Philippine Journal of Public Administration, Vol. XXV, Nos. 3 & 4 (July-October 1981)

The First El Salvador Sites and Services Project: Summary of the Main Findings of a Five-Year Evaluation

MICHAEL BAMBERGER*

As a response to the deficit in urban housing in El Salvador brought about by low housing production and increasing percentage of houses needing improvement/ replacement, the First El Salvador Sites and Services Project was executed by the Fundacion Salvadorena de Desarollo y Vivienda Minima (FSDVM). The FSDVM project seeks to increase the annual production of public housing and to introduce changes to existing policies related to urban shelter and city planning. A five-year evaluation of the project was conducted revealing that FSDVM is achieving most of its objectives and that it is the cheapest option available to low-income families in comparison with all other types of housing program in the country. Recommendations covering project design, financing and implementation to improve program strategies to make housing accessible to the urban poor are discussed.

Introduction

In October 1974 a Loan Agreement (1050-ES) for the First El Salvador Sites and Services Project was signed by the Government of El Salvador, the Fundacion Salvadorena de Desarrollo y Vivienda Minima (FSDVM) which was the executing agency, and the World Bank. The Project was designed to produce 7,000 serviced plots to be sold to low-income urban families who would complete the house through mutual-and self-help construction. The Project represented a radical departure from previous housing policies which had concentrated on the production of a relatively small number of traditional single-family and multi-family units which were both too expensive for the majority of the population and too few in number to meet the rapidly growing housing deficit. For the World Bank, the Project represented one of the first attempts to finance low-cost urban shelter programs on a massive scale.

Another innovative aspect was a commitment, funded by the International Development Research Centre and the World Bank, to conduct a systematic and long-term evaluation of the Project. The evaluation was conducted by the Unidad de Evaluacion which was established within the FSDVM. Other than an adviser provided by the World Bank during the first three years, all of the staff of the Unidad de Evaluacion were Salvadoreans. This paper presents the findings of the five year evaluation. It explains the Project and the context within which it was developed; reviews the effectiveness of the Project in achieving its objectives; evaluates the efficiency with which the Project was designed and implemented; and presents conclusions and recommendations.

*Consultant, El Salvador Evaluation Team, Urban and Regional Economics Division, Development Economics Department, The World Bank.

The Problem: The Urban Housing in El Salvador

During the decade of the Sixties, it was estimated that 10,000 new urban households were forming every year in El Salvador and that during the same period public and private housing programs were only producing an average of 2,600 new units per year. By 1972 it was estimated that 147,000 units or 55 percent of the urban housing stock needed improvement or replacement. The housing production, in addition to being numerically inadequate, was mainly directed to families in the upper forty percent of the income distribution, and virtually no formal housing was being provided for the poorer sectors of the urban population. As a consequence, virtually all of the poorest 50 percent of the population were living in dwelling units provided through the informal market. By definition, the informal market was largely outside the bounds of government regulation and many of the dwellings had extremely inadequate provision of public services, and equally insecure tenure arrangements.

The situation was worsened by the skewed income distribution and consequent low-purchasing power of the poor, and by the continued drift to the cities which resulted from the extremely high unemployment rates in the rural areas.

The Response: The First El Salvador Sites and Services Project

This was the context within which the First Sites and Services Project was initiated. Not only did the Project seek to increase the annual production of public housing by almost fifty percent but it also sought to change some basic concepts related to urban shelter and city planning. Among the new concepts were the acceptance of progressive development and the use of self-help, the systematic use of mutual help, the introduction of lower service levels, and redesigning the land-use within a project. The $15.5 million project was to consist of the following major components:

(1) Serviced plots. The provision of 6,594 serviced plots of approximately 75 m^2 each. All plots would have individual water, electricity, and water borne sanitation. Plots would vary in terms of the level of on-plot construction provided by the contractor — a toilet and a shower, or a partially completed dwelling unit being provided;

(2) Building material loans will be made available to all participants;

(3) Infrastructure. The provision of 6,594 dwelling units, a contingency well, 5 storm drains, and 8 footpathways, and one market.

The serviced plots and building material loans were to be provided by the FSDVM while responsibility for infrastructure would be divided between the FSDVM and the appropriate government agency.

The Achievement of Project Objectives: An Evaluation

The achievement of project objectives will be evaluated in terms of physical implementation, accessibility to the target population, cost recovery, impact on participants, community participation, and quality and value in comparison with alternative housing options. All of these objectives are either stated or implied in project documents.

Physical Implementation

Table 1 summarizes the main physical objectives of the Project and the extent to which each objective has been achieved. All of the 6,594 dwelling units have either been completed or are in the process of construction. House construction suffered a delay of more than 2 years due mainly to difficulties in acquiring land in the major cities. Virtually all participants received material loans.

Table 1. Comparison of Objectives and Achievements of Physical Implementation of the First El Salvador Urban Project, June 1980

	Responsibility of FSDVM			Responsibility of Other Agency		
Components	Target	Completed	In Progress	Target	Completed	In Progress
Dwelling Units	6594 [a]	4348 built 3540 occupied	2246			
Infrastructure						
Trunk Water Supply				6	5	
Sewage Collection				2	1	
Contingency Wells	1		1			
Sewage Outfall				5	4	
Storm drain for direct discharge into river	5	4				
Schools				7	3	
Clinics				2	1	
Community Centers				10	2	2
Market	1					
Foot Pathways	8	5				

[a]Original objective was 7,000 units but due to switching of sub-projects between the first and second loans the estimates were revised downwards.

Source: URBDI Back to Office Report, March 21, 1979;
FSDVM 22nd report on progress of the First World Bank Loan, July 1980.

With respect to the FSDVM's responsibility for infrastructure: the contingency well is in the process of construction, and 4 out of the 5 storm drains, and 5 out of the 8 foot pathways are completed. It was decided not to complete the market.

With respect to the responsibility of government agencies, most of the water supply and drainage-related components are almost complete but there has been a shortfall in the provision of schools, clinics, and community centers.

In general, it can be seen that all of the shelter units are being produced but with some delays due to land acquisition, that water supply and sewage are progressing reasonably well, but that many of the community facilities have not been provided as yet by the appropriate government agencies.

Accessibility to the Target Population

The projects have proved to be accessible to the target population with at least 85 percent of the participants falling below the 65th income percentile which had been defined as the maximum. A small number of families come from below the 20th income percentile, showing that the projects can reach down to the minimum target levels (17th income percentile); but the majority come from the third, fourth, and fifth deciles. The Project's ability to continue being accessible to the target group despite sharply rising costs is even more impressive when compared with public housing programs which in most cases are not accessible to families below the median income. The extremely low dropout rates once the Project units are occupied is further proof that families are able to continue meeting mortgage and loan repayments to the FSDVM, as well as the additional costs for the completion of the house.

Cost Recovery

The FSDVM probably has one of the best loan repayment records of any World Bank shelter program in the world. As of July 1980, total repayments in arrears represented only 2.3 percent of the total loan portfolio. Of the payments in arrears only 22 percent are overdue by more than 90 days (3 payments). The figures are even more impressive as the community itself assumes an active role in loan collection in some of the projects.

Project Impact on Participants

It was not possible to detect any clear pattern of project impact on the overall income and employment situation of participants. There were however a number of indications of ways in which the project *might* be affecting the economic situation of certain subgroups. It was found that between 1976 and 1980 the total family income of poor participants was increasing more, relative to the control group families, than the income of higher income project families. This is due in part to income transfers received from non-household members. It was also found that during the very difficult economic climate, labor force participation rates for secondary workers in participant families declined less than it did for the control group families. This was particularly true for spouses in places where there was a significant reduction in the number of working spouses in the control group

but almost no change among participants.

The construction process itself proved to be a major source of employment and income generation. It was estimated that on average the construction of each house generated $497 of income to hired labor and 6.4 months of employment. The total project will generate approximately $4,160,000 of wage income and3,700 person-years of employment.

Efforts to develop specific employment generating components within the project have not produced any significant quantitative impact although a number of potentially interesting employment models have been tested on a small scale.

There does not seem to be any overall negative effects of participants' investment in housing on consumption of basic necessities such as food and medicine.

Most project participants previously lived in tenement houses (*mesones*). In comparison with their former dwellings, the move to the Project has meant an increase of 4.8 m^2 in the living space per person and a reduction of 2.2 in the number of people per room.[1] These improvements are very significant from the health point of view.

When compared with the control groups, there is a slightly higher proportion of participants who feel that their conditions have improved over the past two years. The differences are greatest with respect to income (63% consider they are better off compared with 52% of the control group), and health (37% consider that their conditions have improved as compared with 28% from the control group).

Community Participation

The FSDVM considers the provision of housing, in addition to being good in itself, as a means for developing community organization and social awareness. The Project has one of the largest organized community participation components of any Bank shelter program. All families are required to work for about 30 weekends in construction groups to build their houses in cooperation with their future neighbors. This is accompanied by meetings and training sessions in organizational techniques.

The project is designed so that after the dwellings are occupied, families will continue to work together in the construction of parks, sidewalks and other community facilities. All communities have a representative community council, which in most cases are quite active.

Although the impact of community participation is difficult to measure, the efficiency of the consolidation of community facilities, maintenance of public areas, and the excellent cost recovery record are all indications of the strong feeling of community solidarity which exists in most projects.

FSDVM Projects Vis-a-vis Alternative Shelter Options

From the point of view of the development of a national urban shelter

[1]The changes are very substantial due to the fact that participants had larger households than the control group and because they also lived in smaller than average dwellings.

strategy, it is essential to compare the FSDVM with alternative housing options. The comparison will be made in terms of cost, quality and the benefits which are purchased for a given amount of money.

Cost and Accessibility

In 1977, Richard and Bamberger[2] compared the monthly cost to participants of all types of formal and informal housing potentially accessible to the low-income population of San Salvador. The results of this analysis are summarized in Table 2. The third column tries to estimate the lowest income percentile who can afford each of the options. According to these estimates none of the public housing programs were affordable to families below the 48th income percentile that most of these programs were only affordable to families above the 60th percentile. These conclusions

Table 2. Accessibility of Formal and Informal Housing Programs to The Urban Poor, San Salvador, 1977

Institution	Type of Housing	Lowest Percentile Who Can Afford this Option
Tenement housing (mesones)	Poorest quality	6
Extra-legal subdivisions *(colonia ilegal)*	Poorest quality	10
FSDVM	Basic core unit	24
Tenement Housing	Adequate quality	24
IVU (Instituto de Vivienda Urbana)	Marginal housing in squatter areas (discontinued)	27
Extra-legal subdivisions	Adequate standard	42
FSV (Fondo Social para la Vivienda)	Normal program (1975-1978)	48
IVU	2 bedroom houses	52
IVU	4 bedroom houses	Beyond 60th percentile
IVU	Apartments	Beyond 60th percentile
FSV	Normal program (1978-1982)	Beyond 60th percentile

Sources: Jim Richard and Michael Bamberger, "Economic Evaluation of Sites and Services Programs and Their Accessiblity to Low-Income Groups in El Salvador," Table 2.15, FSDVM Report Series on the Evaluation Program, No. 16, July 1977.

[2]Jim Richard and Michael Bamberger, "Economic Evaluation of Sites and Services Programs and Their Accessibility to Low-Income Groups in El Salvador," FSDVM. Report series on the evaluation, No. 16, July 1977.

are also supported by a comparison of cost figures for different projects (Table 3). The figures show that the cheapest government housing costs at least twice as much as FSDVM project houses.

In terms of a comparison with public housing, the conclusion is very clearly that the FSDVM is accessible to much lower income groups. The situation becomes more complicated, however, when the FSDVM is compared with the informal housing sector. In most cities, between 50 and 70 percent of the population live in mesones, colonias ilegales (extra-legal subdivisions), or *tugurios* (squatter settlements). Table 2 shows that several types of informal housing are cheaper and more accessible than the FSDVM. The poorest quality mesones and colonias ilegales are accessible to families in the poorest 10 percent of the population, and even good quality mesones compete with the FSDVM

Table 3. Comparison of Cost of Formal and Informal Shelter Options, San Salvador, 1978 (Note future costs discounted at 12%)

	Cost (Colones)
Upgrading and Sites Servies	
FSDVM basic unit	3383
FSDVM serviced lot	3204
IVU squatter upgrading	4083
Traditional Housing	
IVU multi-family units	14023
IVU single-family 2 bedroom units	8414
FSV single-family unit	7046
Informal Housing	
Extra-legal subdivisions	5096
Tenement	2127
Squatter settlement	1255

Note: The information is based on a sample of typical units in each category.

Source: Marisa Fernandez-Palacios and Michael Bamberger, "An Economic Analysis of Low-Cost Housing Options in El Salvador" (draft), August 1979, DEDRB.

in terms of their potential accessibility.

The conclusion is that although the FSDVM reaches down to poor families it is by no means the cheapest option, and there are several other forms of shelter which are more accessible to the poorest urban families.

Comparing Benefits Received from Different Shelter Programs

An obvious explanation of why some shelter programs cost more than others is that there are differences in the quality of the package of services rendered. To put it another way, different programs offer different benefits and some benefit packages are greater than others. An important question is to find a way of comparing the amount of benefits received per unit cost in different housing programs. Some possible indicators are the following:

Comparison of quality/aocess to services. Table 4 presents a comparison of the quality of housing in mesones, colonias ilegales, tugurios, and the Project in 1980. With the exception of floor quality (many project houses have dirt floors), the project houses are of equal or better quality than the housing offered in the informal sector.

In terms of access to services, the pattern is not so clear. In many ways the mesones, with their central location, have better access to services than the Project. The Project does however enjoy an advantage in comparison to most colonias ilegales. In the case of most interior cities, such as Santa Ana and Sonsonate, not too much importance should be attached to differences in distance from services as the cities are so small that the difference in distances to services between one type of community and another is usually less than one mile.

Table 4. Quality of the House: Comparison of Informal Housing and the FSDVM Project, Santa Ana, 1980

	Percentage Score on Quality Index (100% — maximum)						
	Roof	Walls	Floor	Water	Sanitation	Light	Average
Meson	99	55	53	47	47	95	66
Colonia Ilegal	93	79	41	84	74	96	78
Tugurios	48	47	2	49	34	40	35
Project	100	99	48	100	100	100	91

Source: Michael Bamberger, Umnuay Sae-Hau, and Edgardo Gonzales-Polio, "Urban and Regional Report No. 80-12, Evaluation of the First El Salvador Sites and Services Project," September 1981, pp. 10-20.

In general, the Project has a considerable advantage over other types of informal housing in terms of water quality and access, quality of sanitary services and, to a lesser extent, quality of building materials. The Project tends to be at a disadvantage in comparison with mesones in terms of access to public services, such as transport, schools, and hospitals. In comparison with colonias ilegales, the main disadvantage of the Project is the smaller lot size.

Direct comparisons of quality were not made in quite the same way with public housing programs but a similar type of comparison will be discussed in the following paragraphs.

The comparisons of quality become much more meaningful if they can be compared with differences in cost and value. If a family can buy better quality housing in the Project and if they are prepared to increase the amount they pay for housing, this would not be a very dramatic conclusion. What is more interesting is to compare the "amount" of housing which can be obtained in different projects for a given quantity of money. In other words, can a poor family obtain more housing services (benefits) in the FSDVM project than they can obtain elsewhere, *for a given amount of money?* This question has been approached in two different ways in the evaluation. First, through the use of cost-benefit analysis and, second through the use of hedonic price indices and the estimation of utility functions.

A cost-benefit analysis was conducted of nine housing options in San Salvador[3] which represented the major options potentially accessible to low-income families. The analysis included the main types of housing offered by the informal market (mesones, colonias ilegales, and tugurios); three types of upgrading and sites and services programs (2 FSDVM options and one government program through IVU); and three traditional public housing programs. An attempt was made to measure all costs and all benefits produced by these projects and on this basis to develop a number of indicators to compare them. Three of the basic indicators are summarized in Table 5. These are:

(1) The internal rate of return (IRR). This means, in somewhat simplified terms, the "return" which a family could expect to receive if they bought (or rented) the different types of housing. The higher the rate of return, the higher the benefits received by the family. In general, the most attractive project is the one which offers the highest rate of return.

(2) The net present value (NPV). This is the difference between total project benefits and total project costs of each year of the project's life (in this case projected over a period of 20 and 30 years). The figure is then *discounted* at the current rate of interest. If the NPV is positive this means that a family obtains more benefits from investing their money in the shelter options being studied than they could have obtained by investing the money in the bank. Again the

[3]Marisa Fernandez-Palacios and Michael Bamberger, "An Economic Analysis of Low-Cost Housing Options in El Salvador," (Draft), August 1979, DEDRB.

Table 5. Comparison of Housing Options in Terms of Economic Rate of Return, Net Present Value, and Net Present Value/Total Cost, San Salvador, 1978

Housing Option	Rate of Return	Net Present Value (Colones)	NPV/Cost	Ranking on 3 Indicators (1 = highest)
Upgrading and Sites and Services				
FSDVM basic Unit	33	4065	1.2016	1
FSDVM serviced Lot	28	2329	0.7269	2
IVU rehabilitation	18	1078	0.2640	4
Traditional Housing				
IVU multi-family units	9	-1828	-0.1304	9
IVU single-family 2 bedroom unit	11	-606	-0.0720	8
FSV single family unit	13	452	0.0641	5
Informal market				
Colonia ilegal	22	1788	0.3509	3
Meson	12	1674	0.0141	7
Tugurio	20	373	0.2972	6

Source: Marisa Fernandez-Palacios and Michael Bamberger, "An Economic Analysis of Low-Cost Housing Options in El Salvador," DEDRB (draft), August 1979.

higher the NPV the greater the net benefits obtained. To adjust for differences in the amount of initial investment, NPV is divided by total cost, so as to obtain a standardized comparison between projects.

(3) The simple net present value is also included in the table for comparative purposes.

The nine projects are ranked from highest to lowest on each of these indicators and it can be seen that the pattern of ranking is consistent for the three indicators. In each case, the FSDVM projects have the highest ranking. The colonia ilegal is the next highest. The highest ranked public housing project is the IVU squatter upgrading program which is not a traditional program. None of the traditional government programs achieve a ranking higher than 5 on any of the indicators and, in general, they occupy the lowest positions.

The analysis indicates that the FSDVM projects offer a very attractive option to low-income families. The projects are cheap enough to be affordable down to about the 20th income percentile, whereas most government programs do not reach below the 50th percentile. The FSDVM projects also compare favorably in terms of cost-benefit indicators such as internal rate of return and present value. In both cases it appears that a family can obtain more housing services (benefits) for a given amount of money from the FSDVM than from any of the shelter options available in the informal housing market.

The option which most closely competes with the FSDVM appears to be the colonia ilegal. This offers considerably more space and hence more flexibility in styles of construction and types of materials used. The disadvantage of the colonia is the lack of direct access to water and sanitation services. In a large number of cases these services are provided after a certain period of time, but there is no guarantee. The colonia appears to be a more attractive option for higher income families who are able to arrange their own financing but compares somewhat less favorably with the FSDVM for the lower income families[4].

None of the traditional public or private housing programs are able to compete with the progressive development model, and it is interesting to note that the highest ranked government housing program is the squatter upgrading project of IVU. It would seem that with the present Salvadorean income distribution and the relative costs of providing complete housing as opposed to the provision of serviced plots combined with progressive development construction, the latter option is without doubt the most attractive for the urban poor.

Recommendations

The main conclusion of this paper is that in general the FSDVM program is working well and, despite the extremely difficult economic and political context within which it oper-

[4]This is evaluated by comparing the ranking of the projects on efficiency analysis, where it does not matter who receives the benefits; with the ranking on social analysis where higher weights are given to benefits received by poorer families. The relative position of the colonia declines where social analysis is used. See Fernandez-Palacios and Bamberger, *op. cit.*, Part 3.

ates, the program is achieving most of its objectives. It is within this generally positive context that the present recommendations are presented. They should be considered as ways to improve an already effective program rather than as basic criticisms of that program.

Project Design

Rural vs. urban location. The FSDVM should continue to limit itself to urban projects. The demand is sufficiently high to absorb all of the Fundacion's resources for many years to come. Rural housing is also sufficiently different to require completely new types of programs in which the Fundacion has only very limited experience and no great comparative advantage.

Choice of cities. The FSDVM should continue to distribute its programs among a large number of different cities, and hence to set an example to other housing programs which have tended to concentrate in the Metropolitan area.

Locations with the city. Economies of scale, combined with the problems of finding affordable prime land, suggest that the FSDVM should continue its recent policy of selecting large project sites, usually in the periphery of the city. At the same time there is a large demand for housing located near the center of the city, and where possible smaller projects should be developed on any centrally located land which can be found. The rehabilitation of tenements and the construction of two story units are both potentially important models for providing inner city shelter.

Project size. A number of pressures (mentioned above) suggest that priority must be given to larger project sites. Not least among the reasons is the problem of acquiring land. Often a large project should be broken down into a number of stages so that it becomes a sequence of smaller projects. At the same time a number of smaller projects should be continued, both to permit continued experimentation and to take advantage of inner city locations if they become available.

Options with a project. Larger projects make it more economic to offer a number of different options. There are a number of reasons for wishing to do this. The most important is that experience has shown that different types of families demand different types of shelter. This variation depends on factors, such as income, family size, willingness to become involved in mutual help and self-help construction, preference for purchasing or renting, etc. The following are some of the main options which should, where possible, be offered within a project:

(1) Some variation in plot size. This could include both smaller plots for poorer or smaller families and larger plots for wealthier families or those with larger families. If plot sizes could be increased to 150 m^2 (for *some* plots) this would compete with the typical colonia ilegal.

(2) Include rental units as well as units for sale. There is a very large demand for rental units from small incomplete families and from people who are not yet established in the city. In some cases this could be a step towards ownership but in others

it could be a permanent arrangement. One very interesting version would be to encourage families to sublet one or more rooms as a way of covering their investment costs, and of making the project more accessible to poorer families. This has been done successfully in other countries.[5]

(3) The two main types of option should be the serviced plot and the partially completed house. In general, the serviced plot would be sold mainly to higher income groups, but there would be exceptions (for example, encouraging families from tugurios to transfer the materials from their previous dwelling to the project).

(4) A final option should be units with certain shared services, such as clothes washing, showers, toilets, etc. This could produce significant cost reductions. Initial experiments with these condominium models was not very successful but that was due to a number of specific problems which would be possible to correct in the future.

New types of projects. The FSDVM should continue to develop both the tenement rehabilitation projects and the two-story units as both have a strong potential. The first is a way to take advantage of existing structures with favorable locations, and the second is to reduce the cost of land and hence to give access to better located sites.

Lower service levels. The FSDVM projects offer higher service levels than almost any other World Bank supported sites and services project. All units have individual water connections and water-borne sanitation. These service levels, which are required under El Salvador's urban planning laws, mean that project costs are increased and the projects become less accessible to poorer families. Every effort should be made to find ways of experimenting with lower service levels and hence of reducing costs.

Project Finance

Larger loans for materials and for hiring labor. There are three observations on this point:

(1) In many projects construction has become paralyzed once the material loan from the FSDVM is exhausted. This is particularly a problem for poorer families. If possible the size of the material loan should be increased, at least for poorer families, so as to permit them to complete the construction. In a free market the rationing of loans would be achieved by making financing available but at a relatively high interest rate so that families would have an incentive to first seek alternative sources. However, in the present case this would penalize the poorest families who most need help. An alternative would be to make larger loans available to poorer families but without increasing the interest rate.

(2) Until now loans have only been available for obtaining materials from the project material store. The FSDVM should also consider the possibility of allowing families to use the loans to purchase materials from other sources.

[5]The Dandora project in Nairobi is an example where poorer families are encouraged to construct additional rooms for renting. About 80 percent of the dwellings have at least one room to sublet.

(3) As most families hire labor to complete the construction, the possibility of allowing loans also to be used to pay for hired labor should be considered.

Cross subsidization. A number of positive social benefits are achieved by having a mix of families from different economic levels in the project. One possible approach is to permit the use of cross-subsidies whereby the better-off families are charged higher prices and the surplus which is generated is used to reduce the charges to the poorer families. In the past little success has been achieved with cross-subsidies, largely because the better-off families are still sufficiently poor not to be able to pay much higher costs. Despite these problems, it would be useful to consider the possibility of developing a cross-subsidy program. The following are some of the options:

(1) Charge higher prices for the serviced lots which are intended for higher-income groups.

(2) Charge higher prices to families who do not participate in mutual help construction.

Financing of extra-legal subdivision development. The studies by Fernandez-Palacios and Bamberger, and Richard and Bamberger suggest that one of the main determinants of the higher rate of return to the FSDVM projects compared with the colonias ilegales is the provision of subsidized interest rates. At the same time it seems that the lack of access to financing may be one of the barriers limiting the access of lower income groups to many of the colonias. One suggestion derived from this analysis is that the provision of more attractive interest and financing might make the colonias more accessible to lower income families and might be an interesting alternative way to provide low-income housing. Although the program itself may be interesting it is not immediately clear weather the FSDVM would be the appropriate institution to provide the financing. This is however, an interesting option to consider.

Project Implementation

Selection procedures. A number of changes are recommended for selection procedures:

(1) In assessing capacity to pay, sources of income other than earned income should be taken into consideration. Female-headed households in particular receive a high proportion of their income transfers, and if these sources were taken into account it would make it easier for female-headed households to become eligible for the project.

(2) Mutual help has been shown to be a barrier to the participation of certain groups in the project. Although this is an important part of the program, consideration should be given to ways of permitting a certain proportion of families to enter without passing through this process. As suggested earlier, exemption from mutual help could possibly be linked to a cross-subsidy scheme whereby the exempt families paid higher prices for their house.

(3) The need exists to give more complete information on all housing costs at the time when families are being selected. It is important that families realize the total financial commitment they will have to make.

(4) In large projects a more active attempt might be made to seek low-income families. One possible way could be to reserve sections of the project for poorer families and conduct systematic campaigns in tugurios and other low-income areas to encourage families to participate. Active guidance could then be given on how to use cheaper materials.

Mutual help. Certain changes are proposed for mutual help:

(1) Although mutual help has proved quite successful and should be retained as a central part of the program, ways should be found to permit a certain proportion of families to enter without having to participate in mutual help.

(2) Large projects should be broken down into a number of phases so as to ensure that all groups begin with their full complement of participants.

(3) Although the development of a feeling of group identity is important, the attempt to make each group self-sufficient might mean inefficient utilization of the scarce skilled labor. A bricklayer may be working on routine manual activities in one group while at the same time another group has to pay extra money to hire a bricklayer. A way should be found to pool the skilled labor of a number of groups so that specialized workers can move from one group to another as may be required.

(4) The possibility of permitting groups to work during weekdays, as well as weekends, so as to accelerate the completion of the work should be investigated.

Self-help. Certain changes are proposed for self help:

(1) The use of cheaper materials should be actively encouraged by:

(a) Provision of transport to help people bring materials used in their previous house.

(b) Model houses, using cheaper materials should be on show.

(c) Sectors of the project should be set aside for lower income families so as to encourage use of cheaper materials without feeling compelled to keep up with the Joneses by building to higher standards than they could afford.

(2) Research should be continued on the use of local materials.

(3) Loans should be made available for hiring labor as well as for purchase of materials.

(4) Families should be permitted to use their loans to purchase materials outside the project, as well as from a material store, if they can obtain a better price.

Employment Generation. With respect to employment generation:

(1) The cooperative program should be continued with emphasis on the following:

(a) Reactivation of production of building materials with possible expansion into small construction companies which could be

hired by the FSDVM or directly by households.

(b) Production cooperatives. To achieve larger scale, the idea of working on subcontract for larger national or international companies should again be considered.[6]

(c) Consumer cooperatives should be continued as they offer several advantages: they can reduce the cost of basic commodities, generate employment, and provide linkages with production cooperatives in other areas.

(2) Small business loans should be provided to support existing businesses and to encourage the growth of new ones. The program should probably include a certain level of technical assistance but not to such a level as to substantially increase the cost of borrowing.

Towards a National Urban Shelter Policy

As part of the evaluation of the FSDVM, a wide range of studies has been conducted in other types of informal and formal housing programs. Based on these studies, which suggested a number of general guidelines, the following recommendations are made:

First, given the limited available resources, the policy should be to try to conserve and upgrade the existing housing stock as far as possible. Providing new housing stock tends to be much more expensive than upgrading and also tends to dislocate poor families to provide housing for higher income groups.

Second, there is a need to provide a range of different shelter options as different types of families have different requirements. The demand varies in terms of location, cost, tenure, level of services, and so on, and an integrated program must cover a wide range of options.

Third, the programs should try to stimulate private initiative as a complement to government programs. Both the entrepreneur who builds houses for profit, and the household which can use its own labor and resources should be encouraged. In many cases, considerable increases in the housing stock can be achieved at a very low cost simply by stimulating or removing barriers from private initiative.

Fourth, efforts should be made to encourage the mobilization of previously untapped financial and human resources. The studies have shown that families, including very poor families, are able to generate considerable amounts of resources for house construction and improvement.

Fifth, if housing is to be financially affordable to the urban poor, it will be necessary to accept lower standards of services and construction.

[6] The FSDVM has received various offers from international companies, like for example, the production of jeans or toys. In both cases, a substantial market would have been provided and technical assistance and training would have been given, however, the FSDVM would have had to make a very substantial investment which would have placed considerable constraints on the flexibility of the organization and would have made the whole of the FSDVM dependent on the success of this venture.

Sixth, a national land use policy is absolutely essential. Land is so scarce and represents such a large component of the cost of the shelter package that the government must intervene to regulate the price and use of land. With these general guidelines three distinct systems for providing shelter should be utilized:

(1) Upgrading of existing housing stock. Traditionally, upgrading has been restricted to squatter settlements but similar strategies can also be used with tenement housing and extra-legal subdivisions.

(2) Sites and services. This includes both the model developed by the FSDVM and also a more dynamic regulation and encouragement of the extra-legal subdivision.

(3) Traditional single-family and multi-family housing.

Table 6 describes the main characteristics of each of the types of housing within each system.

Upgrading Existing Housing Stocks

Upgrading has the advantage that it can improve the quality of the housing stock at a relatively low cost and relatively rapidly. It also has the advantage of ensuring that the benefits reach the existing population, something which is very often not the case with demolition and relocation. In the study by Fernandez-Palacios and Bamberger,[7] it is shown that upgrading and progressive development were much cheaper and yielded a much higher internal rate of return than any of the traditional housing programs.

Upgrading squatter settlements. The squatter settlement is often the only available shelter option for the poorest 20 percent of the urban population. It is impossible to provide non subsidized housing which this group can afford. Squatter upgrading programs have proved to be effective in many parts of the world. Once security of tenure is obtained and some basic improvements are introduced, families are often encouraged to use their own resources to improve their own dwellings. The squatter settlements usually have favorable locations with respect to places of employment so their improvement *in situ* also has advantage in this respect.

Upgrading extra-legal subdivisions. Although the poorest of the extra-legal subdivisions are often physically indistinguishable from squatter settlements, the former enjoys a more stable tenure. The subdivision also covers a wide spectrum and many subdivisions house middle - and even upper middle-class families. Because of their quasi-legal and unregulated form of development, many of the subdivisions lack basic public services. The occupiers may also have a somewhat insecure tenure due to the quasi-legal way in which the sale of land is usually arranged.

Significant improvements in the quality of public services could be achieved relatively easily and in most cases with complete cost recovery. The main change which is needed to achieve this is a revision of the

[7] Marisa Fernandez-Palacios and Michael Bamberger, "An Economic Analysis of Low-Cost Housing Options in El Salvador, " (Draft), August 1979,DEDRB.

Table 6. Main Components of an Integrated Low-Income Urban Shelter Strategy

System	Type of Housing	Location	Target Population Income Deciles	Characteristics	Institutional and Financial Arrangements
Upgrading	Squatter settlements	Inner city	Lowest 20 %	Irregular employment	IVU with strong public works component
	Extra-legal subdivision	Periphery	30-60	Wide variation	Regulatory. Some infrastructure and major financial component for self-help.
	Tenement	Inner city	15-60	Small families, commerce, some migrant workers	Regulatory. Some public works. Condominium n development with financial assistance.
Sites and Services	FSDVM Model	Periphery	20-60	Stable families and relatively stable income	FSDVM or IVU. International financing. Possible linkage to FSV.
	Extra-legal subdivision	Periphery	35-60	Wide variation	Regulatory. Infrastructure and finance for construction loans or land purchase
Traditional Housing	Single family or multiple family	Various	40-60	Stable families and stable employment	IVU, FSV, FNV

regulations relating to the tenure status of these communities. Once this is resolved the public authorities are legally able to install services, and families would also have a much greater incentive to invest in house improvements.

Upgrading tenements. As was mentioned earlier, a large proportion of the cities' population live in rented rooms in tenement houses. Although the location of many of these tenements is very good, the quality of water and sanitary services is often extremely low. Many of the mesones are converted middle-class houses which are structurally sound. The FSDVM pilot project has illustrated one approach to the meson. Two main strategies can be pursued. The first is to sell the meson as a condominium to the present tenants who would then be responsible for the renovation. The second option is to provide incentives to the present owners to upgrade their mesons. At the moment, improvements are legally prohibited so there is no incentive to improve. As always, the problem would be to make it financially attractive to make some improvements without encouraging such large rent increases as to make the meson inaccessible to the urban poor. This problem makes the condominium approach potentially attractive.

Sites and Services

The sites and services approach has already demonstrated its great potential. It has the advantage of being flexible and of providing different levels of development of the plot so as to appeal to different income groups. It is also a very effective way to mobilize private resources. Finally, it has proved to be a very cost-effective way to make housing accessible to low-income groups.

The FSDVM model. Future projects should offer serviced sites to slightly richer families and more developed plots to the poorer groups. Projects should probably include rental accommodations and should certainly encourage sub-letting. Although this has been called the FSDVM model, it could equally well be developed by IVU who already have experience with this method of construction.

Applying the sites and services approach to the extra-legal subdivision. Once the subdivision is accepted as a legitimate development, it becomes possible to introduce a certain amount of regulation of standards. It also becomes possible to provide basic services in coordination with the developer. The level of services could range from communal water and pit latrines to individual water connections and water-borne sewerage. If regulation is used correctly, it would be possible to ensure that a certain proportion of the subdivisions remain accessible to lower-income families.

This form of regulation, in addition to upgrading the housing stock, also widens the tax base. The legalization of the subdivisions means that occupiers can pay property taxes and this provides the revenue base for the provision of additional services.

Traditional Housing

The present housing programs of IVU, FSV, and FNV should continue more or less in their present form. The FSV has the potential to intro-

duce a number of innovations which would enable it to reach lower income families. The most important change would be to accept lower standards of housing so that it could finance housing for the lower 50 percent of families who are potentially eligible to use its programs. Once this change was accepted it would become possible to finance the purchase of sites and services units and to finance the development of some extra-legal subdivisions.

Conclusion

If an integrated strategy similar to the above were implemented, it would be possible to develop a national housing strategy which could encourage more rapid increases in the housing stock and even more rapid upgrading of the quality of present housing, both at prices accessible to the low-income population.

duce a number of innovations which would enable it to reach lower income families. The most important change would be to accept lower standards of housing so that it could finance housing for the lower 50 percent of families who are potentially eligible to use its programs. Once this change was accepted it would become possible to finance the purchase of sites and services units and to finance the development of some extra-legal subdivisions.

Conclusion

If an integrated strategy similar to the above were implemented, it would be possible to develop a national housing strategy which could encourage more rapid increases in the housing stock and even more rapid upgrading of the quality of present housing, both at prices accessible to the low-income population.

1981