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UPGRADING: CONCEPTS AND EXAMPLES

OCCASIONAL PAPER SERIES

by  
Goldie W. Rivkin and Malcolm D. Rivkin  
(Rivkin Associates, Inc.)

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This study was commissioned by the Office of Housing and Urban Programs as an introduction to the subject of upgrading sub-standard urban neighborhoods in developing countries. Authors of the paper are Goldie W. Rivkin and Malcolm D. Rivkin, principals of Rivkin Associates, Inc. Office of Housing and Urban Programs staff who worked closely with this effort and made special contributions are Fredrick Hansen, Francis Conway, Julie Otterbein and Jeffery Boyer.

The views and interpretations expressed in this report are those of the authors and should not be interpreted as the official position of the Agency for International Development.

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## FOREWORD

The Office of Housing and Urban Programs has commissioned this monograph as an introduction to the subject of upgrading substandard urban neighborhoods in developing countries. Upgrading is a promising approach to raising the quality of urban shelter. It is highly effective, relatively inexpensive and -- equally important -- capable of mobilizing the constructive energies of the people it is intended to benefit.

Developing country housing officials and decision-makers, administrators of external assistance agencies and others interested in efforts to improve conditions for the millions who live in cities of the developing world will find this work useful. General concepts of upgrading are described as well as the approaches of specific programs supported by AID. Problems and solutions encountered in the AID program experience are discussed.

We encourage those countries which have not yet undertaken upgrading to consider trying it within their shelter programs. We hope also that those who are now implementing upgrading projects will gain from the shared experience presented here.

Peter M. Kimm  
Director  
Office of Housing  
and Urban Programs

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### Introduction

Upgrading is a means for achieving desired ends of public policy -- in this case, improved shelter stock -- with limited, strategically placed, government investments and the greatest possible independent contribution by the beneficiaries themselves.

Through upgrading programs substandard urban neighborhoods can be provided with the basic facilities and services they need to ensure a minimally decent level of human existence. This approach also offers opportunities to enlist the energies and resources of people in improving the quality of their own shelter.

The U.S. Agency for International Development considers upgrading an effective approach in its efforts to expand the supply of acceptable living accommodations for low-to-moderate income families. Although these lower income households are the principal focus of AID's shelter program, the improvements in environmental sanitation and public services that come about through upgrading efforts are undeniably beneficial to the urban community as a whole.

Thus upgrading programs have become one of the principal channels for AID assistance in the shelter field throughout the developing world. The World Bank and other international assistance agencies share AID's view and similarly support upgrading activities.

Adaptable in a wide variety of situations, upgrading has achieved an outstanding record for transforming basic living conditions for large numbers of people. In this respect few other housing approaches have had comparable impact -- with a minimum of subsidy, and a minimum of social disruption.

The main strength of upgrading is its applicability in existing neighborhoods where people can remain while the improvement work takes place. Few are dislocated, and, as their environment improves, residents of the upgrading communities have an impetus to improve their shelter units as well. Many

families have demonstrated eagerness to upgrade their living quarters little by little as resources permit, especially once their tenure is secure.

Independence to pursue an incremental evolution of decent living conditions in this manner is preferable to forced relocation and dependence on housing projects that others must provide. The shared responsibility for producing adequate shelter should be particularly appealing to governments which face enormous development challenges with limited resources.

Upgrading does not work in all circumstances. It is, moreover, extremely difficult to implement successfully. More than in the case of a new housing project on undeveloped land, there is a high premium on organizational skill, on coordinated public action and on ability to work with the residents of the communities who are the intended beneficiaries of the neighborhood improvement efforts. Upgrading does not lend itself to improvisation or to impersonal planning done from a government agency drafting board.

Because the neighborhoods being planned already have their residents in place, every phase of upgrading work -- from initial planning through ultimate implementation -- has to be done in consultation with the residents. The upgrading must be not only understood, but also accepted, by them. It is important that services and improvements scheduled for a given community be those for which the residents are willing to pay. It is equally important that the services and improvements be delivered as promised by the public agencies and as expected by the community if initial public investments in the upgrading projects are to be recovered ultimately from the beneficiary families. Cost recovery is necessary if the agencies responsible for upgrading are to have funds for similar improvements in additional neighborhoods.

There is considerable reluctance on the part of many governments to accept the idea of investing in marginal neighborhoods, particularly where the residents are squatters.

In some places the idea of upgrading marginal neighborhoods is accepted, but not the concept of recovering costs from the beneficiaries, especially if they are low income families.

Some housing officials and professionals such as architects and engineers are not used to working directly with the people who are to live in the projects they design, especially lower income families. Some are hesitant to try. Community workers usually lack the technical expertise to handle upgrading projects without special training. Bureaucracies may resist the reorientation of personnel and the organizational changes necessary for multi-disciplinary team work.

It is often difficult to achieve coordination among different agencies whose contributions are crucial to the upgrading project and must be integrated if the project objectives are to be achieved.

Politics, too, may pose problems for an upgrading program. Although political pressures may be responsible for a government's undertaking upgrading program in the first place, political dynamics may change. Projects at various stages in their development have been terminated, interrupted or diminished because of shifting political support. The influence of changing economic circumstances, too, may alter a nation's priorities respecting support of its upgrading activities.

Actual and potential problems notwithstanding, experience over the last decade with upgrading projects in every major region of the world has taught us much about how to do this sort of work. We have learned about conditions under which it works better (and less well); and we have learned how to cope with many of the problems that agencies should be prepared to encounter and address. Insights from this experience are highlighted in the pages that follow.

#### What Upgrading Is

No two upgrading programs are exactly alike. The most effective have stemmed from careful study of the community to be improved and its needs, from careful selection of the specific

facilities and services that can be installed and from careful planning with the residents on what and when improvements will be undertaken.

The actual improvement programs may vary but most, like the "kampung" improvements pioneered in Indonesia include basic infrastructure, i.e. piped water supply, sewer, and grading and paving of certain roads. Where frequent and heavy rainfall creates special problems (as in Indonesia, Thailand and the Ivory Coast) stormwater drainage, erosion control and paving of footpaths may likewise become basic project components.

Beyond these essentials, quite a variety of activities have been tried.

In Peru's AID-assisted upgrading program, for example, the upgrading process begins with preparation of a neighborhood plan which shows an array of proposed physical improvements -- public open space, community facilities, vehicular and pedestrian rights of way and orderly delineation of lot boundaries. Based on the area plans, responsibilities for grading and paving the streets and sidewalks, for installing the water, sewer and electrical lines and for building the various public buildings programmed are divided among arms of the central government, municipality and parastatal utility companies. Residents become eligible for formal tenure on their lots as a last phase of the process, when the neighborhood physical improvement program has been completed.

The AID-assisted neighborhood upgrading program for Seoul, Korea, was another that included preparation of a neighborhood plan and demarcation of individual lots as the basis for awarding tenure. To minimize the need for relocating neighborhood residents as many housing plots as possible were laid out. Any leftover, odd-shaped parcels unsuitable for housing were designated for parks and recreation facilities.

Garbage collection stations are components of many countries' urban upgrading programs, and facilities such as health posts, schoolrooms, community centers, parks and sports fields may also be included.

The Philippines' Tondo project has been one of the most extensive, affecting thousands of families in Central Manila. Its fairly elaborate program included reclamation of certain low-lying areas with drainage problems, and preparation of neighborhood subdivision layouts. This process, called "re-blocking", involved demarcation of public rights-of-way, sites for future community facilities and individual plot boundaries which would eventually be the basis for providing services and for granting tenure to the occupants. The densely developed squatter neighborhoods willingly cooperated in the reblocking, even though it meant major dislocation in certain blocks. By and large, the neighborhoods remained intact even though essential public services required some displacement.

In Tunisia's AID-supported Mellassine project, social services and activities to stimulate economic enterprise are integrated into the neighborhood upgrading scheme. Mother and child health programs, nutritional information, vocational or literacy training, and technical assistance in support of loans to small business are examples of the supplemental efforts that have been mounted.

Some projects in Lima, Peru incorporate self-help construction of school classrooms and bathrooms (i.e. efforts in which residents of the neighborhood themselves do the building with materials provided by government or donor groups). Community extension services from the Ministry of Agriculture offer residents plants and advice on reforestation and breeding of small stock as nutritional supplements.

One of the most important components of an upgrading project can be long-term loans for home improvement. These loans augment the beneficiary families' capacity and desire to upgrade their dwellings along with the larger neighborhood improvements. AID is making special efforts to include home improvement loans in those neighborhoods where leasehold or ownership tenure exists or is conferred as part of the project.

Sites and services projects on nearby land may also be planned in conjunction with neighborhood upgrading. These often have the express purpose of serving families who choose to

resettle out of the neighborhood or find themselves forced to move when lot boundaries are redrawn or infrastructure is installed, as occurred in Tondo.

In some of the upgrading areas -- notably Jakarta -- one result of upgrading has been reduced overcrowding in densely developed neighborhoods. By contrast, a key objective of the Abobo Gare project in the Ivory Coast (undertaken with AID assistance) -- is to increase density in a neighborhood where existing shelter is both poorly serviced and scattered. In this case, increased density will increase the number of rental units available to low income tenants. It will also permit many owners to expand single story units into multi-story walk-up apartments, thereby generating increased income that can be taxed to help defray the cost of installing utilities.

Although the range and variety of components that comprise upgrading projects can be quite wide, there lies at the heart of each country program the fundamental objective of "catching up" with the backlog of need to provide basic infrastructure for the growing urbanized area.

Within ten years almost two-thirds of Jakarta's slum areas (where 80 per cent of the city's population live) have been improved through extension of basic services. Since the early 1960s more than 300 of the Lima, Peru "pueblos juvenes" (young towns, as the squatter areas are called) have been designated for upgrading in a major program to provide them with basic infrastructure. The benefits of Honduras' upgrading program (another AID-assisted effort) will eventually reach 100,000 people -- 13 per cent of the residents in that country's two largest cities. By 1981 the total number of plots expected to benefit from Botswana's upgrading commitment was estimated to amount to almost 30 per cent of that country's housing demand over the last decade. Thailand is building on the successes of its first upgrading projects to place highest priority on neighborhood improvement in Bangkok. They plan to upgrade neighborhoods containing 30,000 dwelling units over a five-year period.

## Context and Rationale

### The Context

The primary goal of shelter policy and programs is improved living conditions for the largest number of people. However broadly this goal may be defined, it means, fundamentally, an expanded number of acceptable shelter units (dwellings) in suitable living environments.

Today urban growth in virtually every part of the developing world has outpaced the ability of the formal sector to build urban housing and its supporting infrastructure. The problem is characteristic throughout the developing world. Rural-urban migration and natural increase of the urban population have swollen the need side of the equation. Incomes are low and low-income households are numerous.

The litany of problems is familiar by now: the whole system for supplying urban housing is not able to produce at the scale and rates of speed that have become necessary, or at the price levels that these many new urban households can afford. Regulations and standards build in added costs. Subsidized housing for specific groups swallow resources made available through government programs long before more than a fraction of the national need is met. Issues of land speculation, price, availability and tenure conditions add further complications.

The results, of course, are visible almost everywhere: families managing for themselves somehow -- crowding into old, run-down structures originally meant to accommodate many fewer; others squatting in whatever space they can find at the urban fringe or in pockets of marginal land amidst developed parts of the cities. In helter-skelter fashion the families put up shacks of whatever materials they can find. The settlement areas usually lack acceptable sanitation and readily accessible sources of safe drinking water or, in cases where these basic items of urban infrastructure are present, the systems' capacities are seriously exceeded.

Sometimes the squatter settlements are highly organized, with the community members themselves providing mutual support. Sometimes the settlements are not comprised of squatters at all but are neighborhoods on leased or owner-occupied land, substandard and illegal mainly because they are not connected to public water and sewer lines.

As solutions to the problem of securing shelter, these various types of settlement demonstrate extraordinary resourcefulness and energy on the part of those who create them.

Unfortunately, they also present some very serious public health problems -- not only for the residents but for the larger community. Even though the inhabitants of the marginal neighborhoods suffer most from the poor conditions of their living environment, general health and safety are also threatened by raw sewage overflowing undersized pipes, mosquitoes breeding in standing pools of water where drainage is inadequate, piles of accumulated garbage or the acrid odors of open trash burning and the steep-sided ravines eroded by years of heavy rainfall.

An early strategy of governments in responding to these problems was often to demolish the marginal settlements and replace them with "proper" housing. The results of this approach were universally disappointing. Only a small proportion of the original residents from the cleared neighborhoods could be rehoused. The majority who were displaced added further to the crowding in other, existing marginal areas or they moved on to convert new areas on the urban fringe into squatter settlements. The social fabric of communities that had developed sometimes over twenty or thirty years was torn, and the product of many families' efforts and investments, cumulatively substantial though individually small, was destroyed.

Though done with the intention of moving a step forward, the clear-and-rebuild approach proved to be a movement backward. Demolition and relocation efforts of the Philippines, Tanzania, Brazil, Kenya, India and other countries that have tried them over the years have neither added to the inventory of adequate shelter nor discouraged the continued formation and growth of squatter settlements.

The number of households actually helped through these efforts has been relatively small in comparison with the number who received no benefits at all and, indeed, may have found their living conditions worsened. Political protests followed many of these attempts at clearance and relocation. One of principal reasons why countries have, by and large, ceased to demolish and resettle has been the fear of growing civil disturbance if the practice continued.

Need for a revised approach for dealing with marginal settlements has clearly been evident.

### The Rationale

Realistic appraisals of the over all shelter situation in one place after another have pointed to the need for policy and action guided by several very basic considerations. It is in response to these that upgrading programs have evolved as a logical strategy:

1. Greater efforts in the shelter field have been needed that concentrate on the households least well served by existing housing construction programs, i.e. people whose circumstances led them to settle in the marginal areas and who are, for the most part, at the bottom of the income ladder.

2. In the interests of environmental health, public order and community stability, approaches are needed that can be produce real benefits for large numbers of households fairly quickly.

3. Heavy housing subsidies cannot be sustained. It is better to spread available resources by offering limited help to a much broader spectrum of families than more elaborate housing to a relatively few. Indeed, it is preferable to have schemes in which investment resources can be recycled. If beneficiary households pay for the improvements they receive, even in small amounts over long periods of time, then the funds for shelter programs can be replenished and reinvested for the benefit of additional households.

4. Government can do only so much. Private resources and the energies of individual families should be relied upon to the greatest possible extent. Existing community organizations, too, should have a role in the effort.

5. An effort is needed to provide adequate shelter by building on the base of the existing housing inventory. There has to be an alternative to tearing down neighborhoods and moving people around like so many blocks. The costs in human inconvenience and social disruption -- like the costs in time, capital and administrative resources -- are simply not supportable on a long-term basis.

6. Poor housing and lack of utilities are the most obvious symptoms of deeper economic and social problems in marginal neighborhoods. Efforts to improve the physical surroundings could become the vehicle in which social services and economic development assistance are also introduced as part of more comprehensive approaches to deal with urban poverty and despair.

Upgrading programs have not been adopted everywhere without resistance, however. Indeed, upgrading has often been extremely controversial. Some government officials argue that upgrading perpetuates slums and encourages further squatting, and that government-sanctioned programs should match the higher aspirations of the country's people. Opponents of upgrading schemes may hold that cost recovery is politically infeasible or ideologically inconsistent, and at best, very difficult. They may point to other, perhaps more economically productive, alternative uses for specific pieces of centrally-located land occupied by marginal settlements. Where squatters have occupied government-owned land, there are questions raised about competing public needs for the land; and when privately-owned land is involved there are questions of adequate compensation for the land owners.

In many cases difficult site conditions make the installation of infrastructure expensive. The settlements are frequently in places subject to geophysical hazards -- landslides, earthquakes, or severe flooding. Actually, upgrading may not be the best treatment for marginal settlements in all cases.

Even some who acknowledge the rationale for upgrading believe this is not good long range policy for accommodating urban growth. Their priorities for governmental action favor planning and servicing raw land for residential development in locations accessible to employment opportunities. They need to be convinced it is often possible to do both.

Many of the counter arguments are persuasive. Understandably, it is difficult for officials to settle for solutions they fear compromise their values.

If improved shelter is to be national policy, however, it is important to weigh the factors in favor of upgrading and carefully to compare its costs and benefits, as well as its timing and potential impacts, with those of available alternatives.

Perspectives shift when upgrading turns out, on balance, to offer more impact for the money, greater feasibility or more direct benefits to particular segments of the target group than other approaches.

Those countries which have tested and subsequently expanded upgrading into a major component of shelter and urban development policy can testify to its value.

### Operational Aspects of Upgrading

#### The Initial Commitment

Countries adopt upgrading as part of their shelter strategies for a variety of reasons. There may be substantial pressure from neighborhoods restive for improvement. Sometimes there are policy commitments to divide available funds for shelter programs between new construction and improving existing residential areas. Occasionally officials recognize that with the limited resources available, programs to build subsidized new housing will have insufficient impact. In some places shelter authorities have had difficulty finding well-located sites for substantial quantities of new shelter even when financing is available.

Regardless of the impetus, it is extremely helpful for national governments to perform affordability studies as they formulate shelter strategy before initiating an upgrading program. Affordability analysis is a means of analyzing various kinds of shelter solutions and their costs in light of information on household income distribution and estimates of what families at different income levels can afford to pay for shelter. Given assumptions about available credit terms and the proportion of household income a family can spend on shelter, affordability studies can indicate what kinds of physical solutions -- ranging from new housing of various types, to upgrading, to nothing at all -- households at various income levels and locations can afford before any consideration of subsidy.

An example of an affordability presentation (in this case, prepared by AID for Swaziland) is attached as Appendix A. It provides a perspective on the scale of potential benefits which can be generated through an upgrading approach (in terms of numbers of people whose living conditions can be affected). It also provides a framework for relating the costs of upgrading to those of other physical approaches (e.g. sites and services, and construction of core housing) that can realistically be included as elements of a country's shelter strategy.

Other preliminary studies should also be undertaken before determining the precise locations and forms for upgrading activity:

diagnosis of the range and variety of infrastructure and services needed to bring neighborhoods up to a basic standard of livability;

evaluation of the tenure situation of residents in marginal neighborhoods (owners, renters, squatters) and obstacles, if any, that need to be overcome before secure tenure can be granted to the residents, and

identification of entities (both public and private) responsible for providing facilities and services.

Finally, there should be a realistic assessment of resources available for an extensive, sustained upgrading effort, especially since an initial pilot program should be designed in such a way that the country can replicate it. This applies to manpower requirements and administrative capacity as well as to investment demands. Estimates should be made of the following:

funds available for both capital and recurrent costs, from national institutions and foreign lending agencies;

resources of the beneficiaries themselves, i.e. how much cost recovery can be expected and what system can be devised to obtain payments on a regular basis regardless of how small those payments might be;

capabilities of institutions that would play important roles in implementation; and the amount of subsidy, if any, that would be unavoidable if all intended beneficiary groups are to be served.

When outside resources are in prospect and technical assistance is available, there may be temptation to design a pilot program which will prove too ambitious to carry on later, when these inputs are not available.

#### Site Selection

Political considerations figure prominently in choice of site or sites for an upgrading effort, especially the initial pilot undertaking. Nevertheless, it is extremely helpful to establish criteria for site selection to guide the political decisions. The location of a project area, the tenure and income characteristics of its residents, and the strength of local community organizations can all be significant factors in a project's success.

Some basic considerations are:

- Sites should be, in relation to the over all pattern of urban development and surrounding land uses, good residential locations for the target group, accessible to public transportation, jobs, community facilities and commercial areas.
- Sites subject to regular flooding, mudslides, earthquakes or other geophysical hazards are not suitable for permanent settlement and should not be selected for upgrading unless there is no other choice and mitigating measures can be included in the upgrading scheme. Other conditions which may make installation of infrastructure costly such as steep slopes, sub-surface rock, and unstable soils, should not, however, be the sole basis for excluding an otherwise suitable site from upgrading treatment. In some cities, sites of this nature are the only options for informal settlement.
- Costs of off-site infrastructure work should be minimized by selection of sites closest to existing major infrastructure trunk lines (e.g. roads, water, sewer). Assuming there is additional capacity in these systems, nearby communities merit priority over more distant neighborhoods where costly trunk extensions would be needed prior to any work within the neighborhood.
- The existing tenure pattern is important. Whether the inhabitants are squatters, owners, renters or combinations of these, relative availability of land records and willingness of landowners (whether government or private) to cooperate in regularizing tenure for the occupants are critical factors in ultimate success. Sites where most of the beneficiaries are renters pose special problems for implementation and cost recovery. When the project site has been publicly-owned for some time or purchased by government expressly for the purpose of carrying out the project,

it may be easier to grant tenure to the plots which the residents occupy. Sometimes the issues are not so clear-cut. Yet advance knowledge and thought are of great advantage in coping with such problems as may arise during project implementation.

- A cohesive community or a community organization that understands and wants the neighborhood improvement and is both capable and committed to support it, is one of the most important factors. If there is no such an organization prior to the project, stimulating its formation may well be one of the first tasks for the project to undertake.

Korea established specific criteria for identifying sites in its successful AID-financed upgrading program:

At least 70 per cent of the land had to be publicly owned. Where private land was included, assessments were to be made on those parcels to recover costs of upgrading the infrastructure.

Infrastructure improvements could not require demolition of more than 15 per cent of the neighborhood's existing dwelling units.

The need for replacement housing (beyond requirements to accommodate households displaced by infrastructure improvements) should not exceed 10 per cent of the remaining stock of units.

Required off-site infrastructure improvements should be no more than 5 per cent of estimated over all infrastructure costs for upgrading the neighborhood.

Based on preliminary socio-economic surveys, at least 90 per cent of the neighborhood's households should have incomes below the city's median.

The costs of infrastructure improvements to the area had to be recoverable by land sales at prices that

enabled at least 90 per cent of the resident households to afford the plots they occupied. Municipal revenues from these lot sales were to be the basis for repayment of the loans that financed the infrastructure.

Korea's program of squatter settlement upgrading was undertaken in context of national land use and housing policies which emphasized high-rise, high density multifamily apartment construction to achieve the greatest possible intensity of urban land use. Upgrading was applied to residual pockets of land where displacement for such transformation did not appear socially or politically feasible.

By way of contrast, twenty years ago Peru elevated her commitment to upgrading as a major component in shelter policy. That country's improvement program for the "pueblos jovenes and similar areas" deals with several types of informal settlement: scattered pockets amidst other central city development; squatter invasions at the urban fringe; and areas originally established as temporary shelter for disaster victims but now pressed into permanent service. Neighborhoods excluded from potential improvement under the upgrading program are those subject to severe geophysical hazards. Most newer marginal settlements ("invasions") that have come into existence since the upgrading program was promulgated lack official recognition. Consequently they are also ineligible for inclusion in the program at this time.

In Peru, the existence of active community organizations capable of promoting resident participation has been an essential factor in assigning priorities to individual neighborhoods where upgrading is financed with AID assistance. The community organizations have been the necessary mechanism for actively promoting participation of neighborhood residents in making household connections to the infrastructure system and gaining their commitments to pay for the new service.

Potential cost recovery has also been a factor in site selection in the Ivory Coast. Abobo Gare, the major AID-financed project in Abidjan, is almost entirely on land owned by

people whose ownership title can be readily documented. Most of the many thousand residents are renters. Renting will continue after the upgrading work is complete, but the owners will be assessed the improvement charges for the upgrading work.

### Project Planning and Design

Upgrading is an extremely complex activity that has to be orchestrated carefully. In many respects it is much more complex than building new dwelling units in new neighborhoods on undeveloped land. The components and sequencing of an upgrading project need to be thought through in advance, and there is a heavy premium on adequate community support. Two basic steps are involved: initial physical and social surveys and project design.

### The Surveys

Careful and complete physical surveys are the first essential. The neighborhood must be mapped and its characteristics delineated, e.g. topography, existing dwellings and their conditions, and existing utilities. Aerial photographic surveys supplemented by detailed on-site investigation are the usual means of recording and analysis. Appendix B provides an illustration of the types of physical surveys needed in advance for an upgrading area in Turkey.

The social-economic survey of area residents is equally critical. By now most countries have available teams of resident interviewers (from universities, consulting groups or special units within the upgrading program agency) who can design and carry out survey work. It is important to utilize such local teams because of their ability to establish rapport with neighborhood residents. The questions to be asked will often touch sensitive nerves, and confidence in the interviewers is critical.

Information should be sought on:

- numbers of residents and household composition
- status of land ownership and household tenure
- economic activity of all household members and income generated from all sources including rental payment of tenants
- current outlay for shelter and related services including unit rentals or ground rent, other fees or property taxes paid if any, expenses for water, electricity, garbage collection or other services
- residents' investments in their present dwelling units and plots, including building materials and labor represented by present shelter
- desire and willingness of households to pay for infrastructure improvements (e.g. connecting to a public sewer)
- desire and willingness of households to make improvements or expansion of their dwellings
- perceived problems in the neighborhood and residents' preferences for project priorities

If possible, the interview program should provide the residents with a picture of what types of improvements given sums could buy and what their choices might be.

Residents of an upgrading area should be allowed the maximum leeway to choose from among alternative project elements, with understanding of the budget trade-offs involved. In numerous Peruvian "pueblos jovenes", for example, residents expressed preference for electricity and street lights over individual piped water connections. Their argument was, "even though water purchased from itinerant sellers cost more than piped water, electricity could not be trucked into the neighborhood." Power was, therefore, their preference.

These types of survey data are important, both for project design and for the long-run need to monitor and evaluate project performance in inducing change.

Lack of such survey data could affect project performance. In one Latin American country the first upgrading projects were rejected by people living on the selected sites when these residents were presented with the already-engineered schemes and told this what they were getting and would have to pay for. In another country, rough estimates of production costs were made and simple "rules of thumb" concerning percentage of income that households could afford to pay for shelter were used in the preliminary affordability analyses early in the project planning. Later, as the project proceeded toward completion, understanding of the changing real market conditions became more clear and the project scheme was modified accordingly.

Although some changes will usually be required to meet unforeseen developments, lessons from experience show that projects can be more effectively kept on target when more refined data about the beneficiary group (including their opinions) are available in the planning stages and when cost computations are also more refined.

In Korea, for example, the impacts of inflation over the project implementation period were taken into account as well as projections of income trends among the group of families the project was intended to serve.

Efforts should be made to recognize the impacts on household budgets of all expenses implicit in even minimal shelter solutions. These include the combined costs of municipal or utility user charges and surcharges imposed as means of financing infrastructure improvements, investment in dwelling improvements plus the interest and, possibly, insurance expenses entailed in financing them through home improvement loans.

In one AID-assisted Panamanian project area, almost two years after completion of a new sewage system, no more than 30 per cent of the households with access to the sewer had connected their dwellings. For many the costs of indoor plumbing

fixtures were prohibitively high. Those households which made the connections fairly promptly tended to be ones able to finance the improvements out of their savings or possibly an inheritance. The extent to which project area families had access to such a resource could not be learned from the initial generalized salary income estimates. Nor, indeed, could the willingness of families to take on increased expenses for shelter even when presented with opportunities for substantially improved tenure and services at (theoretically) affordable prices.

### Project Design

Once the survey information has been analyzed, a project plan is prepared. In designing the plan it must be recognized that upgrading takes time and requires a sequence of actions which must follow each upon the other in some orderly fashion. A physical plan for the upgrading neighborhood should illustrate a series of stages in which the implementing measures are identified. (Failure to do this has been one of the problems facing Tunisia's Mellassine project.)

In preparing the upgrading plan it is better to keep the physical elements as basic and as simple as possible, even if they are restricted to minimal infrastructure (water, sanitation, access improvements, and drainage). Apart from affordability considerations, project designers should recognize that administrative requirements are often new and unfamiliar, difficult enough without compounding problems of coordination. It is in the planning stage that the more complex elements of a possible project, e.g. social and economic development services, and relocation of families should be thought through and their financing and implementation assigned.

Above all, it is important not to promise the residents of the upgrading neighborhood more improvements than can realistically be delivered. The people must not suffer from unfulfilled expectations.

At the same time work should be initiated to help residents understand the importance of their payments in the scheme,

precisely what those payments are to cover and what penalties will follow if there is failure to pay. Families should not, for example, be led to believe their monthly service payments are buying them tenure (as happened in a Botswana sites and services projects) if this is not the case.

Still, the burden is on the government to establish implementing mechanisms for the upgrading effort which can deliver what is promised.

### Cost Recovery

If upgrading is to have either long term or widespread effectiveness as a means of resolving a society's shelter problems, cost recovery measures need to be built into project design from the outset. Basically, people will pay something, if not the whole amount, in return for reliable municipal services. In general, where cost recovery has been a problem, it has not been because the beneficiaries were unable to afford payments. In some cases, the residents have not clearly understood what was expected of them and how payments relate to project benefits. Sometimes payments were linked to expectation of services, and when those services were not delivered, area residents withheld payments.

Cost recovery issues were a stumbling block in Costa Rica, where the proposed upgrading program never did come into being. There the first problem was the complexity of the proposed valorization tax scheme. A greater problem, however, was perception by the decision makers that poor people would object to carrying the full costs of improvements for their neighborhoods when middle and upper income residents in other communities were exempt from such levies. Clearly, equity in levying service charges or taxation will be a major issue in cost recovery programs for basic urban services, especially those which involve lower income families.

Successful cost recovery requires more than an equitable scheme, however. The responsible authorities must maintain accurate, up-to-date records and take on a full commitment to make efficient collections. This includes willingness to impose

penalties and take other measures in cases of delinquency. When water or electric service is cut off for non-payment of charges the relationships are immediately clear.

There is a great variety of successful cost recovery schemes:

- In some AID-assisted projects in Peru, a housing bank lends to parastatal utility companies (water/sewer and electricity) to build the distribution lines in upgrading areas. Costs of capital improvements are recovered from the beneficiaries through surcharges on their utility bills. Delinquency results in cutting off the customer's utility service. Tenure granting has often lagged behind this activity. Consequently the municipality has held off plot taxation and is not yet able to recover costs of improving its own services such as garbage collection and installation of park and recreation facilities in the upgrading neighborhoods.
- In the Ivory Coast, cost recovery in the AID-financed project is to be achieved through a betterment tax imposed on property owners. It is expected that they will pass the expense on to their tenants through charging higher rents. Increased density in these areas will eventually help spread the costs of infrastructure improvements among more dwelling units.
- Sale of plots to the households occupying them is the means by which the municipalities raise funds for defraying improvement costs under Korea's AID-assisted upgrading program. In effect, the city provides the financing for the difference between the land price and the infrastructure loan. Cities are encouraged to set lot prices as close as possible to market values, while keeping within the affordability parameters for area residents. The hope is to suppress speculation and replenish a continuing funding source for subsequent upgrading efforts.

- In Botswana, the Old Maledi and subsequent upgrading projects have involved granting of tenure by the town in the form of a "certificate of occupancy" rather than fee simple title to the land. Monthly payments of a "service levy" are charged to cover costs of the infrastructure installations, user fees for water from the shared standpipes, garbage collection and street lights where they have been installed. No home improvement loan mechanism is in effect yet because lending institutions do not recognize the certificate as a basis for a mortgage. Nevertheless, many families have found savings or other sources of funds for dwelling improvements.
  
- It is a matter of principle in Honduras that every beneficiary must pay something for improvements in urban services, even if they cannot afford their whole share. In the AID-assisted upgrading projects, Tegucigalpa has been using valorization assessments to recover the costs of water, sewerage, and electricity improvements. Assessments may be made at full share, but payment terms are tailored to the families' ability to pay. In individual cases of extreme hardship, payments may be waived temporarily. For families at the lowest end of the income scale, tax liabilities may be partially subsidized out of a City revolving fund. Promissory notes are signed by individual beneficiaries and by the local community organization for the group collectively. This scheme is described in greater detail in Appendix C.
  
- In San Pedro Sula, where the municipality is, itself, the water and sewer authority, costs for these installations are amortized through a surcharge on the users' monthly bills.

#### Implementation

Another of the most difficult challenges to overcome, along with cost recovery, is coordination of various governmental and parastatal agencies responsible for elements of an upgrading

project. Governmental structure is just not geared to handle easily remedial construction and socio-economic welfare work that involves close coordination of diverse institutions. Unfortunately, there is no general rule for easy implementation, but careful advance planning can help prepare for many types of problems before they occur. Efforts to establish communications channels among all parties involved in the project -- land owners, site residents and institutional officials alike -- and procedures for resolving conflicts may not prevent all conflicts, but may well provide means of resolving them more smoothly without serious damage to the project performance. Each society has to devise approaches appropriate to its own institutional structure and culture.

The Mellassine case in Tunisia which is described here illustrates the scheduling difficulties that can occur when the principal implementing agency (the Municipality) lacks control over priorities in central government agencies which must make major, complementary contributions.

Other problems are encountered, however, when implementation is assigned to a central government agency farther away from the usual locus of responsibility for municipal development matters. In Peru, officials of national government get bogged down under mounds of administrative details. Regional offices of these agencies have problems achieving coordination with independent parastatals and other branches of their own ministries. When work is close to completion and the municipality is to take over, the upgrading neighborhoods then become loath to give up their special favored-client status with the central government authorities. In Thailand, the central National Housing Authority has consolidated responsibility for making the physical improvements in neighborhoods, but has considerable difficulty in getting the municipalities to take over maintenance of the improvements once completed.

In Panama, a special High Level Commission was set up to preside over development of the large San Miguelito District project area. Although given broad powers to deal with land tenure, infrastructure, housing and other construction, this ad hoc body was disbanded four years after its creation. Its

technical staff have come to assume little more than a vestigial role. Real responsibility lies with the elected officials of the District's five subdivisions. Being electoral-representational districts rather than administrative units of local government, they have lacked sufficient staff capacity, resources and supervision for these tasks. Local government at the District level is too weak, and too lacking in resources to carry on with upgrading programs similar in nature to the demonstration program.

This case points up the danger in creating special institutional entities to carry on new functions such as upgrading. Coordination in government is hard enough to achieve without creating additional layers.

With upgrading, the objective should be to institutionalize the process. Catching up with unmet needs for basic services should become a normal activity in the business of those existing agencies who already have responsibility for managing urban development. Where municipalities are responsible for providing most urban services, can develop the capacity to manage upgrading projects, and have the prospect of securing sufficient resources to carry out the upgrading program, primary responsibility for upgrading activities should probably be with the municipalities.

It is probably best to initiate upgrading efforts with projects that are relatively simple, and comprised of only a few essential components. It is desirable to design projects that can be carried out by the small numbers of personnel likely to be available when the program is just beginning. Neighborhood projects can be permitted to grow later, in accordance with desires and resources of the respective communities, and as program staff increase in size, experience and skill.

When social programs and economic assistance are incorporated into upgrading programs along with physical improvements, it is desirable that staff be resident in or near the project neighborhoods in order to maintain daily contact with the community.

### Mellassine Case Study

Tunisia's Mellassine project provides an excellent example of approaches, successes, and shortfalls in an upgrading program. It has been financed with a USAID Housing Guaranty Loan and funds from the Tunisian Government (GOT). Implementation is primarily the responsibility of the Municipality of Tunis. Preparatory work on the project began during the mid-1970s. Actual construction of improvements began in 1980.

Tunisia's interest in upgrading came only after the "classic" attempt to eradicate slum and squatter housing in Tunis had been tried with little success. Social cohesion in the remaining marginal areas was fairly strong, and there were growing instances of unrest, including riots, over economic conditions. Something had to be done to demonstrate that government was concerned with the stability and support of these neighborhoods. After preliminary studies with AID and the World Bank, certain areas were selected for upgrading and social/economic assistance. Mellassine, a densely populated neighborhood with serious physical and economic problems and urgent need for remedial action, was a clear choice.

In 1979 the neighborhood had 45,000 people in 4,000 dwelling units situated on about 130 hectares. Only 56 hectares were actually developed. Overcrowding was intense. According to the socio-economic survey conducted before initiating the program, there were an average of 10.1 people per household, 1.9 households per dwelling unit, and 3.6 people per room.

Mellassine was very well located with respect to employment and potential services. It adjoined the central area, had good public transportation and was close to a major hospital. Water and sewer systems were already installed. Only 41 per cent of the households had water connections, however, and 64 per cent were connected with the sewer.

Most of the buildings in Mellassine were constructed of masonry and other durable materials. The road system was fairly regular, although streets were unpaved and drainage was terrible. The neighborhood was, in fact, situated on marginal

land at the edge of a salt lake and was subject to severe seasonal flooding.

Unemployment was high in Mellassine. Despite the fact that the neighborhood was the center for a "District" in Tunis and had both district headquarters building and police station, community facilities and services were practically non-existent.

About 50 per cent of the population were under the age of 20. The 63 school classrooms in the neighborhood were in a ratio of 1.75/1,000 children, compared with 2.6/1,000 in the city as a whole. Schools were operating with three shifts per day.

Tenure in Mellassine was quite mixed. There were many squatters who had constructed and occupied dwellings illegally, as well as many legitimate tenants and homeowners. The Municipality already owned portions of the land, but there were absentee and resident private owners and many parcels on which land title was cloudy.

#### Initial Planning

Considerable preparatory work was done before design of the actual upgrading program. One of the most important steps was the detailed survey of physical and economic conditions in the neighborhood commissioned by the Government of Tunisia. Skilled interviewers were employed, and the baseline data derived were utilized in program design. They are, today, also helping both the Tunisian authorities and AID to monitor progress.

Simultaneous with the survey, work began on preparation of a detailed physical master plan. This plan, completed in 1979, portrayed all the physical improvements to which the Tunisian authorities would commit themselves: road and utilities systems, new schools, markets, sports fields and other community facilities, and areas for expanded housing and sites and services. The document was an "end state" plan. That is to say it presented a new portrait of Mellassine for a time when all the physical improvements would be complete. It did not include a schedule or a phasing program for the improvements themselves.

an omission that was to become a problem as implementation proceeded.

In addition to the physical improvements, decisions were made to conduct a program of economic and social assistance in the neighborhood. Also supported by USAID funding, this program was to involve a team of Tunisian professionals with advisers from the U.S., who would be stationed within the neighborhood.

Cost recovery was to be an important feature of the Mellassine program. A scheme was to be devised for long-term repayment of installed utilities by the beneficiaries. Tenure was to be granted to the residents, and home improvement loans would follow. In respect to all these institutional matters, Mellassine was to be the pilot project through which approaches could be developed for application in other neighborhoods elsewhere in Tunisia.

Primary implementation responsibility lay with the Municipality and its public works department. Public Works was to be directly responsible for certain improvements. It was to coordinate other construction efforts that would be carried out by various national ministries and parastatal organizations in the project neighborhood. The Municipality was also responsible for the socio-economic team.

Detailed design and implementation began in 1980. The results after two years are described below.

#### Physical Improvements

One of the principal objectives in Mellassine was to move rapidly with basic physical improvements, thereby demonstrating the Government's sincerity in upgrading the neighborhood. Rapid results were achieved for those projects directly implemented by the Municipality and by certain powerful parastatal organizations that agreed to give the project priority.

A specific physical objective was to upgrade 27,000 linear meters of roads through stabilization, paving, curbing, etc. The municipality handled the work and by early 1982, 50 per cent

of the target had been reached. Already the neighborhood looked cleaner and neater than other nearby marginal settlements. Garbage collection could be done regularly and thoroughly, and the streets of Mellassine became less and less distinguishable from regularized settlements elsewhere. Mellassine had no local market prior to the project. A new market, built by the municipality, was almost ready for occupancy by early 1982.

Parastatal organizations moved rapidly as well. The water target was to install 10,000 meters of line and direct hook-ups to the vast majority of dwellings which had lacked service. By early 1982 (within less than two years) this work was 95 per cent complete. The sewer target was to improve the system and install 7,000 meters of line. This was totally completed. Mellassine had lacked street lighting, a factor in serious crime problem. The installations were all in and operating by early 1982. The utilities agencies had moved swiftly utilizing skilled crews, and had performed the work within their original budget estimates. Tangible improvements were taking place in Mellassine.

Work did not move so smoothly on more complicated physical changes or on projects for which other government agencies were responsible.

A new shelter program was also designed for Mellassine on some of the still-undeveloped land. The Municipality was to provide relocation housing for some of the families displaced by utilities improvements and generally to reduce overcrowding. All told, 87 core units and 300 lots for sites and services were designated. The project had serious design and cost problems and was re-designed before the AID-assisted financing could be approved. In the meantime almost all the displacement for utility construction had occurred and, as no units were ready, the households had to relocate elsewhere.

Another serious problem was that new drainage problems were created for some of the housing land more severe than the original flooding problems at the outset of upgrading activity. This, too, delayed construction. Serious miscalculations had been made concerning the drainage issue, long-recognized as a

major site problem in Mellassine. Due to certain nearby highway construction done by a government agency totally independent of the Mellassine plan, much of the project area -- including vacant sites programmed for community facilities and new housing -- was flooded during rainy periods. While steps have been taken to rectify the problem, it will take considerable time and expense.

Thus while major improvements have indeed occurred in Mellassine, in one respect, basic physical conditions have deteriorated.

Over and above the flooding problem, however, it was also clear in early 1982 that critical community facilities commitments had not yet been made by the responsible agencies outside the Municipality. School overcrowding had, for example, been targeted as a serious problem. Four new schools were included in the master plan, but only two classrooms were actually under construction and no new facilities had been programmed. A similar situation pertained to a dispensary, gymnasia and sports fields, a cultural center, post and telegraph office and police stations.

Scheduling and construction of all these facilities were under central government ministries. Other than persuasion, the Municipality could not exercise any influence on the schedule or budgetary commitments of these ministries. Since a timetable had not been established at the outset of the project, to which all participating institutions were committed, there could be no guarantee of when or whether the facilities would actually be built.

#### Social-Economic Components

Undertaking direct social and economic assistance to a marginal neighborhood was a new activity for the Government of Tunisia. Mellassine was the first project. As a first project, it suffered from organizational difficulties, financial constraints and delays. Unlike the physical improvements for which objectives could be set forth quite precisely, this component of the project presented the Municipality and the professional

staff with considerable difficulty as they struggled to define goals and specific objectives. As a result, much of the socio-economic work lagged behind the physical improvements.

Nevertheless the members of the professional team grew adept at winning the confidence of Mellassine residents. They were headquartered in the neighborhood, and their daily presence represented a tangible sign of government sincerity about providing service to the community. In the period of less than two years there were some striking accomplishments.

The team set up a vocational training program to teach teenage girls skills, primarily sewing. A nearby training center was augmented with staff and equipment, and some 300 young women were the beneficiaries. Surveys of maternal health and nutritional conditions were undertaken and programs of information and re-education initiated to reduce infant mortality. An extensive program of family case work was begun, involving almost 1,500 visits in 1981, within which the project staff dealt with financial, housing, employment and other problems. A literacy program was initiated, in which over 100 residents were enrolled.

Although long delayed, by March 1982 an AID-assisted credit program for small businesses in the area was launched. Indeed, a surprising number of small firms were discovered through a direct survey in Mellassine, far more than had been anticipated in the census. Once the recipients of the business loans were identified, the project -- again with AID support -- was to work with each beneficiary helping to convey basic bookkeeping and management skills while the loan was being repaid.

Perhaps the most striking achievement of the socio-economic group had little direct impact on Mellassine itself. After two years a well-functioning team of diverse professionals had been created, with relatively high morale despite a series of frustrations. They began to operate as a team which could serve Mellassine and/or expand to other neighborhoods as resources and government commitments to upgrading increased. Yet the team members, themselves, acknowledged it would be extremely difficult to identify specific results of their work in Mellassine by

measures of social and economic well-being of the neighborhood residents. The problems were too great. The time had been too short, and the basic poverty levels persisted.

One example of conditions that resisted amelioration was unemployment. While the project team had initiated skills training for girls, little progress was made on jobs or training for the large number of unemployed men. Some work was found on the municipal construction jobs. These terminated when the projects were complete, however. The parastatal agencies, furthermore, declined to employ labor from the project area. They had their own trained crews and did not want to "dilute" progress by taking on unskilled residents.

#### Other Issues

In respect to two of the original objectives, very little progress had been made by early 1982. Cost recovery was one of these. The Municipality had designed a system for levying charges on residents to defray the costs of water, sewer, lighting and other installed facilities. A computerized record-keeping system was also established. No implementation had taken place, however, as the precise organizational responsibility for collection remained to be defined. Meanwhile, many of the facilities were installed and the residents were benefiting from the service. They know charges will one day be levied, yet, the longer it takes, the more they are likely to resist paying.

Devolution of land title is the other. Assuring secure tenure had been a major goal of the project. Here, too, implementation proved a much more complicated affair. The city had taken the first step of expanding municipal ownership into some of the properties which were eventually to be conveyed to residents. Decisions had been taken to establish some form of long-term leasehold that would provide security and mortgageability for housing improvement. Nevertheless, as in many other countries, clearing up title issues was proving to be a long, slow process and it looked as if some time would be required (still indefinite) before actual title transfer could occur. As a result, loans to individual families for improving their indi-

vidual homes have not yet been made and as of 1982 relatively few properties had actually been upgraded.

Yet another issue underlies much of the Mellassine activity -- community participation. Given the political and traditional structure of Tunisian society, there has been relatively little experience of neighborhood participation in major public decisions. Except for the initial diagnostic surveys, the residents of Mellassine have had little direct input into the design and placement of the public works improvements. Even in the socio-economic support, decisions have been made by the authorities first and information about them, conveyed to the residents afterward. There is a deep concern within the Municipality as well as the project team that community participation has been insufficient, but no clear ideas have yet emerged on how to increase that involvement without risking loss of control.

#### Two Cases from Latin America--Upgrading in Panama and Honduras

The upgrading experience of Panama and Honduras, undertaken with funding through USAID Housing Guaranty Loans, illustrates more of the range and variety of situations in which this approach can be applied successfully.

The two Latin American programs, like Tunisia's, were a significant departure from earlier shelter efforts that could not meet the needs of low income families in terms of affordability, scale of production or political acceptability. In Panama, as in Tunisia, upgrading was a response to civil disturbances by residents of marginal settlements who could no longer tolerate their living conditions. The Honduran effort grew out of a systematic exercise to assess housing needs and formulate national shelter policy.

These two programs differ considerably from Tunisia's in scale and emphasis. For many years Mellassine had been a clearly-defined marginal settlement, close to the city center. Because of its marginal status it had been bypassed by the institutions responsible for the extension of infrastructure and services in the metropolitan area. By contrast, upgrading projects in Panama and Honduras focus on the developing edges of

the major cities, where the bulk of recent urban growth has occurred without benefit of orderly land subdivision process or adequate urban infrastructure and services. These are broad areas encompassing multiple neighborhoods where population growth has outpaced the capacity of the responsible institutions to serve it. Some of the neighborhoods are squatter settlements, but many are not. Families that have bought and paid for their plots cannot secure proper legal title because required infrastructure is lacking.

Thus provision of basic infrastructure and regularization of tenure have been the main thrusts of upgrading activities in the case of the two Latin American countries.

#### Background to the Panama Project

San Miguelito, location of Panama's upgrading project, is a district covering some 51.3 square kilometers, about 15 to 20 miles from the downtown center of Panama City. From the beginning of its urbanization in the early 1950s through establishment of a San Miguelito District separate from Panama City in the late 1960s, growth was substantial. It was modest, however, compared with the population explosion of the following decade. Between 1970 and 1980 San Miguelito grew from 75,000 to 175,000 (averaging 13 per cent per year as against Panama's over all 3 per cent). Today San Miguelito is the second largest urban area, after Panama City itself, with 10 per cent of the country's population.

San Miguelito was the primary land reservoir for expansion of physically constricted Panama City during these years, but its growth was uncoordinated and uneven and living conditions were, for the most part, poor. Development sprawled without any sort of urban center as a focal point for commercial activity and community services, although a few shops had appeared in the earliest-settled southern section nearest the Panama City line. Two major highways crossed San Miguelito (the Transistmica from Panama City to Colon and the Tocumen Airport Road), but no other major infrastructure had been installed.

Some large estates and middle class suburban developments were in the eastern sector. Housing projects for mostly moderate income families had been built by Government in a number of locations. Several minimally serviced resettlement areas had been created by Government during the previous 20 years to receive families displaced from numerous inner city redevelopment and public works sites. Extensive squatter settlements were scattered in between, often on the steeper, less accessible hillsides.

Nature and the tropical climate softened the general appearance of San Miguelito with lush vegetation, but at close-range the area was not so attractive. Almost one-third of San Miguelito had no water at all other than what was brought in by tank trucks. Communal standpipes supplied water to some of the resettlement areas. Elsewhere wells yielded water of dubious quality. A primary water line was extended to San Miguelito in 1974-75 but financing did not materialize for either a distribution network or expansion of service into the lower-income neighborhoods.

Two-thirds of the District of San Miguelito had no access to sanitary sewers. Many of the septic tanks were badly contaminated. A few neighborhoods had communal electrification but large, heavily populated sections were entirely without street lights or individual house connections for electricity. Unpaved streets and footpaths, more frequently in muddy condition than not, served for circulation in most of the neighborhoods. Even in government housing projects where there were paved streets residents complained of the lack of public transportation. All District residents were affected by the lack of schools and health facilities, and the great distance from shops and services.

About half San Miguelito's labor force was employed in Panama City. Other residents worked in the industrial area bordering the Tocumen Airport Highway, which was not much nearer. Unemployment in the mid-1970s was 15-20 per cent, and median income of families in the District was estimated at half that of Panama City.

Much of the land in San Miguelito, apart from several large estates and the few middle class suburban developments, had been purchased by the Ministry of Housing for projects under its housing construction program.

Looking toward the future, in 1974 the Ministry prepared a plan for the District as a whole. The plan recommended development of a new city on an open 700-hectare tract in the northern sector, and an integrated improvement program for the more densely settled, older and underserviced southern sector. The western part of San Miguelito, between the main highway to Colon and the Canal Zone, was seen as a long-range development area whose future would be bound up with the Canal and abutting lands when ultimately transferred into Panamanian jurisdiction.

In 1975 a high level commission was created to address San Miguelito's community development needs in an integrated manner. Headed by a presidential appointee, the High Level Commission was composed of representatives from the parastatal utility agencies (IRHE for electricity and IDAAN for water and sewer), the Ministries of Public Works and Housing and the Ministry of Economic Planning and Policy. For two years it made virtually no progress in implementing the District plan.

The Municipality of San Miguelito was, and is, the general purpose government for the District. Lacking resources and staff, however, it has no real authority over community development and services. The District is subdivided into five sections for the purpose of political representation at the national level, however. Although these subdistricts or "corregimientos" have neither resources nor staff for administrative activities, to some extent their elected representatives do lay claim at the national level for resources on behalf of their constituents' interests. This is essentially what happened when political leaders from San Miguelito met with Panama's President early in 1977 concerning some serious public disturbances in their District.

At the time of the Ministry of Housing plan there were an estimated 18,000 squatter dwellings in San Miguelito, most of them in the southern sector, and they were increasing by 2,000

each year. Averaging between 5 and 6 persons per dwelling unit, the population in the squatter settlements had grown more than 110,000 by 1976, and they were frustrated with the lack of visible improvements in the quality of their living conditions. Riots ensued.

#### Initial Planning

The political action and presidential meeting galvanized the High Level Commission and the parastatal agencies into action. Within the next few months each component agency undertook essentially its own survey of immediate needs and priority projects. There was no real substantive consultation with the Municipality. Community participation, to the extent it occurred, was a matter of what the subdistrict politicians chose to tell their constituents about the project.

A USAID Housing Guaranty loan was authorized in the fall of 1977, to finance a program intended ultimately to benefit 17,000 families -- almost half the population of San Miguelito. With the first monies from the loan the High Level Commission created a revolving fund from which it made disbursements to each participating agency, and construction began in February 1978.

The project consisted of four basic infrastructure subprograms: water and sewer, electricity and roads, each assigned to the agency traditionally responsible. The municipality was to carry out inspections, survey and record the dwelling plots, and register the titles in the names of the occupant families. A housing subprogram was included with the intent to provide shelter for an estimated 2,500 households to be displaced by the public works construction and by the title-granting procedure. The latter, it was expected, would accommodate only a limited number of the families then crowding onto single lots in many parts of the project area. The High Level Commission was to coordinate the whole at both policy and technical levels. The initial project schedule envisioned that all would be completed within 32 months.

### Physical Improvements

Actually there were very few locations where all the physical improvements overlapped, and construction aspects of their installation proceeded relatively smoothly. By October 1980, the original target date for completion of the project, at least 6,500 families had received benefits from some or all of the subprograms. Over 49,000 linear meters of water lines had been built, and more than 56,000 linear meters of sewer. The electrification subprogram exceeded its initial objectives with 111,000 linear meters of electric line (more than 70 per cent of which were in the secondary distribution network) and installation of more than 1,160 street light fixtures. Fifty-four street and sidewalk projects had been built by the Ministry of Public Works, incorporating 39.6 kilometers of asphalt pavement and associated drainage works. The Ministry of Housing had developed 791 serviced plots.

Within the first 18 months of the program the Municipality had moved efficiently to survey and convey titles to 3,300 plots. Fewer than 10 per cent of the families remained without formal tenure. These were mainly cases where multiple families occupied a single lot, preferring to stay put without tenure rather than resettle in a nearby location with a core house or serviced plot of their own.

In the course of this work a number of modifications had to be made in the original upgrading program. Cutbacks were necessitated by increases in materials costs and by discovery of unexpected excavation and construction problems. The water subprogram was reduced by 20 per cent and the earmarked funds were transferred to the sewer subprogram. The streets subprogram was reduced by about 18 per cent, primarily because of the need to raise construction standards on the first priority projects, which absorbed the available funds. The housing component, too, was reduced -- at first by about 15 per cent when it became apparent that topographic and soil conditions precluded extending the upgrading activity into one particularly rough part of the project area. Relocation needs that had been anticipated simply did not occur. Later modifications in the housing subprogram were made because of market response and administrative requirements.

All construction, except for the housing component, was finished by the end of 1981. An additional year was needed for accommodation of the final changes in the housing program.

### Social and Economic Aspects

The difficulties of integrating community improvements in San Miguelito were only partially overcome. Public transportation, which had long been one of the most critical needs was eventually improved through political intervention. The private syndicates that operate Panama's buses introduced a two-tier system. Passengers can now ride between the City and destinations at the edge of San Miguelito, then transfer to local buses which take them to the farther reaches of the District where the Ministry's newer housing projects are located.

Between 1977 and 1980 six new schools were built in San Miguelito (three with USAID educational loans) and another three existing schools were improved. USAID was able to provide funding assistance to the Ministry of Health for two new health facilities and improvement of a third. The Municipality secured financing to build three playfields and upgrade another, as well as to provide half a dozen new and improved community buildings in various San Miguelito locations.

A small enterprise loan program funded by USAID's Office of Housing under IIPUP (Integrated Improvement Program for the Urban Poor) made 35-40 loans of \$5,000 to \$10,000 between 1978 and 1981. These loans and technical assistance offered to the recipient businesses generated an estimated 80 to 100 new jobs before the program was folded into a larger enterprise development activity under the administration of the Ministry of Industry and Commerce.

Especially energetic politicians and their supporters managed to initiate and organize execution of small, self-help neighborhood improvement projects in several places.

Other project benefits have been realized in the appreciation of value of the tenured plots by factors of three to four times the nominal fee charged by the Municipality when the plot-

holders received title. Coupled with the households' own gradual, but dramatic shelter improvements visible throughout the project area, the properties represent substantial equity holdings today.

#### Lessons of the Implementation Effort

Coordination was a persistent problem throughout the project's implementation. Prestige of the High Level Commission notwithstanding, it was never able to exert authority over the powerful parastatal construction agencies which followed their individual agendas. The Commission was actually dissolved less than five years after its creation, and before the San Miguelito project reached the end of its first phase. Its technical staff remain, functioning only as a field monitoring office. Improved procedures instituted by the parastatal agencies for coordinating activities among themselves have, however, continued.

It is up to the Municipality now to take the initiative for any new projects in San Miguelito. Resources are very limited, however, and raising revenues through taxing residents is politically unpalatable. Indeed, certain national representatives are reported to have blocked extension of additional infrastructure into their subdistricts by the parastatal agencies because they believe the initial installation of services produced about as much political support as could be gained from the residents. Fees to be charged for additional neighborhood improvements are perceived as a political liability.

That the project encountered unanticipated problems due to subsoil rock strata is partly attributed to the haste with which the actual engineering designs were produced. Dropping the super-costly section of the project and reallocating the funds to more cost-effective elements was a rational decision that demonstrates the sort of flexibility required in upgrading projects.

One aspect of the San Miguelito upgrading program discussed in subsequent evaluations was the delay in realizing full benefits from the new water and sewer systems. Three years after the project began only 19 per cent of the potentially

available water taps had actually been made and only 16 to 17 per cent of the households with access to the sewer network had made house connections to it. By the fourth quarter of 1982 the figure had risen to almost one-third of the households, however.

In retrospect, it is clear that more time than had been anticipated was necessary to switchover from the wells or septic tanks that households had been using to the new system. Some families, seeking to avoid the sewer connection fee and user charges, made illegal connections into the trunk line. These are now being dealt with firmly by imposition of the minimal user fee whether a household on the line makes its connection or not, and by inspection and enforcement procedures to remove the hazardous illegal connections. Had additional community relations personnel been trained and assigned to promote the the sewer and water hookups during the project planning stages the transition would have been faster.

Yet the fact remains that for many of the households, the cost of the interior plumbing that would justify utilizing the sewer facility has been the biggest obstacle. Some households that made their connections earliest had been able to finance the installation of interior plumbing out of savings or inheritance. Others are still accumulating savings for this purpose. Help is in prospect, however, with modifications in a new home improvement program under which loans will be available for sanitation improvements in the upgraded communities.

Several factors have affected the time it has taken to realize full benefits of the San Miguelito program's housing component. One is the original stipulation that the new units, or solutions as they are called, be restricted to families displaced by the upgrading activities. These "solutions" included serviced sites, basic core units and floor-roof units to be enclosed and finished by the occupant household. Displacement (800 families) was not nearly so extensive as had originally been anticipated. Moreover, it became apparent that fewer families than expected wanted to move to better dwellings. They resisted -- possibly because they were paying little or nothing for the housing they were occupying, possibly because of relationships with neighbors or because of other

locational advantages in their initial situation. Better community surveys and marketing research at the outset of the project might have revealed some of these motives.

When, in mid-1979, the project was opened to households living anywhere within the San Miguelito District, the demand for its housing units picked up substantially. When the shelter project was eventually advertised throughout Metropolitan Panama, it became fully subscribed.

Modification of unit types and design to keep sales prices within the budget of the intended beneficiaries -- even with inflated construction costs -- has also helped the marketing effort. All told, there will be somewhat over 1,300 units financed under the San Miguelito housing subprogram, about 60 per cent of them occupied by families from the upgrading area. Another 15 per cent of them are flood victims who have been relocated by the Ministry of Housing from another part of the metropolitan area.

Technical assistance in the shelter finance field associated with this project is credited with rationalizing Panama's interest rate structure, putting it on a footing more sound than before. Equally significant is the change in the method of distributing user charges for recovering costs of primary infrastructure extensions. The inequities of charging the poor for the full costs of extending service to their neighborhoods -- including investments in off-site facilities that benefit other groups and the larger community as a whole -- were recognized and corrected. New schedules in user fees were instituted by the electricity parastatal early on in the San Miguelito project and by the water and sewer authority, finally, in 1982. These changes are viewed by observers as critical to the ability of these essential systems to meet future demands for expansion.

Now that much of San Miguelito's backlog of basic infrastructure needs have been met, one of the biggest challenges is that of attracting resources from Panama's larger economy for investment in the orderly, timely growth of shelter and urban development, including provision for the low income segments of the population.

Upgrading in Honduras

The Honduran upgrading program is the outgrowth of national and local municipal shelter policy and planning efforts begun in late 1975 with AID assistance. Work on a National Housing Plan and master plans for Tegucigalpa and San Pedro Sula over the next few years revealed the scope and seriousness of the marginal settlements problem. More than half the nation's urban population were living under substandard conditions in these substandard communities.

Only 56 per cent of the neighborhoods, or "barrios", in the two largest cities had potable water; 51 per cent, electric power; 45 per cent, municipal garbage collection; 30 per cent, sewer service. There were improved secondary streets in 13 per cent, storm drains in 10 per cent and paved main roads in only 4 per cent of the barrios. Almost half were without access to public bus transportation. Barely 5 per cent of the neighborhoods had any other services and fully 23 per cent of the communities received no services at all.

Increasing by more than 12 per cent a year (double the growth rate of urban population as a whole), the marginal barrios were expected to have almost 70,000 residents by 1983.

The conclusion was inescapable that this problem was too vast for any hope of solution by conventional programs for Government construction of new housing. Even with the addition of sites and services projects, it was foreseen that the formal sector could not satisfy more than 40 per cent of the shelter needed by newly forming households. The cities had to rectify their deficiencies in infrastructure and services if the majority of their population were to have substantially improved living conditions. Municipal upgrading programs of massive scale were seen to be the only promising approach.

Detailed studies of conditions in the marginal barrios were made in 1979 and municipal officials sought external funding. In the Spring of 1980 USAID authorized financial and technical assistance for upgrading programs in Tegucigalpa and San Pedro Sula and planning of some initial projects was undertaken.

Actual construction began in late 1981 following national and local elections, the subsequent political transition and final actions necessary to the flow of loan funds. Within 11 months two neighborhood improvement projects had been finished in Tegucigalpa. By early 1983, a third project in that city and three more in San Pedro Sula were expected to be completed as well. Projects are planned for 21 more communities in the capital and 11 more in San Pedro Sula before the end of 1984. When these are done, about 40 per cent of the households in the two cities' marginal barrios will have been served by improvements accomplished under the AID-financed upgrading program.

The large scale of this initial upgrading activity, and the enormous needs remaining to be addressed when this program has been completed, have shaped the critical features of its design.

Cost recovery, for example, is an absolutely essential concern. Given the nature of the present loan funding, the upgrading investment must be recuperated. Honduras' scheme for cost recovery in its upgrading program is described in some detail in Appendix C.

Continuation of the upgrading effort will depend on mobilizing financing from sources (primarily domestic) that will require a competitive return. This important consideration, combined with political pressure for expeditious implementation, has dictated that the projects be restricted to the most basic, highest priority neighborhood improvements. The neighborhood improvements must be both highly desired and affordable by their beneficiaries if the cost recovery is to be effective.

It has been important, moreover, to keep project standards consistent with general conditions prevailing throughout the respective cities. Honduras is not looking for a showcase product, but one that can be carried out by municipal authorities and replicated until all neighborhoods needing the most basic services have been improved.

Cost recovery is to be achieved through levy of a property, or valorization tax. (See Appendix C.) Considerable thought

has been given to developing a methodology for assessing the proportional benefits accruing to each plot in the project areas. This is possible because three-quarters of the target group do live on their own land.

Although only 28 per cent of the families have title to their land already, almost twice this number are in the process of buying their plots under lease/purchase contracts. They are, however, in subdivisions where they cannot secure legal proof of ownership until infrastructure is installed and the subdivisions are formally recognized by the respective municipalities.

Because all residents will benefit from the neighborhood improvements, the policy is that all must make some contribution to amortizing the investment. A payment schedule has been devised so that the majority of households (78 per cent of the target group in Tegucigalpa and 86 per cent in San Pedro Sula) can meet the monthly payments. For individual families unable to make such payments, the municipalities will revise the requirements -- probably reducing the monthly payments by extending the repayment period. For some cases of extreme poverty, welfare programs are expected to fill the breach.

Costs and the cost recovery scheme are the key determinants of both project site selection and the project elements selected for the individual communities.

The first project attempted in each of the municipalities taught an important lesson: that the project unit could not select a site, assess the settlement's needs and conduct engineering feasibility studies in isolation from the subject community and then expect the residents, on presentation of the finished project drawings, to embrace the scheme and agree to pay the costs.

In order to avoid rejection of projects after investment of time and resources in planning, the implementation teams now visit the barrios, contact leaders of the community organizations and explain the program's benefits and requirements in advance. Only when a community is ready to make a tentative commitment to the cost recovery terms of the program will the

team return to begin the detailed physical inventory and survey the community's preferences and capacity to pay. As the studies proceed and tentative plans take shape, the project team -- community promoters and technical staff together -- meet with the community to apprise them of alternative solutions and cost implications, and learn their wishes about how to proceed. Actual construction is undertaken only after formal community acceptance of the plan.

Agreement to pay the final, estimated costs of the improvement package is secured from individual resident families and the community organization as a body. A community that wishes to speed up the process has the option of helping with the survey work, independently contracting with consultants to design the upgrading project and even walking its project scheme through the processes of approval by the municipality and the water and sewer authority.

So far the neighborhood physical improvements have concentrated on basic water and sewer systems. These have been designed to include individual lot connections. Other elements that could be added under the program are street and sidewalk paving, provision of associated storm drainage and street lights. These would be discretionary items added by the neighborhood in accordance with ability and willingness to pay.

Where the water and sewer construction has been completed, home improvements -- some quite extensive -- are almost immediately visible. Families are building connections from the standpipes at their lot lines directly into their houses, adding showers, toilets and sink fixtures, even separate bathrooms.

A home improvement loan program is scheduled to start in early 1983, coinciding with completion of the second group of upgrading projects. It is to be administered by savings and credit institutions rather than the municipality and will enable even more households to take advantage of the newly accessible infrastructure systems. Besides interior plumbing and electrical connections, families will be able to acquire financing for dwelling unit improvements such as permanent walls and roofs, concrete floors and foundations, doors and windows.

Although community interest is prerequisite, two additional factors play an important role in site selection under the upgrading program. In an effort to avoid incurring major costs in connection with new off-site infrastructure, the municipalities give priority to those barrios in sectors where existing primary systems have available unused capacity. Also, projects are undertaken only in communities where the residents have tenure or where they are settled on land owned by the municipality, and thus can be granted tenure once infrastructure deficiencies are corrected.

In the longer range, needs of communities presenting a third type of tenure condition may be addressed. These are the substandard private subdivisions.

The municipalities are empowered under a special decree to order that these subdivisions be brought into compliance with infrastructure standards. If the owners fail to do so, the municipalities are further authorized to install the necessary improvements and recover the costs either directly through the owner or through pre-emption of the monthly payments from the lessee-purchasers.

Another component of the upgrading program, to be introduced eventually, will be a series of small pilot projects funded by IIPUP (the Integrated Improvement Program for the Urban Poor) under USAID's Office of Housing and Urban Development. These projects will be directed toward social aspects of the community upgrading, income-enhancing activities for community members and such special problems as those of women-headed households. Cost-effectiveness and feasibility of possible projects are being weighed.

Finally, one of the central objectives of the program and, at the same time, one of the controlling factors in the staging of implementation is institutional development. Development of institutional capacity to carry out the program over the long term has been given a great deal of attention. Efforts of both municipalities and a substantial amount of technical assistance have been directed to training of the project teams, to establishing protocols for coordination between agencies (e.g. the

municipality of Tegucigalpa and the water and sewer authority) and within branches of the respective municipalities. Seminars and workshops have been arranged where personnel can share their experiences with upgrading, confer on how to resolve problems and participate in periodic evaluations of the over all program. Manuals have been prepared to assist the project teams and guide them in executing their responsibilities.

Effort has been made to keep the projects as simple as possible and to add new elements only as the institutions and personnel have become capable of handling them without detracting from the principal thrust of the program.

No new land titles have been granted to date, but they are expected to come once several more projects are completed and procedures for resolving conflicting land claims have been instituted by the municipalities.

The program has had its share of the problems inevitable in an upgrading effort. On the whole, they have been coped with quite well. Certain delays, such as those of political transition following elections, were probably unavoidable. As in virtually all such undertakings, implementation delays and consequent cost escalation have caused the original scope to be cut back. In Honduras, some timely and imaginative technical assistance led to adaptations of the initial infrastructure design. Resultant cost-savings may permit reinstatement of some of the projects that were eliminated.

Financing for needed off-site infrastructure improvements has proved to be very difficult to solve. External funding anticipated at the outset for some water storage, sewage treatment and transmission-distribution facilities was not forthcoming. In San Pedro Sula, where the water authority is a municipal enterprise, the problem was partially solved by major revisions in the rate structure for user charges. Tegucigalpa is still struggling with its capital resources deficiencies. One approach under consideration is substitution of on-site neighborhood package systems for water supply or sewage treatment where extension of the city's trunk lines proves too expensive.

It is still early to make a definitive evaluation of the Honduras project, but it appears to be well on the way to meeting its objectives. The key issues for the future, of course, are whether the momentum built up during this first-stage program will be sustained and whether the cost recovery scheme is effectively pursued.

#### Measures of Success

There are no rigid black-and-white standards of success in the business of upgrading. Each country has to go through the process of learning how to cope with its shelter problems in terms of its own ever-changing circumstances. The squatter settlements and other marginal neighborhoods have been created over generations. Their problems will not be solved in a day or two years.

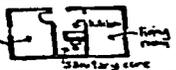
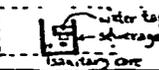
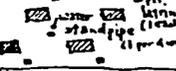
Failure in these terms is failure to acknowledge the full range of shelter needs, failure to try to grapple with the problems of shelter and settlement, especially of the lowest income groups. Failure is clinging to inappropriate or harmful policies such as excessively high standards, heavy subsidies, or demolition of whole neighborhoods when other workable solutions such as upgrading are available.

Successes are degrees of achievement toward meeting needs, solving problems, improving living conditions, extending urban services, removing unhealthy and unsafe conditions, increasing skills and administrative efficiency and fairness in distributing benefits.

We need to measure upgrading projects against this conceptual model. Upgrading works if it brings the costs of improved shelter within a range the target groups can afford and if expenditures are, indeed, recovered from the beneficiaries. If upgrading is accomplished without major subsidies it should be replicable, and we can look to see if it is replicated where appropriate. By incorporating upgrading programs into the normal course of managing urban development, countries should eventually be able to make substantial gains against the backlog of unmet needs for basic urban infrastructure and livable neighborhoods.

**APPENDIX A: EXAMPLE OF AFFORDABILITY PRESENTATION**

case study Swaziland LOW INCOME FAMILIES IN SQUATTER AREAS OF THE PRINCIPAL CITIES (CORE REGION)

| monthly income   | no. of families | %           | affordable solution  |
|--|-----------------|-------------|--|
| E135 - 160   | 1,010           | 12%         | one bedroom house (E 440)<br>at 25% of income<br>57 m <sup>2</sup> gross building area<br>12.8 units per acre<br>       |
| E 110 - 135  | 1,430           | 17%         | full sites & services (E 3000)<br>at 25% of income<br>350 m <sup>2</sup> plots - 6 units per acre<br>no electricity<br> |
| E 75 - 110   | 2,560           | 31%         | basic sites & services (E 1500)<br>at 25% of income<br>12 plots per acre<br>  |
| E 45 - 75  | 1,990           | 24%         | squatter upgrading (E 400)<br>10% of income<br>a pit latrines<br>a foot paths<br>other projects as called for  |
| LESS THAN E45  | 1,310           | 16%         |  |
| <b>TOTAL LOW INCOME FAMILIES IN SQUATTER AREAS OF PRINCIPAL CITIES (CORE REGION)</b> | <b>8,300</b>    | <b>100%</b> |  |

A - 3

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Table V-8  
ESTIMATED HOUSING NEED AND AFFORDABILITY<sup>a</sup> - 1978  
 (Based on planning assumptions, not empirical data. Footnotes appear on following page.)

|  | <u>Swaziland Urban Families</u> |          | <u>Core Region Urban Families</u> |          | <u>Swaziland Urban Families in Informal Sector Housing</u> |          | <u>Core Region Urban Families in Informal Sector Housing</u> |          |
|--|---------------------------------|----------|-----------------------------------|----------|--|----------|--|----------|
|  | <u>Number</u>                   | <u>%</u> | <u>Number</u>                     | <u>%</u> | <u>Estimated Number</u>                                    | <u>%</u> | <u>Estimated Number</u>                                      | <u>%</u> |
| Total Families   | 30,830                          | 100%     | 19,430                            | 100%     | 14,500   | 100%     | 9,200  | 100%     |
| <u>Income Distribution (1)</u>   |                                 |          |                                   |          |  |          |  |          |
| High Income (E 350+)   | 4,000                           | 13%      | 2,530                             | 13%      | --   | --       | --   | --       |
| Medium Income (E 160-350)  | 10,480                          | 34%      | 6,600                             | 34%      | 1,500  | 10%      | 900  | 10%      |
| Low Income (under E 160)   | 16,350                          | 53%      | 10,300                            | 53%      | 13,000   | 90%      | 8,300  | 90%      |
| <u>Shelter Affordability by Low Income Families (2)</u>  |                                 |          |                                   |          |  |          |  |          |
| Total Low Income Families  | 16,350                          | 100%     | 10,300                            | 100%     | 13,000   | 100%     | 8,300  | 100%     |
| Can Afford One Bedroom House <sup>b</sup> (E 4140) at 23% of Income (E 135-160 monthly income)       | 3,400                           | 21%      | 2,140                             | 21%      | 1,600  | 12%      | 1,010  | 12%      |
| Can Afford Full Sites and Services <sup>c</sup> (E 3000) at 25% of Income (E 110-135 monthly income) | 3,420                           | 21%      | 2,160                             | 21%      | 2,250  | 17%      | 1,430  | 17%      |
| Can Afford Basic Sites and Services <sup>d</sup> (E 1500) at 20% of Income (E 75-100 monthly income) | 4,390                           | 27%      | 2,760                             | 27%      | 4,000  | 31%      | 2,560  | 31%      |
| Can Afford Squatter Upgrading <sup>e</sup> (E 400) at 10% of Income (E 45-75 monthly income)         | 3,100                           | 19%      | 1,950                             | 19%      | 3,100  | 24%      | 1,990  | 24%      |
| Cannot Afford Economic Housing (less than E 45 monthly)  | 2,040                           | 12%      | 1,290                             | 12%      | 2,050  | 16%      | 1,310  | 16%      |

Source: Rivkin Associates, Inc.: Swaziland Shelter Sector Assessment; USAID, 1978

**Best Available Document**

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Housing Prototypes - Illustrative Standards and Costs

- a. Market Level Financing Terms at Sueziland Development and Savings Bank. 10% down, 11% interest, 25 year term for repayment (not past 25th birthday) 11.8% constant payment per year, maximum 30% of income for debt service.
- b. One Bedroom Ermodah/a Unit. One bedroom plus sanitary core, kitchen and living room with 37 m<sup>2</sup> gross building area at 12.8 per acre. Aided self-help unit. Mortgage includes insurance costs.  
 Total Cost = E 4140  
 Down Payment 414 (10%)  
 Mortgage E 3726 x 11.8%/year = E 37/month debt service  
 25% of income requires E 148 per month of household income  
 30% of income requires E 123 per month of household income.
- c. Fully Served Sites and Services. Individual water tap for each dwelling unit, sewerage, sanitary core, 330 m<sup>2</sup> plots (6 per acre), no electricity.  
 Total Cost = E 3000 including land, infrastructure, and materials for house  
 Down Payment 300 (10%)  
 Financing E 2700 x 12.4%/year (20 year term) = E 28/month debt service  
 25% of income requires E110 per month of household income.
- d. Basic Sites and Services. Water standpipe for each 4 dwelling units, individual pit latrine, lots @ 12/acre.  
 Total Cost = E 1,500 including land, infrastructure, and materials for house  
 Down Payment 150 (10%)  
 Financing E 1,350 x 13.4%/year (15 year term) = E 15/month debt service  
 20% of income requires E 75 per month of household income.  
 25% of income would require E 60 per month of household income.
- e. Squatter Upgrading. Pit latrines, footpaths, etc. as called for in individual projects.  
 Total Cost = E 400 including infrastructure only  
 Financing E 400 x 13.4%/year (15 year term) = E 4.50/month debt service  
 10% of income requires E 45 per month of household income  
 25% of income would require E 18 per month of household income.

# Best Available Document

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**APPENDIX B:**

**EXAMPLE OF PHYSICAL SURVEYS FOR UPGRADING**

**Source: Butler, M. and N., Urban Dwelling  
Environments, Istanbul, Turkey;  
Massachusetts Institute  
of Technology, 1976.**

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CASE STUDY: RUMELINISAR USTU

B - 2



RUMELINISAR USTU, Istanbul: (left) Typical small squatter house. Water is being borrowed from neighbors to wash rugs. Many roads are built with earth and stone.



(right) Typical development along streets and walkways. All dwellings are masonry and wood with tile roofs.

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CASE STUDY: RUMELINISAR USTU

PHYSICAL DATA

(related to dwelling and land)

DWELLING UNIT  
 type: HOUSE  
 area (sq m): 47  
 tenure: LEGAL OWNERSHIP

LAND/LOT  
 utilization: PRIVATE  
 area (sq m): 218  
 tenure: EXTRALEGAL OWNERSHIP

DWELLING  
 location: PERIPHERY  
 type: DETACHED  
 number of floors: 1  
 utilization: SINGLE FAMILY  
 physical state: FAIR

DWELLING DEVELOPMENT  
 mode: INCREMENTAL  
 developer: POPULAR  
 builder: ARTISAN  
 construction type: MASONRY/WOOD  
 year of construction: 1963

MATERIALS  
 foundation: STONE  
 floors: CONCRETE  
 walls: CONCRETE BLOCK  
 roof: WOOD/TILE

DWELLING FACILITIES  
 wc: 1  
 shower: -  
 kitchen: 2  
 rooms: 3  
 other: WASH AREA WITH LAVATORY

SOCIO-ECONOMIC DATA

(related to user)

GENERAL: SOCIAL  
 user's ethnic origin: TURKISH  
 place of birth: BOLU  
 education level: ELEMENTARY

NUMBER OF USERS  
 married: 2  
 single: -  
 children: 3  
 total: 5

MIGRATION PATTERN  
 number of moves: 3  
 rural - urban: 1948  
 urban - urban: 1955, 1966  
 urban - rural: -  
 why came to urban area: RELATIVES/WORK

GENERAL: ECONOMIC  
 user's income group: VERY LOW  
 employment: SELF-EMPLOYED COOK  
 distance to work: -  
 mode of travel: -

COSTS  
 dwelling unit: \$340  
 land - market value: N.A.

DWELLING UNIT PAYMENTS  
 financing: SELF-FINANCED  
 rent/mortgage: N.A.  
 % income for rent/mortgage: N.A.

LOCALITY SOURCES

Plan: (accurate) Istanbul Municipality Squatter Planning Office, 1973.  
 Land Use Pattern: (accurate) Field Survey, N. and N. Butler, 1975.  
 Circulation Pattern: (accurate) IBID.  
 Segment Plan: (accurate) Istanbul Municipality Squatter Planning Office, 1973.  
 Segment Land Utilization: (accurate) IBID.  
 Block Plan: (accurate) IBID.  
 Typical Dwelling: (accurate) Field Survey, N. and N. Butler, 1975.  
 Physical Data: (accurate) IBID.  
 Socio-Economic Data: (accurate) IBID.  
 Photographs: N. and N. Butler, 1975.  
 General Information: Interviews, Locality Mayor, N. and N. Butler, 1975.

### 3 ZEYTİNBURNU,

ORIGINS: In 1880 the Zeytinburnu region, part of two large vakif (religious) foundations, was donated by the Sultan as a favor to the Armenian community. Political influence prevented the area from being developed. Between 1911 and 1914 Priest Agop, under whose name Zeytinburnu was registered, sold parts of the land to private individuals. After his death the remaining land returned back to the Vakıflar Administration. The first squatter constructions occurred in 1945 and continued until 1948. After being saved from destruction by the authorities in 1948 more rapid development took place. By 1962 the older neighborhoods were almost saturated. From 1954 to 1959 the Vakıflar Administration sold parts of the land to squatters in accordance with Legislation No. 6188. Because of political problems not all squatter owners on Vakıf land received their land titles. Realizing the expense of retaining their land, private land owners began selling land to squatters. Instead of parcelling their land, some large land owners sold "sharus" in their land. Thus 40 to 50 squatter "share" one parcel of land. In some cases a piece of land has three different parties claiming ownership; the private owner, the Vakıflar Administration, and the Municipality. In 1957 Zeytinburnu became a district. Thus for the first time a squatter area became an administrative unit within the boundaries of the Municipality of Istanbul.

Source: Butler M and N: Urban Dwelling Environments, Istanbul, Turkey; Massachusetts Institute of Technology, 1976

### Istanbul

POPULAR, LOW/MODERATELY LOW INCOME,  
SQUATTER HOUSES/WALK-UP APARTMENTS



ZEYTİNBURNU, Istanbul: (top) View from a minaret. The tight grouping of squatter dwellings occur due to expansion for rental purposes or as families receive new members. Gardens are highly developed by the residents. Walk-up apartment buildings are beginning to replace original squatter constructions.



(bottom) The main street is typical of the growth and assimilation of a squatter settlement into the urban environment; highly commercial, automobile oriented, substantial and fairly sophisticated building construction.

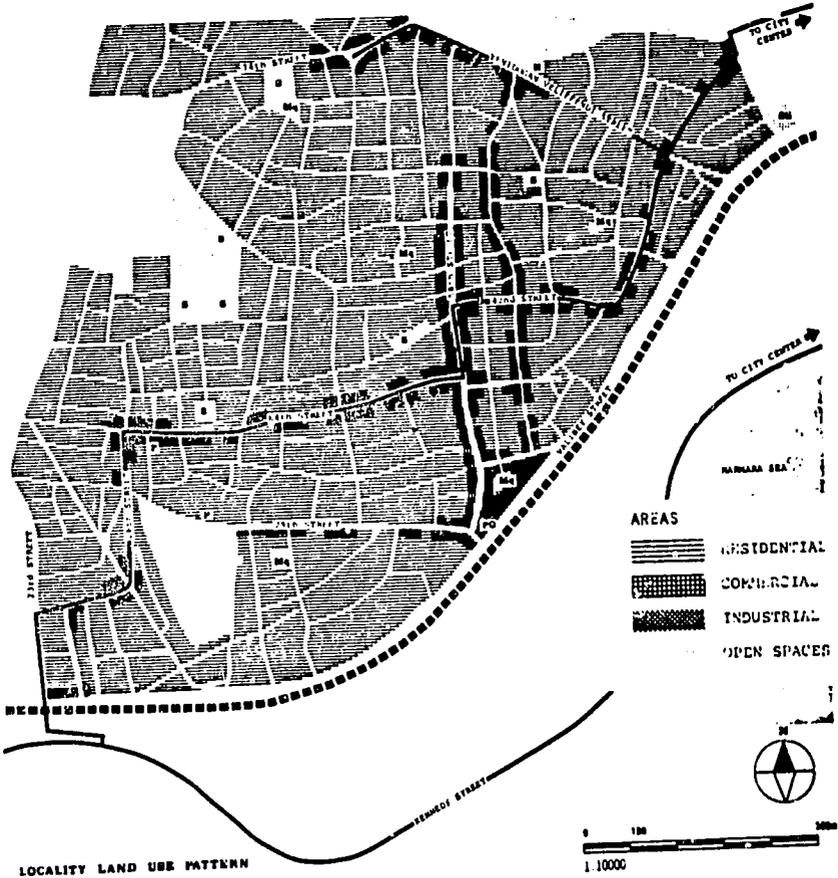


**LOCATION:** Located on the Sea of Marmara, outside the old city walls, the settlement is approximately 7 km. from the city center. The district of Zeytinburnu covers an area of 40 km<sup>2</sup>. The locality boundaries are defined by: the London Highway on the north, to the south the transcontinental railroad-rapid transit line and adjacent industry, institutional and industrial development on the east, and Veli Efendi Hippodrome to the west.

**LAYOUT:** The layout is typical of squatter settlements that develop on flat land. Social factors rather than physical forces determine layout. The squatters create their own cluster groupings and blocks. The blocks are large enough to allow lots of varied sizes and configurations to occur independent of the circulation network. A combination of row, semi-detached and detached one story masonry and concrete dwellings predominate. With the implementation of the Squatter Law of 1966, Zeytinburnu was designated as a rehabilitative squatter area. A plan of lot subdivision was made saving most of the existing conditions. Since then many residents have received land titles. Concurrently, planning for the improvement of streets and infrastructure networks was initiated. Land values have begun to increase to the point where substantial investment is being made in the development of three to five story walk-up apartment buildings typical of those found throughout middle income areas of Istanbul.

SELECTED SEGMENT

CASE STUDY: ZEYTINBURNU



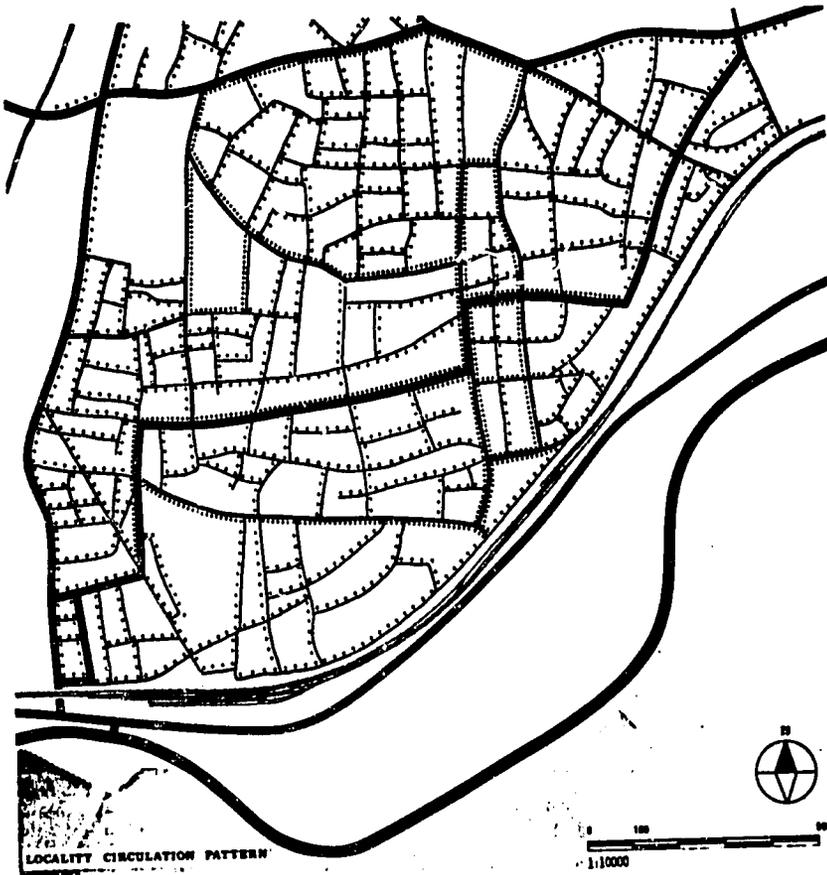
LOCALITY LAND USE PATTERN

**LAND USE:** Formerly an agricultural area Zeytinburnu has become primarily residential. Mosques, schools, and limited community facilities are scattered throughout the locality. A large complex of schools and a farm are located on the western edge of the site. Commercial and limited light industrial activity is concentrated along major circulation routes. The major commercial activity originates at the railroad-rapid transit station and extends north through the community. Increasing land values have encouraged redevelopment of land from single to multi-story construction as well as changing land use from residential to commercial. A strip of heavy industry is located between the locality and the Sea of Marmara.

- KEY**
- Pk Parking
  - F Police
  - F Fire Department
  - S School
  - Mq Mosque
  - R Recreation
  - L Library
  - U University
  - H Health
  - PO Post Office
  - SS Social Services
  - M Market
  - C Cemetery
  - Bus
  - Rapid Transit

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CASE STUDY: SEYTINGURMU



LOCALITY CIRCULATION PATTERN

**CIRCULATION:** Heavy vehicular circulation cuts through the locality from the southwest to the northeast on a paved road which follows the original irregular circulation grid. Because of the many turns, narrow streets, commercial activity, and high traffic volume of buses and private mini-buses, this major circulation path is congested. Heavy pedestrian and vehicular traffic exists along 58th Street, a boulevard route through commercial development to the rapid transit-railroad station. Most residential streets are paved or are in the process of being paved. Where building and garden walls used to define the street, new construction is incorporating curbs and sidewalks. Although most movement within the locality is pedestrian, streets are usually wide enough to accommodate limited vehicular traffic and parking.

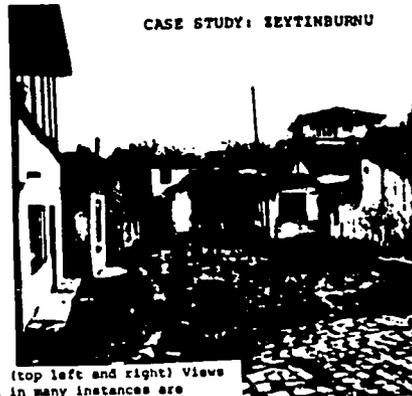
- KEY
- VEHICULAR
  - ..... PEDESTRIAN

**POPULATION:** According to the 1970 Census the locality had a population of 117,200 persons. In 1960, 55% of the population of 80,078 were between 13 and 65 years of age. 52% were foreign born immigrants most coming from Yugoslavia, Bulgaria, Greece and Romania. 25% migrated from the Black Sea Region of Turkey. 65% of the males migrated to the area directly from their villages. 56% of the families were homeowners. 77% of these families did not have land titles. On the average there were 4.71 persons per household and 2.92 persons per room. 56.7% of the population was illiterate.

**INCOME:** Available statistical data dates back to 1962-65. The \$793 annual median family income of 1964 has doubled or tripled by 1975. More than half of the working population are laborers. The rest are tradesmen, artisans, or government employees. The majority work within walking distance of the industrial areas of Bakirkoy, Zeytinburnu and Kazlıcesme. About one fourth of the labor force work in the historic peninsula. At least one half of the people live in rental units. One room squatter dwellings rent for a minimum of \$15 per month.



ZEYTINBURNU, Istanbul (top left and right) Views of cluster courts which in many instances are created as dwellings expand for multi-family use. Access into clusters is usually undeveloped. Notice the television antennas.



CASE STUDY: ZEYTINBURNU



(bottom left) Walkways are defined by property walls and dwellings. Walk-up apartment in background is recent. A small store is incorporated in the first floor.



(bottom right) Undeveloped residential street. Construction at left without a tile roof is unusual. Even though this building is only for storage/animals, almost all buildings have tile roofs.



SELECTED  
BLOCK

LOCALITY SEGMENT PLAN

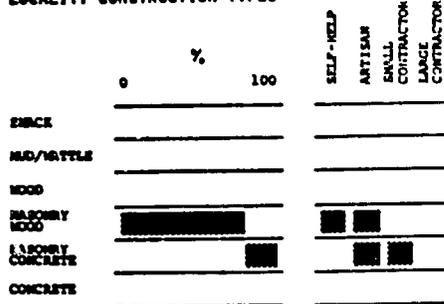
0 50 100 150

1:7500

The chart illustrates the approximate availability of utilities, services, and community facilities at three levels: NONE, LIMITED, ADEQUATE.

Quality of information: Approximate

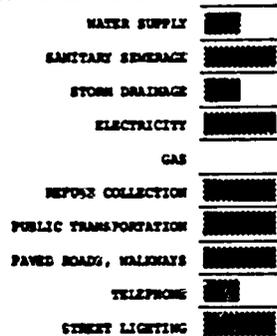
LOCALITY CONSTRUCTION TYPES



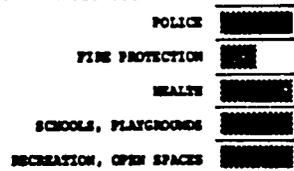
The chart shows (1) approximate percentage of each construction type within the total number of dwellings and (2) building group that generally produces each type.

Quality of information: Approximate

LOCALITY UTILITIES AND SERVICES



LOCALITY COMMUNITY FACILITIES



CASE STUDY: SEYTIMBURNU



LOCALITY SEGMENT LAND UTILIZATION

LAND UTILIZATION DIAGRAM



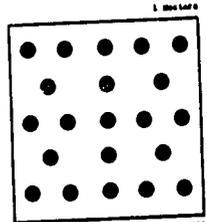
**PATTERN**

|           |                   |  |
|-----------|-------------------|--|
| Pattern 1 | streets/buildings |  |
| Pattern 2 | playgrounds       |  |
| Pattern 3 | glazed areas      |  |
| Pattern 4 | lake              |  |
| Pattern 5 | building          |  |



**PERCENTAGES**

|                   |     |
|-------------------|-----|
| Streets/Buildings | 23% |
| Playgrounds       | 26% |
| Glazed Areas      | 20% |
| Buildings/Lake    | 31% |



**DENSITY**

|              |     |
|--------------|-----|
| Person/Block | 150 |
|--------------|-----|

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LOCALITY BLOCK PLAN



LOCALITY SEGMENT LAND UTILIZATION DATA

| DENSITIES      | Total Number | Area Hectares | Density N/Ha |
|----------------|--------------|---------------|--------------|
| LOTS           | 700          | 16.0          | 44           |
| DWELLING UNITS | 1400         | 16.0          | 88           |
| PEOPLE         | 6720         | 16.0          | 420          |

| AREAS   | Hectares    | Percentages |
|---|-------------|-------------|
| PUBLIC (streets, walkways, open spaces)               | 3.5         | 22          |
| SEMI-PUBLIC (open spaces, schools, community centers) | .5          | 3           |
| PRIVATE (dwellings, shops, factories, lots)           | 11.7        | 73          |
| SEMI-PRIVATE (cluster courts)                         | .3          | 2           |
| <b>TOTAL</b>  | <b>16.0</b> | <b>100</b>  |

NETWORK EFFICIENCY  
 $R = \frac{\text{network length(circulation)}}{\text{areas served(circulation, lots)}} = 315 \text{ m/ha}$   
 AVERAGE LOT AREA =  $167 \text{ m}^2$

LOCALITY BLOCK LAND UTILIZATION DATA

| DENSITIES      | Total Number | Area Hectares | Density N/Ha |
|----------------|--------------|---------------|--------------|
| LOTS           | 32           | .57           | 56           |
| DWELLING UNITS | 64           | .57           | 112          |
| PEOPLE         | 263          | .57           | 462          |

| AREAS   | Hectares   | Percentages |
|---|------------|-------------|
| PUBLIC (streets, walkways, open spaces)               | .09        | 16          |
| SEMI-PUBLIC (open spaces, schools, community centers) | -          | -           |
| PRIVATE (dwellings, shops, factories, lots)           | .47        | 81          |
| SEMI-PRIVATE (cluster courts)                         | .01        | 3           |
| <b>TOTAL</b>  | <b>.57</b> | <b>100</b>  |

NETWORK EFFICIENCY  
 $R = \frac{\text{network length(circulation)}}{\text{areas served(circulation, lots)}} = 272 \text{ m/ha}$   
 AVERAGE LOT AREA =  $147 \text{ m}^2$

CASE STUDY: ZEYTINBURNU

B - 12



ZEYTINBURNU, Istanbul: (left) View of row dwellings along a street. Construction is simple but substantial.



(right) Section of private open court. Residents create very pleasing living environments for themselves. Exterior as well as interior spaces are always well maintained.

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CASE STUDY: ZEYTINBURNU

PHYSICAL DATA  
(related to dwelling and land)

DWELLING UNIT  
 type: HOUSE  
 area (sq m): 62  
 tenure: LEGAL OWNERSHIP

LAND/LOT  
 utilization: SEMI-PRIVATE  
 area (sq m): 400  
 tenure: LEGAL OWNERSHIP

DWELLING  
 location: INNER RING  
 type: ROW/GROUPED  
 number of floors: 1  
 utilization: MULTIPLE FAMILY  
 physical state: FAIR

DWELLING DEVELOPMENT  
 mode: INCREMENTAL  
 developer: POPULAR  
 builder: SELF-HELP/ARTISAN  
 construction type: MASONRY/WOOD  
 year of construction: 1950

MATERIALS  
 foundation: STONE/CONCRETE  
 floors: CONCRETE  
 walls: CONCRETE BLOCK  
 roof: WOOD/TILE

DWELLING FACILITIES  
 wc: 1  
 shower: 1  
 kitchen: 1  
 rooms: 3  
 other: CENTRAL SPACE

SOCIO-ECONOMIC DATA  
(related to user)

GENERAL: SOCIAL  
 user's ethnic origin: TURKISH  
 place of birth: SINOP  
 education level: NONE

NUMBER OF USERS  
 married: 4  
 single: 1  
 children: 4  
 total: 9

MIGRATION PATTERN  
 number of moves: 1  
 rural - urban: 1957  
 urban - urban: -  
 urban - rural: -  
 why came to urban area: FAMILY/WORK

GENERAL: ECONOMIC  
 user's income group: LOW  
 employment: GOVERNMENT EMPLOYEE  
 distance to work: 12 KM.  
 mode of travel: TRAIN AND SHARED TAXI

COSTS  
 dwelling unit: N.A.  
 land - market value: N.A.

DWELLING UNIT PAYMENTS  
 financing: SELF-FINANCE  
 rent/mortgage: N.A.  
 % income for rent/mortgage: N.A.

LOCALITY SOURCES

Plan: (approximate) Updated Office Plans, Istanbul Municipality Planning Office, 1960.

Land Use Pattern: (approximate) IBID; Field Survey, N. and N. Butler, 1975.

Circulation Pattern: (approximate) Field Surveys, N. and N. Butler, 1975.

Segment Plan: (accurate) Istanbul Municipality Squatter Planning Office, 1964.

Segment Land Utilization: (accurate) IBID.

Block Plan: (accurate) IBID.

Typical Dwelling: (accurate) Field Surveys, N. and N. Butler, 1975.

Physical Data: (accurate) IBID.

Socio-Economic Data: (accurate) IBID.

Photographs: N. and N. Butler, 1975.

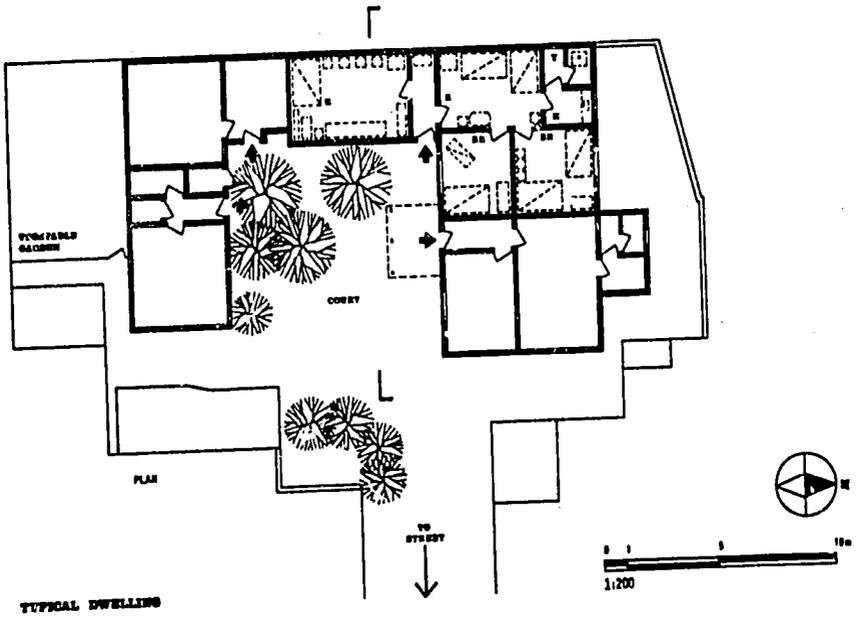
General Information: Interviews, Istanbul University Department of Social Anthropology, 1975; Zeytinburnu Gecekondu Bolgesi, N. Nart, Istanbul, 1969.

CASE STUDY: ZEYTINBURNU



KEY

- LR Living Room
- D Dining/Eating Area
- BR Bedroom
- K Kitchen/Cooking Area
- T Toilet/Bathroom
- L Laundry
- C Closet
- S Storage
- R Room (multi-use)



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**APPENDIX C:**

**SUMMARY OF HONDURAS' VALORIZATION SCHEME**

## APPENDIX C

Tegucigalpa and San Pedro Sula, the two largest cities in Honduras, have somewhat different mechanisms for cost recovery under their barrio upgrading programs.

In San Pedro Sula the water and sewer authority is a governmental enterprise, operated by the Municipality itself. The local community organization, or "patronato" in the upgrading project neighborhood signs a promissory note on behalf of the community collectively for the amount of the municipality's investment in water and sewer improvement. The debt is then amortized through a surcharge on the monthly billings to the consumers of water service.

The capital city is served by the parastatal water and sanitation authority, SANAA, rather than by a municipal utility. Tegucigalpa has been using valorization assessments to recuperate the costs of water, sewerage and electrical installations in their barrio upgrading program.

This involves a four-step process that usually takes nine months.

First, plans of the proposed improvements are studied to determine their positive and negative effects. The potential zone of influence of these impacts is defined and socio-economic profiles of the affected communities are developed.

Next, project costs are allocated in a general, preliminary way. This allocation is the basis for the Programming Commission's decision on whether to grant approval for the project to proceed. A rule of thumb is used which says that project costs per square meter should not exceed 10 to 15 per cent of the current market value of a square meter of land in the particular community. A project design which works out to be more expensive is judged to be too expensive.

When a project is approved, maps are prepared which show the area and boundaries of all properties in the community and all owners' names and addresses are listed.

Proportionate shares of the community improvement costs are assigned to each lot, taking into account the extent of each lot's benefit from the project. Typical factors considered include frontage, lot depth and over all perimeter. Taking these factors into account the effective area of each lot is computed (i.e. as a multiple of a standardized or equivalent square meter). A conversion factor, expressed in value of the project per square meter, is then computed by dividing the total project cost by the sum of all the equivalent areas. The betterment tax owed by each lot is calculated by multiplying the conversion factor by the effective area of the lot. Financing terms (i.e. the number of years and rates of interest) for repayment of the investment are defined. Tegucigalpa has had the policy of setting these terms so that the monthly payment most typical for households in a community is \$2.50 (Lps. 5)

Finally, owners are notified of the proposed assessments. They are given the choice of making a single payment for the full assessment at the Central Bank, or signing notes which may be paid off in installments. Promissory notes are signed by the local community organization for the group collectively as well as by the individual beneficiaries of the upgrading project.

A special decree (833) and implementing regulations authorize the municipalities to require developers selling lots in illegal subdivisions to pay for prompt installation of infrastructure. If they do not do so, the municipality is empowered to make the installations and to confiscate lease-purchase payments from the residents until reimbursement for the improvements is secured in full. After that, payments can revert to the developer once more.

There are some areas where squatting has occurred on municipal land in the past, or where former holders of "user rights certificates" for municipal land have improperly sold lots that are currently being paid for by the occupants under the impressions the sellers were conveying legitimate title. In these cases the municipalities' policy is to grant regular title, provide the infrastructure at municipal expense and regard the current residents' purchases as legitimate.