>

The table shows that more than 55 per cent of the loans by number were below Rs.10,000 although they amounted to only 10 per cent of total value. The Peoples Bank has had experience of handling relatively large number of small loans.

5.3.5 Investment Savings Account (ISA) is a form of contract saving. Participators elect to save for a period of 5 years and interest is paid on the savings at the rate of 10 per cent. After two years of satisfactory savings an application can be made for a housing loan. Interest on this will be at 10 per cent and the loan (with a maximum of Rs.150,000 or 60 per cent of the value of the property) will be calculated on the basis that the monthly repayment of it will not exceed five times the amount that has been contractually saved. The repayment period is related to the duration of the savings contract with a maximum of 15 years. The scheme has been successful in raising saving because of the two per cent bonus paid for a successfully completed contract. Details of housing loans made from these savings are not available, but they are thought to be less than 5 per cent of all loans made.

5.3.6 The Co-operative Rural Banks are subsidiaries of the Multi Purpose Co-operative Societies (MCPs) who are registered with and supervised by the Department of Co-operatives. Because of its part ownership the Peoples Bank has a special relationship with them, it provides advisory and consultancy services and helps new banks to get started. There are some 900 CRBs throughout the country with a reported 1.8 million deposit accounts. 26,500 housing loans have been made with a total value of Rs.1.4 Million. This represents 43 per cent by number of loans made and 53 per cent by volume. The average loan size is small and the loans are mostly for the upgrading of rural houses. Some 25 per cent of all borrowers were thought to be late in making payments with the sums not paid amounting to 15 to 20 per cent of amounts due.

5.4 Thrift and Credit Co-operative Societies.

5.4.1 The TCCS's are a different branch of the co-operative movement and are important since they are the chosen institutions for the administration of the RHSP and procedures are being developed in a Pilot Project in Kandy District (Number 0 2 1 1)

(b)

- 5.4.2 They began in 1912 and have a history of steady growth interrupted by a decline in the late 70s and early 80s as the following table shows.

Year	No. of TCCS's
1913	37
1923	169
1933	944
1943	1786
1953	2535
1963	3784
1973	3282
1978	1298
1980	1315
1981	1446
1984	2116

The figures are supplied by the Federation of TCCS's and it is probably true to say that their growth, decline and recent increase is not unconnected with the policies of changing Governments.

- 5.4.3 Unlike the CRBs the Thrifts have always relied on funds collected locally from their own members. Size of membership is relatively small, averaging some 40 - 60 with some as large as 150. The funds raised are of two kinds. There are the shares of members, which constitute ownership, and there are deposits from members and non-members. The deposits are paid for at the prevailing market rate and loan interest rates are comparable to those charged elsewhere. For example in the one Thrift the study was able to visit deposits were paid 12 per cent and loans, including some housing loans, cost 16 per cent.
- 5.4.4 Total membership is about 160,000 and of the 2,116 societies at the end of 1984. 620 are limited and 1496 unlimited. All are registered with the Department of Co-operatives which provides an audit of their accounts. Some 250 have become co-operative banks offering a banking service to their members and others. This involves the purchase of some banking equipment and the employment of staff. Each TCCS elects a member to represent it at the District Union of TCCSs and each District Union elects a member to the National Federation.
- 5.4.5 There are no details of the housing loans made by TCCS's. At the end of 1984 out of the total advances of Rs.62 M. the relative proportions were Agriculture 29 per cent, Industrial (which would include housing) 51 per cent and miscellaneous the remaining 10 per cent. Since deposits which are some 80 per cent of all funds are essentially short term it is likely that the housing loans that are made will be small and short term and for repairs and improvements.

- 5.5 The National Housing Commission
- 5.5.1 Although not now involved in providing housing finance the National Housing Commission which is the administrator of the National Housing Fund still has a number of housing functions. Prior to 1980 when the NHDA took over its development role it was central to many housing activities and it is still recovering loans and hire purchase repayments and administering housing legislation.
- 5.5.2 It applies the provisions of the Rent Act through 80 Rent Boards through out the country and it is also responsible for the administration of the Ceiling on Housing Property Law. Houses surplus to entitlement (as defined by the law) are vested in the state and NHC transfers the title to the sitting tenant. This is a freehold title subject to the restriction that it cannot be transferred outside the family for 5 year. Some 50,000 houses were vested in this way and 12,000 titles have so far been transferred.
- 5.5.3 Before 1980 NHC built its own houses which it sold on hire purchase terms over 25 years. Some 15,000 people are still buying these houses. Monthly rental flats are also being offered to tenants on hire purchase terms over 25 years with the condition that they shall never be sold outside the family. Some 2,500 people are buying flats on these terms. Also until 1980 NHC made housing loans from the National Housing Fund. They were secured on mortgage and repay able over 25 years and some 50,000 such loans were made.
- 5.5.4 A further activity of NHC was the sponsoring of "Building Societies". These seem to have resembled early British terminating societies and some 500 were set up throughout the country. A group of people would approach NHC with a proposal and a request for compulsory land acquisition. NHC would buy the land, put in services and either build houses under contract or let each member build his own house. Total cost plus a management fee become the debt to be repaid by the "Building Society" member.
- 5.5.5 Despite the fact that interest rates (in the 50s and 60s) were only some 3 or 4 per cent and the fact that titles were not conveyed until all payments were completed the rate of collection on all of these schemes has been described as very poor, and accumulated arrears are reported as Rs.45 M (although the situation is improving). It is for this reason that all NHCs new activities were stopped and its remaining functions are those of legal administration and the collection of repayments and arrears. There are lessons to be learnt from the history of the NHC.
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5.6 The National Housing Development Authority

5.6.1 NHDA is the active successor to the trouble ridden NHC. It was established by the NHDA Act of 1979 with very wide powers and functions. Although its main functions are of development its role as the provider of loans was clearly envisaged by the legislators. Part VI of the Act describes these lending functions and also the actions that it is empowered to take for the recovery of sums due but not paid.

5.6.2 NHDA is responsible for the implementation of the MHP which is described in Section 9. It must appear as a housing finance institution since it has made more than 43,000 loans in 1984 and will make an even larger number in 1985. Although this function was envisaged by its legislators, the burden of such a rate of loan disbursement and recovery is very heavy and a search is being made for other institutions which can take at least some of the accounting functions away from it.

5.7 Other formal institutions

5.7.1 A new and recent development is the establishment by the Central Bank of the first stage of a net work of Regional Rural Development Banks. To be known as the "barefoot banking system" it is designed to take banking facilities into the smaller villages and the remoter parts of the country. Branches will be economically run with a staff of no more than three people. There is an authorised capital of Rs.50 M. of which Rs.10 M. is paid up and the aim of the RRDBs will be to encourage local savings and to use these few local income generating purposes. Eventually a partnership is envisaged with TCCS's in which the risks of development investments will be shared between the two institutions. Although it cannot offer any present contribution to housing finance this new net work could offer exciting prospects for future rural development.

5.7.2 National Savings Bank is described in some detail in Section 7.1 but needs a brief mention as a source of housing finance. In recent years it has made housing loans at the rate of some Rs.25 M. a year and had about Rs.100 M. outstanding at the end of 1982. It has also made a further modest contribution to housing finance by the purchase of debentures from SMIB.

5.7.3 The Insurance Corporation of Sri Lanka makes housing loans to its life policy holders. The sum borrowed cannot be more than twice the sum insured with a maximum of Rs.100,000. Interest charged is 11 percent and in addition a mortgage is taken on the property. Some 7,000 such loans have been made since 1968 but they have mostly been repaid. Loans out standing at the end of 1984 were about Rs.1 Million to 20 borrowers.

5.7.4 There are a number of recently established Finance Companies offering high rates to savers and lending short term to high risk borrowers, mostly for hire purchase purposes. They are not likely to make any contribution to housing finance but could divert some of the funds that could be used for housing purposes. 166

5.8 Informal housing finance

5.8.1 The foregoing enquiry into institutions that have been making, are making or might be able to make housing loans produce a picture (with the single exception of NHDA) of distinctly modest progress. An approximate estimate of the total funds that are flowing through formal housing financing institutions, again with the exception of NHA, is about Rs.400 million in 1984. If the NHS's contribution in that year is added the total of some Rs.600 million is about 10 per cent of the estimated annual investment needed to achieve minimum housing standards. (As Section 6 points out estimates of this need are particularly difficult to make with accuracy). It follows that much of the other funds provided for housing come through informal mechanisms.

5.8. There are some glimpses of how these funds are raised. An example given in the report that is No. 25 in Annex 4 gives the following figures.

Sources of finance	Percentage
Friends	46
Relatives	31
Money lenders	9
Financial institutions	<u>14</u>
	<u>100</u>

The report which is No.24 in Annex 4 has examined the ways in which low income families financed their housing in the Jayabima Settlement at Kadirana near the city of Negombo. It found that the funds raised in one or more of the following ways.

- Loans from friends and relatives
- Loans from employees
- Loans from banks
- Other means such as instalment, payments, rotating, credit groups (cheetus) or donations from parents.

A similar enquiry made by the consultant in Thailand produced the following figures.

Source of finance	Percentage
Relatives & friends	65
Office colleagues	12
Money lender	2
Businesses	7
Pawnshop	14
Financial institutions	<u>Nil</u>
	<u>100</u>

Similar figures produced from a study in India and recorded in a World Bank publication are

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Sources of finance	Percentage
Relatives or friends	70
Withdrawal from Provident Fund	7
Sale or mortgage of property	7
Gifts	5
Financial institutions	<u>10</u>
	<u>100</u>

In all of these examples the single largest source of funds is not shown, which is savings from current income. This inevitable means that construction takes place at the rate at which these savings can be accumulated.

5.8.3 An interesting example of the interaction between the MHS and the informal housing finance system was reported to the study from Kalanitissagama. There some 130 families have been relocated in completed small houses that they have built themselves with communal toilets and bath houses. There are no titles (and not even a promise of a title) and all loans are made with an additional guarantors as security. Families in fact guarantee each other. In about four months all of the houses have been completed but loans are for only Rs.7,000 against estimated total costs of at least Rs.20,000. How the extra funds are raised is not known but could be discovered by an enquiry. One of the families volunteered the information that an extra Rs.5,000 had been borrowed from the money lender at 20 per cent a month, a repayment of some Rs.800 p.m. to add to the NHDA loan repayment of Rs.60 p.m. It will be interesting to see how this family reacts to a choice between payments to NHDA and to the money lender. The first loan repayment has just been collected and is some 90 per cent of sums due, but it was pointed out that the request for repayment was made just two days after the release of the final loan instalment of Rs.1,000/-.

5.8.4 The three examples given above show a fairly consistent pattern but they are not of very much help towards understanding how the 80 per cent (or it may even be 90 per cent) of families in Sri Lank raise funds for the purchase, construction repair and improvement of their houses. As is suggested earlier until we know more about the subject we will not be able to assess the impact of the MHP which will undoubtedly reach many people previously using informally raised finance. An enquiry into informal sources of housing finance is recommended and draft terms of reference are in Annex 3. This proposal has been accepted and the latest stage of negotiations for its implementation are described in Section SR 4.

6.8 The report goes on to point out that these funds need not come exclusively from Government. The need for new improved housing is a strong generator of additional savings and as has been pointed out earlier there are at present no institutions in which the accumulation of savings can be directly related to housing loans. Also the informal use of resources referred to in section 5.8 is not an efficient way of converting current income into domestic capital formation.

7 Savings Institutions

7.1 The National Savings Bank

The NSB is by far the largest single collector of the peoples savings. At the end of 1984 it had, from the Central Bank of Ceylon's Annual Report, Rs.11,566 million on Savings and Fixed Term deposits. This is 28 per cent of the total with the remainder being distributed among the commercial banks.

7.1.1 It operates through 53 national branches, 357 Post Offices and about 3,600 sub post offices. It offers a number of attractive savings schemes the interest from which is tax free up to a limit of Rs.2,000 p.a. Above that limit one third of the income is tax free.

The schemes are:

i) Pass Book Savings.

There are at present some 3.5 million of these with total deposits of Rs.2,500 M.(so the average account is not large) earning 12 per cent.

ii) Fixed Deposits (for at least one year)

At present some 1.5 million of these with a total of nearly Rs.9,000 m. earning 16 per cent

iii) There are 7,000 investors in a contributory pension fund earning 16 per cent. The fund presently totals Rs.150 M.

iv) Some Rs.200 M. in a 10 year endowment scheme earning a fixed rate of 16 per cent and

v) A recently introduced premium savings bond that offers prizes rather than interest.

7.1.2 There are three mobile banking vehicles providing a savings service to remote areas and estates and there are canvassers collecting savings on commission. The total number of separate accounts is an astonishing 8 million (in a country of 15 million people) even if some 2 million of them have been described as dormant.

7.1.3 The interest rates are attractive and it is clearly these rates that set the level against which other institutions must compete. In April of 1984 NSB was allowed to fix its deposits and lending rates, a change from the previous practice of the rates requiring the approval of the Ministry of Finance and Planning. The policy change was said to result from Governments reduced borrowing requirements and was intended to allow NSB to diversify its investment portfolio. This result does not seem to have been achieved. NSB's legal requirement is to invest not less than 60 percent of its assets in Government securities but at present this proportion is 98 per cent, the only significant exception being the few housing loans described in section 5.7.2 above. There is some comment on changes to the NSB's position in Section SR 6

7.2 The Employees Provident Fund

7.2.1 Government employees receive pensions and EPF was established in 1971 to provide a lump sum payments to private sector employees. Compulsory deductions are collected at the rate of 8 per cent from the employee and 12 per cent from the employers. At the end of 1983 it had 3.5 million members but only 1.2 million of the accounts were active. Payments are made to the member at the age of 55 for men and 50 for women and there are certain other reasons for early payments such as being unfit to work or leaving the country.

7.2.2 The total fund at the end of 1984 was approximately Rs.11 billion and allowing for new contributions, interest received and payments to beneficiaries it is increasing at about Rs.1 billion each year. All of its investments are in Government securities or in the securities of state owned institutions. Interest on these investments varies according to the date of investment, some of the earlier and long term still earn 4 and 5 per cent while recent investments are short term and at 16 per cent. About Rs.3 Million only are in debentures of the SMIB.

7.2.3 The fund has considered ways of diversifying its benefit structure including a greater involvement in housing and there are two separate ways in which this could be done. It could buy more debentures in SMIB and also in HDFC at rates which would permit them to make affordable housing loans. Also it could allow members to borrow against funds in their EPF account for the purchase and improvement of a house. It was noted that in Singapore, for example loans can be up to 90 percent of deposits subject to the stipulation that the house would not be sold. The monthly contributions are used to pay off the housing loan.

7.2.4 Provident funds are traditional sources of bulk funds for housing finance. They are in fact the peoples savings and in that way are being used for housing of people. As a condition for substantial investments in the debentures of SMIB and HDFC it might be possible to negotiate concessions for fund members. This might consist of a priority consideration in cases of shortage of housing finance and an increased proportion of loan to house value, the increase being secured against the fund deposit. The study was given the impression that considerable thought had gone into this matter and that EPF would welcome further discussion with housing finance institutions. These discussions took place with the results that are shown in Section SR 5.

7.3 The Employees Trust Fund.

7.3.1 ETF was established in 1981 and so is new and smaller than EPF, but it has a similar purpose. It also applies to the private sector with a slightly wider coverage and so a larger membership (1.4 million against 1.2 for EPF) 3 percent is contributed by all private employers for the credit of each employee. Its total funds at the end of 1984 were Rs.1.25 billion. Deposits increase at Rs.25 m per month to which is added interest at Rs.13 - 14 M per month. Being recently formed its disbursements are modest at about Rs.3 M per month.

7.3.2 It is responsible to the same Minister (of Labour) as EPF but is rather more independent. Its Board for instance includes representatives of Trade Unions. Its investments are partly in Government securities and partly, though the banking system, in equities. It has some Rs.10 M in SMIB debentures. Like EPF, ETF has been giving thought to ways in which it could make a greater contribution to housing finance. An average deposit at about Rs.1,000 would not be much security for a loan but a further investment in the debentures of SMIB (or of HDFC) would seem to be a possibility, perhaps with some corresponding benefit to fund members, more detailed suggestions are in Section SR 5.

7.4 The National Insurance Corporation and the Insurance Corporation of Ceylon.

7.4.1 Insurance corporations in either the public and the private sector are also traditional sources of funds collected from the payments of the people and available in bulk to housing finance institutions. Enquiries from these two institutions have shown that they are both recent and modest in size. Having to pay out substantial claims for payment in 1983 they have few funds available for investment and what they have are kept short term and liquid.

8. Demonstration Housing Projects.

8.1 The UNCHS sponsored IYSH Project.

8.1.1 Three demonstration housing projects are considered in this section starting with the UNCHS sponsored IYSH Project and then briefly the projects of the US Save the Children Federation and the Norwegian funded Redd Barna. As with the rest of this report the concern is not with the improvement in housing conditions, but with how financial resources have been employed and the lessons that can be learned for the future.

8.1.2 The IYSH Demonstration Project is based on four prototype schemes each representing a particular deficiency in urban low income shelter. They are selected from a continuing slum and shanty improvement programme and their implementation will demonstrate the following activities:

- i) Improvements to urban low income shelter conditions.
- ii) Integration of training and information in low income shelter programmes.
- iii) Monitoring and evaluation mechanisms for greater efficiency.

The four prototypes are briefly described below with some of the problems (mainly relating to title) that they are experiencing.

8.1.3 Maligakanda is part of an inner city slum area where the requirements are for housing improvements, additional services and the regularisation of ownership. Some 412 families are involved in 318 housing units on 3 hectares. Existing land tenure is extremely complicated with 12 different kinds of title being reported. The only way forward is for NHDA to request compulsory acquisition of the land so that clear titles can be issued. This process is in its early stages.

8.1.4 Malkaduwawa is a substantial area of 42 hectares on the urban periphery of a major town. It contains 670 families and the programme aims to improve basic amenities and housing conditions as well as employment generation schemes and social promotion activities. The land is state land on which the Government Agent has given one year renewable land license with the intention that freehold titles should follow. A problem is that many of the original grantees have moved on and only about 40 remain.

8.1.5 Navagamgoda is an urban sites and services scheme providing 549 plots on 7.8 hectares. After site filling and the laying of services, house construction began at the start of 1985. Progress has been rapid and some 300 houses have been completed. Land is free but a charge of Rs.56 per month is made for services, mainly the provision of communal toilets and bath-houses. Loans, of Rs.15,000 are the same to each beneficiary and are made against a security bond and evidence of income. Repayments are about Rs.160 per month plus the service charge.