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Andy Hagelsoed

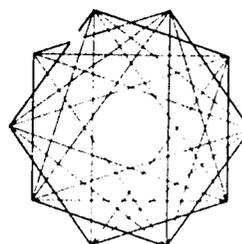
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PLANNING AND
DEVELOPMENT
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HOUSING ISSUES AND IMPACTS

A REVIEW OF THE LITERATURE
AND GUIDELINES FOR RAPID
ASSESSMENT OF HOUSING
PROJECTS

AUGUST 1981



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PADCO

AN INTERNATIONAL COLLABORATIVE FORMED TO
PROVIDE GOVERNMENTS AND PRIVATE CLIENTS IN
AFRICA, ASIA, LATIN AMERICA AND THE NEAR EAST
WITH INTEGRATED RESEARCH, PLANNING AND MANAGEMENT
SERVICES FOR URBAN AND RURAL DEVELOPMENT

PLANNING AND DEVELOPMENT COLLABORATIVE INTERNATIONAL
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August 19, 1981

Dr. Dan Dworkin
Office of Evaluation
Agency for International Development
U.S. Department of State
Washington, DC

Dear Dr. Dworkin:

PADCO is pleased to submit this final report on "Housing Investment Guaranty Program Issues". This work was prepared in response to Work Order 1 of our indefinite Quantity Contract (AID/SOD/PDC-C-0395).

As you suggested, this final version has been prepared in one single volume in accordance with the general style and format of Program Evaluation Discussion Papers. It incorporates both the general and specific comments received from you and Robert Berg in early August. The present version also includes a completed bibliography of the over 150 individual pieces of literature which were reviewed in carrying out this assignment. I am also enclosing a looseleaf binder containing the draft abstracts which were developed and utilized by PADCO in the preparation of the Report in the hope that it will prove of value to the Office of Evaluation in its future activities. In accordance with our contract, the Report is being submitted in twenty (20) copies.

Most importantly, I believe that the revised final Report represents a significant improvement over the second draft not only in terms of its organization and editing, but also as a clearer reflection of the insights and conclusions reached by the PADCO Team over the course of the work. The Introduction to the Report provides a brief description of some of the most important conclusions concerning the feasibility of evaluating the socio-economic impacts and effects of shelter projects over short periods of time.

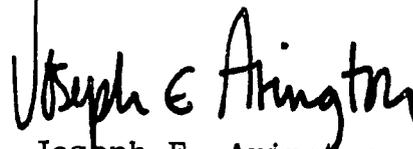
P A D C O

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Dr. Dan Dworkin
August 19, 1981
Page Two

It has been a pleasure to work with you and the Office of Evaluation on this contract. If appropriate, we would be happy to assist you further as you decide on the proper course of action for the Office of Evaluation in the field of Rapid Assessment of Shelter projects.

Sincerely,

A handwritten signature in black ink that reads "Joseph E. Arington". The signature is written in a cursive style with a large, prominent initial "J".

Joseph E. Arington
Vice President

JEA/lcj

Enclosures

PPC/IQC/USAID
SOD/PDC-C-0395

**HOUSING ISSUES AND IMPACTS:
A REVIEW OF THE LITERATURE
AND
GUIDELINES FOR RAPID ASSESSMENT
OF HOUSING PROJECTS**

PADCO, Inc.
1834 Jefferson Place, N.W.
Washington, D.C. 20036

August 1981

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INTRODUCTION

A. THE CONTEXT OF THE STUDY

This report is one of a series of discussion papers sponsored by the Office of Evaluation of the Agency for International Development.

The overall purpose of the A.I.D. Program Evaluation Discussion Paper Series is to stimulate thought and dialogue on development problems and to encourage experimentation. Two key factors characterize the series: actual development experience is sought as a basis for opinion and opinion is directed towards policy issues. The papers are meant to be a mix of what is known (from experience and evaluation evidence) and what needs to be known from further evaluative studies.

Because the discussion papers are exploratory, they are not intended to be comprehensive in coverage, conclusive in their argument, or primarily technical in orientation. They are intended to help formulate additional hypotheses for testing and to assess what additional work needs to be done on the problem in order to help stimulate innovative and more effective programming and project design in AID overseas missions and that they will also be of interest to scholars carrying out research on development.

B. OBJECTIVES AND METHODOLOGY OF THE STUDY

This report reflecting renewed AID interest in learning more about the impacts of shelter projects, has been prepared under USAID Work Order No. 1 of IQC No. SOD/PDC-C-0395 signed between the Services Division for the Office of Evaluation and PADCO, Inc.*

The primary objectives of this contract is to prepare a report which:

- o Analyzes the impacts, intended and unintended, of shelter projects of all types,
- o Relates the impacts to specific aspects of shelter projects, and
- o Provides guidance on rapid appraisal methodologies suitable for use in determining impacts.

As called for in the Terms of Reference, PADCO undertook an extensive survey of the literature on housing and of evaluations by the Agency and others of the housing projects. In conducting this survey, a variety of literature was reviewed on evaluation methods, specific evaluations of shelter projects, the general literature on impact criteria, the selection of social indicators for social and economic measurement, general

* The report was prepared by David Oakley, Jerry Erbach and Annie Ringuede with guidance and editorial comments from Joe Arington and Al Van Huyck.

works on perception and on the relationship of people to housing and the built environment as a whole (See Annex III Bibliography).

Overall, the general impression is of a subject of growing interest to agencies and academics and one exhibiting great movement and inevitably some contradictions. Many disciplines are involved and each have their own approaches. These are sometimes difficult to reconcile. Each discipline has its own language and a satisfactory cross-disciplinary language for evaluation has yet to develop. However, there is widespread agreement that evaluation should be a part of the project and program management process.

Of particular importance, the survey of the literature carried out by PADCO resulted in the following conclusions:

1. The amount of published literature of evaluation and specific evaluations of individual shelter projects which relates socio-economic impacts to specific aspects of shelter projects is not very substantial.
2. Evaluation of project execution — that is, of project inputs and outcomes or outputs — is more readily undertaken than the evaluation of effects and impacts.
3. A strong impression is given by the literature that both input/output and effects and impacts evaluation take a great deal of time — indeed many years of measuring. Of the two, there is most hope for developing simpler methods of measurement for input/output evaluation, since this deals with more direct issues than does the evaluation of effects.
4. The literature does not lead at all to the notion that evaluation will, in the foreseeable future, be reduced to a short time period. Rapid assessment of housing impact will, therefore, develop as a topic in its own right. It will not be evaluation. It will have to develop its own levels of confidence and acceptance.
5. Finally, in this regard, there is virtually no literature written on the subject of rapid assessment or appraisal of shelter projects. This is in despite of the current interest and research of many experts in a variety of development fields in rapid appraisal methodologies.

The above conclusions reached over the initial stage of work, served to orient focus on the remaining stages of work and the organization of this Report. While the Terms of Reference emphasized the need to review published literature in order to ascertain the effects caused by low income housing project implementation on the beneficiaries and to relate these (assuming this to be possible) to specific aspects or components of the project (services, utilities, public health, etc.), the paucity of directly relevant literature or housing required that the available published sources be fully complemented with interviews conducted with professionals in the field of housing. The extent and

importance of these "non-codified" sources became much more important than was originally anticipated.*

Drawing upon the existing literature survey, complemented by the experience of many professionals in the field of housing and evaluation and based upon its own previous experience, PADCO has drawn lessons for future project and program assessment design: (a) from each project analysis; (b) from cross project comparison and analysis; and (c) from comparisons between program and project outcomes and policy intentions.

Further, and most importantly, this report concentrates upon the need to offer guidance on suitable rapid assessment measures of specific variables (or social indicators) so that the extent of impacts can be obtained from a reconnaissance type assessment field trip (three to four weeks per visit).

C. EVALUATION APPROACHES AND METHODOLOGIES

In evaluation and in rapid assessment, effects and impacts are accessible from many points of view. Key among these are:

- o That of the individual beneficiaries.
- o That of key informants such as community leaders, employers, project leaders and political and administrative leaders.
- o That of the concerns of implementing agencies.
- o That of the concerns of financing agencies.
- o That of the individual evaluator or assessor.

Each point of view will result in a different perspective according to institutional, cultural, personal and other bias and social and economic background.

In addition, each impact will affect differently various groupings of beneficiaries (individual, family, household, neighborhood, community) both in the project and outside in the adjacent community. What is perceived as positive by one grouping of beneficiaries may be perceived as negative by others.

* The writers of the report are grateful for the assistance of those at USAID, particularly at the Office of Housing, international agencies, consulting firms and individuals who not only made publications and information available, but who also allowed review of "in-house" documents of work in progress and discussed their impressions of the current state-of-the-art. Given the limitations of published relevant literature in the field of housing, this assistance was essential to the preparation of an overview of the Issues and Impact Categories and the formation of a perspective on the topic of rapid assessment which would meet the special needs of the USAID Office of Evaluation.

Particularly noteworthy is the research in the field of evaluation of housing which the World Bank has been conducting since 1975. While none of its findings have been published yet, conversations with the researchers were very enlightening and have strongly reinforced some of the basic conclusions reached by the PADCO Study Team.

1. Types of Impact

There are three types of impacts. That this is so colors the approach to interpretation of the literature on evaluation. It also assists in the setting of priorities in a field in which everything seems to be intertwined with everything else — housing.

Direct Impacts are the direct result of a project. They can be readily observed and easily measured: type, quantity, quality of housing, infrastructure, density, means of transportation, schools, markets, open space, provision of services.

Indirect Impacts result from the new physical surroundings and changes in accessibility, changes in the human and natural environment, financial institutional changes, etc. They are more difficult to assess, are always not quantifiable and generally more subjective. They cannot be observed at a glance. They include: changes in family life, consumption patterns, health and nutrition, education, participation, community stability and security, income and expenses, work opportunities, productivity, etc.

Intangible Impacts are changes in social outlook, political concerns, in attitudes to development, work and play.

2. Evaluation Approaches

These are varied and employ a wide range of investigatory techniques stretching from the most sophisticated of models and surveys, plus extensive use of computing, to the most commonsensical and judgmental. All theory, and all techniques rooted in measurement, assume a series of measurements over many years; and considerable experience on the part of the evaluators in analysis and interpretation.

This has little immediate application to the topic of rapid assessment. However, evaluators have helped to describe the field, demonstrate the complexity of linkages between man and his built environment and draw attention to the simplistic nature of the assumptions that underpin input/output evaluation. The evaluation of effects and impacts is seen to be less firmly rooted in appropriate theory than input/output evaluation.

The report leads to the identification of techniques for obtaining the most accurate "snap shots" by rapid assessment, through the use of "proxy" measures from which standard of living impacts can be inferred (i.e., health conditions of the population can be assumed to be improved if water supply is improved, sanitation systems are working in place, drainage systems are adequate and health facilities are available and operating).

SUMMARY

A. OVERVIEW OF LITERATURE

There is a wide spread of evaluation and housing literature. The sources of the literature are in many disciplines. There are many theories and many pragmatic approaches. However, there is widespread agreement that evaluation should be a part of the project and program management process; and that effective evaluation takes time and money. The general impression is of a subject of growing interest to agencies and academics and one exhibiting great movement and inevitably some contradictions. Many disciplines are involved and each have their own approaches. These are sometimes difficult to reconcile. Each discipline has its own language and a satisfactory cross-disciplinary language for evaluation is yet to develop.

Evaluation of project execution — that is, of project inputs and outcomes or outputs — is more readily undertaken than the evaluation of effects and impacts. A strong impression is given by the literature that both input/output and effects and impacts evaluation take a great deal of time — indeed many years of measuring. Of the two, there is most hope for developing simpler methods of measurement for input/output evaluation, since this deals with more direct issues than does the evaluation of effects.

B. IMPACT CATEGORIES, EFFECTS AND ISSUES

The literature does not lead at all to the notion that evaluation will, in the foreseeable future, be reduced to a short time period. Rapid assessment * of housing impact will, therefore, develop as a topic in its own right. It will not be evaluation. It will have to develop its own levels of confidence and acceptance.

A review of project effects and impacts as found in the literature is presented under the following themes: (1) Affordability; (2) Real Estate Value; and (3) Social Potential. A summary of the outstanding issues under each theme appears below under each project component or variable considered.

C. A REVIEW OF POTENTIAL IMPACTS OF HOUSING PROJECTS BY THEME

1. Affordability

A major concern at present surrounding a design of low income housing projects is their affordability to the defined target group. Project design on the basis of affordability is seen as the only way that projects can be repeated or "replicated" in the future without resorting to subsidies. Because building costs have historically risen faster than household income in many inflation-prone economies, housing projects run the

* The Terms of Reference call for guidance on rapid "appraisal" methodologies. The substitution of "assessment" throughout this Report is intended to clarify the ex-post nature of the project reviews to be carried out by USAID.

risk of becoming unaffordable to the original design group when there are significant delays in implementation. Several criteria are used, often in combination, to assess the affordability of a completed project to the target group. These criteria generally include: an analysis of project assumptions concerning the original target population with respect to defining monthly household income (earned income plus gifts and other transfer payments) and the percentage of monthly income from all sources which a household is able and willing to spend for housing related services, the rate of housing construction and consolidation, defaults on loan installments and the rate of turnover.

a. Household Income

Past evaluations of housing projects note that there are many pitfalls inherent in attempting to determine household income. A respondent household may genuinely not know its total income or may give mistaken information in order to minimize a perceived risk of higher taxes. In addition, beneficiary selection criteria which stipulate a maximum allowable income for a particular project often result in a household underestimating its income in order to qualify for the selection process.

Issue

Increments in household income of the prospective project beneficiaries should also be estimated for the first 4-5 years of the life of the project. These projections are particularly important where the financing mechanism used to recover project costs employs an increasing monthly or yearly amortization payment based on a variable interest rate, indexing of the outstanding loan principal, ect., yearly increases called for in household amortization payments must be compared with projected increases in family income in order to evaluate the family's continuing capacity to afford the housing solution proposed in initial project design.

b. Access to Credit

It has been acknowledged that credit from regular financing institutions such as banks or loan associations is virtually inaccessible to most low-income households. Many sociologists and anthropologists have reported, however, the use of informal systems with high interest rates. These informal credit systems tend to put borrowers in a very precarious financial position.

Also, the literature mentions that households rely on their extended families for financial help, especially when faced with a non-routine expense or investment possibility such as the purchase of a piece of land, construction loan, etc. Repayments are in cash, goods or with direct services.

Based on the improvements in public services and access to secure land tenure, homes in many upgraded and sites and services projects quickly experience a substantial increase in value. It can be assumed that the owners of such homes are in a better position vis-a-vis the financing institutions to obtain credit. This encouraging situation does not, however, apply to renters (except perhaps for consumer credit) or squatters who still generally lack sufficient collateral to obtain credit from a formal financial institution.

Issues.

Though some studies and some evaluation reports mention credit-worthiness, few, if any, focus on the impact housing may have on household access to credit.

c. Consumption Patterns

Most studies concerned with the economic impact of low income housing projects deal with income and expenditures rather than with the potential changes in consumption patterns that reflect a change in income and/or expenses.

One can infer from studying the literature that in a project where people have seen their income rise, and where housing costs and other necessities have not increased as much, or even diminished, then households have benefited, and are able to increase their consumption of goods or save for deferred consumption.

On the contrary, despite the low income/rent ratio, most low-income families have had difficulty in paying rent. The decrease in consumption can reach a level where they outweigh the increased benefits provided by the projects.

Issues.

Many changes in consumption patterns are not readily observable. To detect those changes over time, use should be made of longitudinal studies.

d. Control of Capital Assets

This cross-cutting theme is much related to real estate valuation issues. It is a hidden part of official aid policy that aiding a household to obtain a capital asset puts it in the market to obtain further capital assets, i.e., a home-owner is more able to negotiate and obtain credit.

Issues.

Appraisal is required in order to determine whether or not the target group identified has been helped to enter the credit market through obtaining and holding a stake in a housing project.

2. Real Estate Value

This concept includes a wide range of factors such as:

a. Location and Environment

Potential impacts of site location on project beneficiaries are now carefully

addressed in the project design and implementation phases. Thus site location is considered mainly as a 'given' in most project evaluations. This strong concern for site location results primarily from early experiences with projects which failed because sites were badly located. Perhaps the most important aspect of site location is its accessibility to employment. Other important considerations include physical land characteristics, proximity and availability of off-site infrastructure services and the incorporation of the site within an overall urban development plan.

Because sites are normally selected with these criteria in mind, the literature survey had very little to say about the impacts of site location.

Issues.

Impacts on beneficiaries provoked by air and water pollution or those concerning the destruction of vegetation have not yet been treated in the literature on low income housing projects in developing countries. Even though some of these issues might be addressed in the site selection process, the desire to locate projects near areas of employment and the fact that some squatter upgrading schemes are located in environmentally precarious areas, points out the need to continue the analyses of site location into the project evaluation phase. While there is also considerable interest and literature on the impacts of development projects on the environment, these too have not yet been systematically applied to housing projects in developing countries.

Other outstanding issues include the effects of development on water pollution and runoff, increases in air and noise pollution, and aesthetics.

b. Land Tenure

The research and literature concerning the impacts and importance of land tenure are continually growing. The inducements necessary to promote housing consolidation and improvement have been found to be based more on the security of tenure than on any particular form of tenure or actual ownership. For sites and services projects some form of fee simple ownership or long term lease is normally used and seen as having positive effects.

In upgrading projects, types of tenure are often much less clear. Even though laws and land registration systems attempt to clearly establish the legality or illegality of site occupation, customary law, land use rights and political considerations often render the one-project situation uncertain. Consequently, the degree of housing consolidation and improvement is induced by having a belief in the security of tenure.

Where security of tenure exists, the overwhelming majority of families have been willing to make considerable outlays for the improvement of their shelter. This phenomena has been experienced in virtually every project. Housing standards are often considerably higher than expected as well, with a large proportion of buildings built in solid materials.

The provision of tenure also has significant impact on land values and land use, both in and adjacent to the project site.

Issues.

The improvement of methods of assessment and measurements.

c. Physical Installations

i. Roads

The literature survey revealed very little information concerning the impact of residential roads on project beneficiaries. Where roads are mentioned in some detail emphasis is placed on their physical characteristics, costs and problems of maintenance. Several studies pointed out that even small, relatively unused residential roads of low grade materials had rapidly deteriorated due to the lack of maintenance. Upgrading studies generally cite the importance of roads to allow for the collection of garbage and the passage of emergency vehicles. None of the studies attempted to compare residential roads with automobile ownership or with the development and location of commercial activities and/or cottage industries.

ii. Paths

Like roads, paths are most often described in terms of their physical characteristics, costs and maintenance. Little is known or published about their impacts on beneficiaries or the advantages or disadvantages of pedestrian access.

Even though paths are considered as a cost-effective solution to providing access to plots in low income housing projects, very little evaluation of their performance and role in neighborhood development has been done.

iii. Drainage System

Another basic assumption of Sites and Services and Upgrading projects is that better drainage will reduce the risks of standing water and flooding and thereby increase beneficiary health and neighborhood satisfaction. A survey of the literature, however, was unable to find any systematic assessment of the impacts of good drainage. Poor drainage and the lack of maintenance were expressed as negative elements of satisfaction in a few instances.

iv. Fresh Water Supply

Fresh water supply is consistently cited by beneficiaries in low income housing projects as being one of their most important needs. Little research however has been published on how the provision of potable water affects their daily activities and health. It has been noted in some situations that the change from standpipes to individual water connections has had a significant impact on the social interaction and household activities of women.

v. Sewerage and Sanitation

Improvements in sewerage and sanitation are also considered to have significant impact on personal health and neighborhood satisfaction. Once again no published studies were found dealing directly with impacts on beneficiaries of improved sanitation. Studies did show however, that the use of communal facilities have generally proven to be unsuccessful and that occupants prefer to have their own more convenient and private facilities even if they have to provide them on their own.

vi. Electricity

In addition, no household surveys were found which considered the impacts of electricity on the beneficiaries. Studies of rural electrification however showed that an eventual increase in the possession of durable goods, such as refrigerator, iron, radio-cassette and television can be expected. Changes in family activities will also occur since electricity will allow more household members to do things after dark by illuminating more areas of the house.

vii. Street Lighting

Virtually no information was found in the literature survey concerning the impacts of street lighting, even though its presence was often considered by project beneficiaries as having a positive effect on crime and the overall attractiveness and modernization of the neighborhood.

Issues.

In general, there is little information on the direct impacts on beneficiaries of specific elements of physical infrastructure. The positive aspects of roads, paths, potable water, sewerage and street lighting are generally assumed. Most present project evaluations are only concerned with whether or not these elements are in place. In addition, most projects have not been occupied long enough to make a full evaluation of the impacts possible. Some issues which need to be reviewed would include: how improved accessibility affects land values, employment opportunities and business activities; how a road layout can be evaluated for its efficiency and cost-effectiveness; and the direct impacts of potable water, sewerage and electricity on households.

d. Housing Quantity and Distribution

Past project evaluations usually attempt to measure the impact of the project or program on the overall housing stock of an urban center. In addition, a detailed estimate relating housing programs to housing need by type of housing solutions and target group is usually made during the project programming and justification stage. This topic can also be referred to during evaluation.

Recent studies and evaluations of completed projects have indicated a strong desire by homeowners to increase their incomes through renting part of their dwelling unit, even in situations where official restrictions exist against it. Where they exist, a large number of rented units can lead to higher densities than originally anticipated and cause crowding.

While the impact of crowding on health and social interaction has been the object of several studies, one of the more significant studies has indicated that crowding in itself produces very few consequences.

A better understanding of planned and actual densities will help determine the accessibility to beneficiaries of public facilities and services and also provide guidelines for improved planning in the future.

Issues

Some outstanding issues would include the overall impact on housing distribution resulting from national housing institutions now working with the affordability approach; identification of problems arising from differences in planned and actual densities; and what possibilities exist for speeding up occupancy and reducing double rents.

e. Housing Quality

A stated and essential objective of virtually all types of low income housing projects is to improve the quality of housing for the defined target group population. The literature survey showed that most project evaluations attempt to examine, in one way or another, the major changes and impacts of the project on housing quality, both in terms of the benefits to the individual project beneficiaries, as well as percentage improvements in the overall housing stock of the community. The criteria most frequently used to determine impacts include: 1) directly observable physical aspects such as building condition and materials, and the provision of urban services; 2) the satisfaction of the inhabitants as expressed through attitude surveys and realized in the maintenance and/or improvement of the dwelling unit; and 3) the estimated value of the house as determined from owner estimates, from analysis of real estate and rental markets, or from a combination of both.

Issues

While the housing value approach reflects very well the idea of housing as an investment, it may not always be suitable for one time evaluations concerned with the progressive development found in self-help housing and neighborhood upgrading.

With sensitive observers and a systematic approach, the physical assessment of housing quality can be accomplished in a relatively short time.

Issues concerning housing quality which still need to be resolved would include among others: the importance of housing quality to occupants at different stages in their life styles; the relationship between

housing quality and tenure; the potential of housing value as an indicator of overall impact, and the demonstration effect on adjacent private development and housing quality.

3. Social Potential

a. Work

The relationship between work and housing is a question of employment opportunities, accessibility to work places and productivity.

If a project is located near sources of employment, i.e. city downtown, industrial park, large factory, market, etc. the effect on employment is likely to be positive. On the contrary, if the project is located far from the urban center and employment opportunities, the high costs of public transportation or lack of transportation will render finding employment difficult and uneconomical, especially for people working in the informal sector or traders or craftsmen relying on a neighborhood clientele.

On a project site itself, there is usually a substantial amount of beneficiary employment generated by the construction and upgrading of houses and infrastructure. This is however of limited duration and does not apply to contractor built houses or apartments.

Overall changes in employment and their impacts on family revenues cannot be easily detected especially since low income households rely heavily on informal activities to sustain themselves.

An area which is even more difficult to evaluate is the relationship between improved housing and productivity. There have been several studies on this subject. The results have not been very conclusive due to the fact that improved housing by itself have not been shown to affect productivity.

Issues.

It is probably not possible in a short time to measure the impacts of improved housing on productivity. Over a decade or so some important linkages may become apparent. Immediate project related impacts, however, may be visible in the informal employment sector. For the most part these impacts will probably be short term and will concern the disruptions to informal employment due to the change of location, start up times of new craft industries and the lack of an adequate clientele. An understanding of some of these mechanisms would be worthwhile.

b. Participation

In many circles, community participation has been seen as a solution to the housing problem. Many of the upgrading and sites and services projects sponsored by AID, IBRD, IDB, etc. are designed to take into account the ideas, opinions, needs of the participants themselves, to put their efforts to work directly in the hope that the input of the participants will insure the projects with a greater success.

In spite of the interest shown the results of these efforts have been discouraging. Participation within existing communities, as is the case with upgrading projects, is difficult and time consuming. It is even more so with sites and services projects where community developers have to confront non-existing or newly created communities which do not yet have any leaders or organizations.

Issues.

While some studies have attempted to examine the type and extent of participation including the power structure on which it is based, the effect of participation on the well being of the individual remains obscure. It has been assumed by some, for example, that social awareness, greater satisfaction and greater care for one's home, neighborhood and environment would ensue. This has in fact not always been the case. Consequently, the ways, if any, in which the possibilities and difficulties in housing help or hinder people working in groups to obtain training, experience and interest in wider participation remain to be examined.

c. Education

An aspiration of many families who migrate to cities and become residents of spontaneous settlements is to increase the chances of their children to receive an education.

Despite the abundant literature on education, there are very few empirical studies carried out to assess the relationships between housing, especially improved housing, and education.

The provision of housing in itself does little to improve education. Accessibility and affordability of schools, teachers, and libraries are essential. The provision of a school program or literacy campaign in a squatter settlement will likely do more in terms of education than improved housing.

However, better housing with proper lighting and opportunities to find a place to read and concentrate on homework will encourage and facilitate good performance in school.

Indirectly, if the impact of housing on health is significant, and therefore absenteeism much reduced, then housing as a result of this has a positive impact on education.

Issues.

Impacts of housing on education are in many ways diffuse and, apart from providing improved potential conditions for undertaking homework, indirect. The impacts take a long time to work through a community and consequently a time of measure of almost two decades may be required. With new projects, measurements have to be limited to the potential for impact (i.e. provision, proximity, affordability etc.). The importance and popularity of adult evening courses is also an issue to be investigated.

d. Vocational Skills

Information concerning the impact of vocational training in association with housing improvement schemes is not easy to encounter. Only a minority of low income housing projects have a formal vocational training component.

Though information is lacking, it could be inferred that the more that housing construction in a project is done through self or mutual help means, the larger the population which is given the chance to acquire additional and possibly marketable skills. If the dwellings are fully built by a building contractor, no benefits will be achieved in terms of gain in skills to the dwelling occupants unless they form part of the formal construction team.

Issues.

Vocational training programs and housing improvement programs have different policies, sources and agencies; coordination of effort, focus on target groups and specific geographic areas is needed if the two are to offer mutual support. Some idea of the types of vocational training encouraged by housing improvement programs should be obtained.

e. Health and Nutrition

It is a common working assumption that a strong relationship exists between housing and health. Many social scientists and health practitioners have tried to relate or measure the impacts of housing on health in the aim to demonstrate a positive relationship (i.e. that improved housing and improved infrastructure result in better health for their users).

The main basis for this argument has been that in developing countries the contamination of food, water or soil with human waste due to the lack of potable water and sanitation facilities favors the transmission of fecally related and fecally transmitted diseases. These diseases are responsible for high infant mortality, illness and premature deaths among adults, malnutrition, low productivity, absenteeism, etc. There are other factors impinging on health beside a deficient or lack of water supply and sanitation systems.

The provision of well-equipped and staffed health care centers, health and nutrition programs, combined with housing, potable water and sanitation systems is very important. It can be inferred that the combination of providing all of the above amenities will optimize the chances of project inhabitants to improve their health and nutrition. It should be mentioned that comfort (thermal, acoustic, visual and spatial) as well as aspects related to mental health are also important, and that house and neighborhood design can influence as well those two sides of health.

It is understandable that these issues have not been taken into consideration as much as they should when one is preoccupied with providing the very basic amenities of housing and health care.

Issues.

While in theory it has been widely accepted that improved housing has a beneficial impact on health, field observers have experienced difficulty in trying to prove this view. Very often no change or even a negative impact has been recorded.

f. Satisfaction With House or Neighborhood

Satisfaction with one's dwelling and neighborhood is very subjective depending on past experiences and present expectations. This makes the examination of this topic quite difficult.

Issues.

While some changes in the quality of life spring up overnight, others do not, making the evaluation of long term satisfaction unmeasurable over a short period of time and particularly so just after project completion. Even though expression of satisfaction can change abruptly, inhabitants are often intimately aware of what makes their environment a good or bad place to live. An important issue to resolve concerns the relation between the life cycle stage and adaptability of the beneficiaries and their satisfaction with a particular type of neighborhood and environment.

g. Family Life

It is generally recognized that housing on a unit, as well as on a cluster or neighborhood basis, exerts considerable influence on the stability and integration of the family. Does change in housing conditions change family activities, customs, harmony, etc.?

The United Nations reports that in fact very few empirical studies have been carried out to establish the influence of improved housing quality on family life.

Issues.

Satisfactory family life is very difficult to measure although the measurement of the impact of increased living space on family relationships offers an indicator. The topic is closely related to the expression of general satisfaction with house and neighborhood, freedom from fear of crime, etc.

h. Self Help

Self-help and mutual aid concepts were institutionalized on the basis that disadvantaged households who could not afford contractor built housing could still have access to their own private dwelling if they took care of the construction themselves.

Self-help and mutual aid may in some contexts contribute to the development of social stability and security.

Issues.

Self-help practices of traditional societies must be thoroughly investigated before they are institutionalized into formal housing projects. The social "glue" can be quite different. The economics are usually quite different.

The contributions of households to the self-help process is difficult to measure statistically, but interviews with particular families would be illustrative and suggest the format for mini-surveys.

i. Crime

Many low income areas all around the world are plagued with crime. People with socioeconomic mobility tend to leave their neighborhoods when the crime rate increases seriously. However, low income people do not have this mobility and need to rely mostly on community organization to combat crime.

Issues.

The interrelationships between crime prevention and improved housing are established in the literature, but they are indirect and hard to measure. Measurements have to be over a decade or more in order to identify a general long term trend. Some changes, however, can probably be traced over a shorter period of time. However, the durability of these changes cannot be assumed.

D. CONCLUSIONS AND IMPLICATIONS FOR RAPID ASSESSMENT OF SHELTER PROJECTS

There is no direct reference in the literature to the rapid assessment of the social impact of low income housing. A broader reading on general sources dealing with evaluation provides access to the topic. These sources are drawn from many disciplines and cross disciplinary studies. Even the available literature on the evaluation of housing projects is quite limited. It deals mainly with the efficiency with which projects were implemented (i.e., inputs and outputs) rather than their social impact once implemented.

Some of the lessons learned from a study of the literature which provided the basis for formulating guidelines on rapid assessment methodologies include:

- o Housing project evaluation takes a long time to pre-plan and organize and often many years to carry through.
- o The literature is multi-faceted and in flux, contains contradictions and many languages of description, stemming from the wide range of disciplines.

- o There is a lack of binding social theory, or evaluation theory, either for project efficiency or social impact evaluation and assessment. Disciplines have their own theory in accord with interests.
- o There are three types of effects and impacts: direct, indirect, and intangible.
 - (a) Direct. The readily observed and easily counted (e.g. type, quantity and quality of houses, infrastructure, density, schools, services, etc.
 - (b) Indirect. Those that result from the creation of the new physical surroundings — the outcome of the project. They are changes in household living patterns, institutions, etc. They are more difficult to measure and interpret.
 - (c) Intangible. Changes in social outlook, in attitudes, in motivations and interests.
- o Selection of the indicators to measure direct impact is not easy; for the indirect less easy still; and for the intangible very difficult indeed.
- o The lack of confidence in the ability to measure accurately the indirect and intangible effects means that in practice very large samples have to be studied, over many years and at scales larger than any housing project (i.e. citywide or nationwide). Where "answers" are required for a project within a few years of occupancy, then one can only draw attention to the potential offered (i.e. better roofs, closeness of health clinics, clean water supply). Some correction of first impressions is possible through inter-project comparison.

1. Implications for Rapid Assessment

Most project assessment undertaken over a few weeks cannot be considered an evaluation. There is no possibility of complying with the procedures that dominate evaluation, i.e.:

- a. Measures taken over a time series.
- b. Cross checking through a statistical comparison of many indicators per variable assessed.
- c. The use of sample surveys.
- d. Frequent reviews of method.

It has to be accepted that the literature of evaluation offers very limited guidance as to how to undertake a rapid assessment, or what to do concerning the selection of impact indicators. What to do in undertaking a rapid assessment has to be constructed

from sources other than the literature of long-term evaluation. This literature can serve as a background against which to identify issues.

2. Field Approaches to Rapid Assessment Post Project

At the outset, there is a conflict. If we focus, as seems wise, upon the measurement of direct impact measures (i.e., very close to the measurement of outputs) such as the numbers of people, houses, numbers per dwelling, the number renting out parts of their dwelling, the numbers that have left the project and sold or rented out their dwelling, the numbers in work, etc., we will learn much; but not reveal some of the policy trajectories that were sought in the project. These policy themes may be summarized as being:

- a. The need for affordability.
- b. The belief in giving access into the urban economy through assisting in the development of a real estate asset of value.
- c. The offering of social potential for personal, family and community development.

These three themes thus shape the field assessment work, analysis, interpretation and report writing.

It was not an explicit intent of the terms of reference for the rapid assessment of housing impact on households that economic issues should be featured. But, the undertaking of social impact analysis of housing without reference to the nature of the target group and the costs they incur per developed lot or dwelling is to avoid central issues.

In undertaking a rapid post-project assessment, a balance will need to be kept in the consideration of the three themes and a balance between reading direct and indirect indicators.

(1) Affordability

This concept is constructed around the question of "are the households in a state of equilibrium" (i.e. willing and able to pay for the house and services offered within the terms and rates charged).

Indicators include:

- (a) Change in percent of income going into housing.
- (b) Rate of turnover (do people have to move because of the cost of purchase or rent).
- (c) Pattern of household expenditure (are people giving up expenditure on other necessities to afford the house).

- (d) Level and length of arrears in monthly payments.
- (e) Pattern of income generation (taking in renters, so overcrowding rooms and impacting health potential of the project adversely).
- (f) Rate and level of house completion by those original purchasers still in the project.

(2) Real Estate Value

This concept is an effective measure in principle of the impact of a housing project.

Influences include:

- (a) Plot size.
- (b) Position/location/access.
- (c) Density of urban facilities — schools, health clinics, markets (absolutely and relative to citywide standard).
- (d) Market availability of mortgage funds.
- (e) Number of buyers in the market.
- (f) Scarcity of dwelling type.
- (g) Quality and suitability.

(3) Social Potential

Indirect questions that ask, for example, what proportion of households have improved health as a result of the project are virtually incapable of being answered, even within the framework of extensive evaluation programs. The focus, therefore, will be on the measure of potential developmental impact offered by the project, avoiding in rapid assessment those indirect impacts which are very difficult to measure.

The implications of the focus on the measurement of potential is illustrated by such indicators as:

- (a) Accessibility to medical facilities.
- (b) Reduction in the sources of potential illness.
- (c) Percent of households undertaking house completion through self-help.

3. Guidelines for Undertaking an Assessment

a. Orientation

Three aspects are significant:

- (1) Orientation towards the constraints offered by the severe limitation on time.
- (2) The need for the assessing team to establish its particular purpose in the light of purposes given by others:
 - (a) In order to help limit the number of measures to be taken.
 - (b) In order to be able to prepare a draft report before leaving the country visited.
- (3) The need to re-establish, prior to the field visit, the way that the report will be put to use (i.e. to improve the relevance of policy and to improve the design of projects).

b. Recognition of Type of Project

There are four types of low income housing projects.

(1) Walk-Up or High-Rise Apartments

They are characterized by: (a) complete urban infrastructure including water, sanitation, electricity within buildings; and (b) multi-level buildings (up to four stories for walk-up).

(2) Sites and Services Projects

These are characterized by the subdivision of a site into plots and the servicing of this site: (a) infrastructure (the level varies greatly from communal standpipes and sanitary facilities, open sewers and unpaved roads to individual water, electricity and sewerage connections and paved roads); (b) type of dwelling (it varies from core house to full house, built either by self or mutual help or contractor); (c) materials loans often are an integral part of such projects.

(3) Neighborhood Upgrading

It is characterized by the general improvement of the existing urban habitat. It is the only type of project that does not involve a major relocation of the project beneficiaries. It usually implies an improvement in roads, street lighting, supply and sanitation systems in houses (i.e. consolidation of existing houses) with help offered through materials loans.

(4) Rural Housing

It is characterized by the small scale of the projects and their location in rural areas.

Any of the above types (except rural housing) may be accompanied by provision of community facilities and services such as schools, markets, health centers, community centers, etc.

Size of project (i.e. number of households effected) will be an important aspect of this type.

c. Social Indicators and Project Type

Project objectives and project type offer forceful guidance as to which variables and indicators to first consider under the three themes of affordability, real estate value and social potential.

For example, a sites and services project providing a core house, an associated building loan program plus a vocational training and small business/craft development program, would include the following social potential indicators relating to:

- (1) Tenure (leading to community stability).
- (2) Paved and drained roads (improved access and potentially healthy environment).
- (3) Piped water to lots (potential for improved health).
- (4) Building material loans (community protection and stability).
- (5) Vocational training (improved productivity and earning potential).
- (6) Small business establishment (development of management skills, access and use of credit and of the newly vocational training).

Factors (1) through (4) will be subject to the further variables of lot size, family income and family size. Two, or at most three, indicators per aspect or variable, should reveal information enough to make a rapid assessment.

d. Field Visit Practice

Three requirements dominate practice:

- (1) The need to organize the work of the team to make the most effective use of the three-to-four week field visit.

- (2) The acceptance of the need to focus on three themes: affordability, real estate value and social potential.
- (3) The need to select a minimum number (say somewhere between 15 to 20) of indicators (See Chapter 4) to illustrate the variables used to explore the three themes.

(a) Preparatory Work

The team will build on the preparatory work that will have been undertaken some months before to ensure that persons in authority are aware of and agree to the assessment objectives. A local representative of the incoming team will have obtained permission to examine records, to visit and survey households, and will have assembled project documents, project implementation records and other data. He will have made contact with a government department or university department that is willing to help with mini-surveys (or will have discovered that this is not a possibility). He will (or will not) have obtained aerial photos.

(b) Work Administration

Once in the country, the team should have an immediate meeting to agree upon the interpretation of their assessment brief in light of the nature of the information collected (or not collected) and the permissions obtained (or not obtained).

Using this immediate brief, the members of the team will now visit the project area, establish its general setting in the city, note in what ways the project objectives appear by reflection from what can be seen, and appraise if the variables and indicators provisionally agreed upon can be tested by sight, interview, photography, etc. and to what degree of confidence.

After this reconnaissance visit, there should be a further meeting to reappraise project characteristics, effects and impacts and to measure further expansion/completion of the plots by households since formal implementation has ended. A more serious effort is made at this meeting to establish the indicators to be used.

In seeking the list of social indicators the team will work from their provisional list and now:

- 1) List those directly and obviously brought about by the project components (e.g. water supply installed).
- 2) List other changes that offer social potential that might be expected to result indirectly from the kind of project.
- 3) Look through the list and select the ten impacts that appear to have potential in providing the most relevant information for shaping future policy. Each team member should select his or her ten impacts independently of the other

- 4) Pool the separate lists to see where there is agreement on key issues and which items that only appear in one persons's list should be added to the action list of social potential indicators, real estate value indicators, or affordability indicators.
- 5) Assemble a list of social indicators ranked in order of importance under each of the three themes.
- 6) Assess whether the team will be able to collect the information on each indicator within the time available.
- 7) Review the list, which should not contain more than fifteen variables each to be measured with at least two indicators, to see how it compares with intentions of project documents and other published statements.

e. Lessons Learned

- (1) Do not attempt more than is possible in the time available. If what is possible in the time available does not meet the needs of the assessment program, then this program eventually will have to be changed or a longer period made available for the project assessment field visits.
- (2) Give judgmental weight in the final report to those aspects which cannot readily be measured. Failure to do this is likely to lead to a skewed report in which emphasis is given to aspects purely because they can be measured readily.
- (3) It is the declared intention that post-project rapid assessment focus upon effects and impacts. These form a continuum in time with the pre-project situation, project inputs and project means and outputs. In order to measure effects, the assessor regresses back through the outputs, the means of project implementation, to the pre-project situation and to project inputs. Not only is the baseline situation required but also a series of measurements at differing time periods (say one year after occupancy, three years and then five to ten years).

Rapid assessment, based on one visit, is thus a resoundingly challenging task, however well it is pre-planned and the visit of inspection tightly organized.

f. Recommendations

- (1) While accepting limitations of accuracy, rapid assessment of housing impact post-project could be more effectively carried through if seen as an element in a continuous assessment system. This would be a management exercise accompanying design, implementation and project follow-up. At a number of key stages from pre-project to project completion, a rapid assessment would be made of pre-identified components and effects and impacts. At the earlier stages of the sequence the emphasis would be on inputs and outputs.
- (2) This management program of assessment would be given strength by being accompanied by a program of evaluation. This would focus on a very limited number of projects but followed through the same set of concerns as the assessment program that covered a far greater number of projects. In this fashion both enterprises could receive benefit from each other. A refining of tools of enquiry should be expected as a result.
- (3) The deep probe type of housing impact evaluation which is followed by the World Bank DEDRB program should be seen as an eventual third source of technique refinement.

PART I: IMPACTS AND ISSUES

CHAPTER 1 IMPACT CATEGORIES AND EFFECTS

In order to obtain and implement low income housing projects funded through international agencies such as USAID and the World Bank, host country governmental agencies have to develop policies and methodologies which are compatible with those of the international donors. This concerns not only the more mechanical aspects of project planning and implementation but also very fundamental issues related to the philosophy and policies of providing affordable housing to the majority of citizens (Table 1).

While much is said in favor of following this joint policy approach, actual implementation will often have very significant consequences on institutions involved with policy and programming decisions, physical planning, financing, public facilities and services, and construction. It will have an important impact on how these agencies are organized, who they benefit, the methods and efficiency with which they work, the equity in the delivery of their product, and the eventual impacts on beneficiaries.

Although it is not within the scope of this report to examine in any detail the impacts of low income housing projects on the development of local institutions, it is obvious that these institutions must be in place and functioning if the social and economic impacts which constitute the object of this study are to take place. There can only be an impact in education for example, if project schools are properly planned for, actually in place and accessible to the target population.

TABLE 1

INSTITUTIONAL FRAMEWORK OF A HOUSING PROJECT

Population it was intended to assist

- o demographic description linked to income levels
- o social mobility of interest

Project setting

- o problem identification that gave rise to project
- o target population, their society and environment and other appropriate baseline information

Project purposes

- o outputs intended, purposes, goals — levels and targets
- o strategy — proposed pattern of implementation

Project implementation

- o history — what actually happened/institutional performance
 - o who turned out to be the beneficiaries
-

In most situations, local agencies will adapt their policies and eventually gear up their administrative capacity to meet the demands of internationally funded projects. Once these tasks are accomplished and experience is gained in providing housing affordable to a specific target group, locally funded projects can also be implemented following the same approach. A more sensitive "fit" between environment and the target group will occur and create a better opportunity for positive social and economic impacts.

A. PRESENTATION OF THE LITERATURE UPON IMPACTS

For access and use, the literature on evaluation can be structured in any number of ways according to the interest of a readership and/or the level of presentation to be adopted.

A focus of study upon the specific impacts of housing projects on the lives of the people housed suggests that the central concerns of housing projects should be taken as the scaffolding which will support a structured review of impacts. These central project concerns are identified here in order to facilitate an orderly and coherent review of the impacts and their relationship with specific aspects of shelter projects, as well as to set the basis for the identification of guidelines on rapid assessment methodologies suitable for use in determining impacts (See Chapters 3 & 4).

- o Affordability
- o Real Estate Value
- o Social Potential

The terms of reference for the study emphasize the study of social impacts but unless a project is affordable by its target population it will fail to complete housing cores, fall behind in payments, sell off lots to higher income groups, or rent out, or partially rent out, their properties. Any of these actions has serious social repercussions and may undermine the project intentions. Economic issues are therefore central to social concerns and cannot be left to one side even in the most narrow of assessments.

Table 2 sets out under the three thematic topics the project components that are frequently encountered, although no project will contain them all. Not all the concerns listed in the Terms of Reference are covered in the table (except by implication under the name of another heading), i.e., morbidity, mortality, nativity and migration. These are excluded since neither by evaluation nor rapid assessment can they be measured on the basis of a single project or even a number of projects in one city or country. The statistical base is too small, and the suggested time period of assessment, a few years after project occupancy, is too short a period to show up impacts of this nature.

Measured at the level of city or nation and over periods of decades, death rates for adults and infants may be expected to drop as a result, among other causes, of a general improvement in housing stock, water quality and sewerage services. (1) Similarly, individuals are likely to be less obviously ill from water borne and diseases of room overcrowding where the housing stock reflects more closely the population size, family sizes and ability to pay for housing and medical service. (2) It is many years, even decades, before such trends appear in statistical tables drawn from census data and surveys. Migration may be accelerated by the news that improved housing is available in a particular city but it would be very difficult to track this down through surveys or statistical analyses.

It is obvious that there is an overwhelming move from rural areas to cities in LDC's. This is due to many factors other than the opportunity for improved housing. People have arrived by the millions to cities well beyond their capacity to cope. Some speculate that it is the "bright lights" that draw them. Others, perhaps more realistically in the knowledge that there are push factors that eject people from rural areas, have proposed that there are three reasons people migrate to the cities: work, work, work. (3)

TABLE 2

**THEMATIC ORGANIZATION OF IMPACT AREAS
OF HOUSING PROJECTS**

Affordability

- o household income
- o access to credit
- o consumption patterns
- o control of capital assets

Real Estate Value

- o location and environment
- o land tenure
- o physical installations
- o housing quantity and distribution
- o housing quality

Social Potential

- o work
 - o participation
 - o education
 - o vocational skills
 - o health and nutrition
 - o satisfactions with house or neighborhood
 - o family life
 - o self help
 - o crime
 - o recreation (social events)
 - o social services
 - o technology
-

**B. A REVIEW OF POTENTIAL IMPACTS OF HOUSING
PROJECTS AND THE ISSUES RAISED BY THEME**

To describe the literature of impacts under the thematic headings is a device of convenience. Early literature on project design and evaluation assumed a close relationship between a specific input and outcomes. Later literature recognizes the

interrelatedness of input and outcomes and the difficulty of relating one to another without reference to the whole project structure and the pre-project condition of the household served.

General areas of consensus within the literature concerning potential impacts are briefly summarized by theme, indicating the effects and the ways in which such influence is felt. Areas of concern or ambiguity are then raised as issues. Finally, the report suggests evidence that might be sought on USAID project visits to resolve the general and specific issues raised.

Since the nature and availability of data differs from country to country and from project to project, depending on the amount and accuracy of data available, etc., the types of evidence desired to shed light on the impact will differ. Suggestions for evidence collection and proxy indicators will have to be adapted to the specific situation and data availability. Guidelines for the implementation of rapid assessment methodologies are provided in Part II of this Report.

1. Affordability

A major concern at present surrounding design of low income housing projects is their affordability to the defined target group.* Project design on the basis of affordability is seen as the only way that projects can be repeated or "replicated" in the future without resorting to subsidies. Because building costs have historically risen faster than household income in many inflation-prone economies, housing projects run the risk of becoming unaffordable to the original design group when there are significant delays in implementation. In order to evaluate whether or not a completed project benefits the original target group, the number or percentage of dwelling units affordable to or occupied by the target group is usually measured. According to an on-going evaluation by an international donor agency, most projects completed to date seem to have been successful in substantially benefitting the original target group. In this respect, affordability criteria and beneficiary selection procedures have apparently been successful in resisting the encroachment pressures from middle- and upper-income households.

Several criteria are used, often in combination, to assess the affordability of a completed project to the target group. These criteria generally include: an analysis of project assumptions concerning the original target population with respect to defining monthly household income (earned income plus gifts and other transfer payments) and the percentage of monthly income from all sources which a household is able and willing to spend for housing related services, the rate of housing construction and consolidation, defaults on loan installments and the rate of turnover. Few existing project evaluations cover all of these criteria in great detail, but to date, only one project has been

* A particular housing solution (some combination of the provision of urban services, core unit and building materials loan) is said to be affordable when the monthly payment a prospective beneficiary is able and willing to pay for shelter expenditures is sufficient to cover the monthly costs required to provide this housing solution.

identified as seriously falling short of its objectives. Because unrealistic aspirations of both project planners and inhabitants were defeated by inflation and rapid rises in construction costs, a major project in Senegal remains largely unoccupied. (1) Several models and techniques have since been developed which relate project standards and financing to affordability in order to avoid similar problems in future projects. (2)

a. Household Income

Past evaluations of housing projects note that there are many pitfalls inherent in attempting to determine household income. A respondent household may genuinely not know its total income or may give mistaken information in order to minimize a perceived risk of higher taxes. In addition, beneficiary selection criteria which stipulate a maximum allowable income for a particular project often result in a household underestimating its income in order to qualify for the selection process.

Definitional inaccuracies also account for discrepancies in establishing household income. Many housing programs equate the earned income of the head of household with total household income. This approach fails to recognize the substantial quantity of household income, especially among the lowest income ranges, which is derived from other sources such as part-time informal sector employment of other family members, gifts and other transfer payments. Additional income can also be generated as a result of the project.

A good example of household income generated by the project is found in the case of Las Colinas in Bogota, Colombia. In his study (1), Edward Popko reports that since the upgrading of this spontaneous settlement significant changes have taken place. Almost 30 percent of the entire barrio population is renting out part of their property. These householders create a new landlord class with a highly liquid source of income. This additional income might affect the affordability calculations for the project beneficiaries.

Issue.

Increments in household income of the prospective project beneficiaries should also be estimated for the first 4-5 years of the life of the project. These projections are particularly important where the financing mechanism used to recover project costs employs an increasing monthly or yearly amortization payment based on a variable interest rate, indexing of the outstanding loan principal, etc., yearly increases called for in household amortization payments must be compared with projected increases in family income in order to evaluate the family's continuing capacity to afford the housing solution proposed in initial project design.

Evidence.

- o To provide information on revenues.
- o Monthly family income (including informal sources).
- o Salary of head of household.

- o Percent of households receiving revenue from rental units within neighborhood.
 - o To provide information on expenditures.
 - o Expenditure patterns; ability to purchase basic necessities.
 - o User rates for utilities.
 - o Changes in expenditures related to housing.
 - o Changes in local income taxes.
- b. Access to Credit

It has been acknowledged that credit from regular financing institutions such as banks or loan associations is virtually inaccessible to most low-income households. Many sociologists and anthropologists have reported, however, the use of informal systems with high interest rates. These informal credit systems tend to put borrowers in a very precarious financial position.

Also, the literature mentions that households rely on their extended families for financial help, especially when faced with a non-routine expense or investment possibility such as the purchase of a piece of land, construction loan, etc. Repayments are in cash, goods or with direct services.

In some of the housing projects undertaken by AID and the World Bank, there is a home improvement and/or construction material loan program. These loans enable households to afford investments in housing that they could not afford previously, not for lack of income, but due to an inability to save the required large sums of money required for initial purchases. Other projects offer a small business loan component which would provide the beneficiaries with sewing machines, tools, refrigerators, etc.

The UN, in its study of 23 housing projects in Colombia, noted the "urgent need to undertake a co-operative organization program. Credit and consumer co-operatives would not only help to avoid the proliferation of unproductive shops, but would also alleviate to a great extent the economic difficulties caused by low family income." (1)

Based on the improvements in public services and access to secure land tenure, homes in many upgraded and sites and services projects quickly experience a substantial increase in value. It can be assumed that the owners of such homes are in a better position vis-a-vis the financing institutions to obtain credit. This encouraging situation does not, however, apply to renters (except perhaps for consumer credit) or squatters who still generally lack sufficient collateral to obtain credit from a formal financial institution.

Issue.

Though some studies and some evaluation reports mention credit-worthiness, few, if any, focus on the impact housing may have on household access to credit.

Evidence

- o Types and uses of loans granted project beneficiaries.
- o Percent of households receiving credit for housing construction.
- o Percent of defaults on loans.

c. Consumption Patterns

The question has been raised as to whether participation in housing projects would or would not have a negative impact on consumption of basic necessities such as food or medicine or other non-basic consumption items as well.

Most studies concerned with the economic impact of low income housing projects deal with income and expenditures rather than with the potential changes in consumption patterns that reflect a change in income and/or expenses.

One can infer from studying the literature that in a project where households have seen their income rise, and where housing costs and other necessities have not increased as much, or even diminished, then households have benefited, and are able to increase their consumption of goods or save for deferred consumption. The UN reports that in Colombia, "the installments which the homeowners pay on their house, being some 20 percent less than the amount they used to pay, frees a considerable part of their income, which they can now use to purchase goods and services, with great benefit to the national economy." (1)

In Kolfe, Addis Ababa, on the other hand, despite the low rent/income ratio, most families had difficulty in paying rent. The decrease in consumption can reach a level where it outweighs the increased benefits provided by the project. (2)

Meanwhile, where increases in household income have not followed access to improved housing, and where expenditures for housing have increased, households have had to modify their consumption patterns. For example, a small percentage (six percent in Rifle Range, and ten percent in Kampung) of households relocated in low cost housing in Penang, Malaysia were in arrears and faced eviction. (3)

Households often choose to expand their homes in order to be able to accommodate renters. Others still choose to occupy less of their existing home. Edward Popko has studied in Colombia the relationship existing between renting and consumption. He writes, "When a family builds rental property, they are postponing current consumption. Their willingness to postpone can be reduced to a time preference for some future consumption." (4)

Changes in basic consumption patterns do not depend strictly on questions of housing affordability, income and expenditures. It is mentioned in the literature on nutrition and health (5) that change in a household's opportunities with respect to gardening, fishing, cattle raising, etc, may positively or negatively influence consumption patterns.

Issues.

Many changes in consumption patterns are not readily observable. To detect these changes over time, use should be made of longitudinal studies.

Evidence.

- o To provide information on expenditures.
- o Expenditure patterns; ability to purchase basic necessities.
- o Consumption of durable goods.
- o Consumption of water and energy.
- o Changes in expenditures related to housing.
- o Changes in local tax structure (real estate and income).

d. Control of Capital Assets

Although considered here under affordability, this cross-cutting theme is much related to real estate valuation issues. It is an implicit objective of official aid policy that aiding a household to obtain capital assets puts it in the market to obtain further capital assets, i.e., a home-owner is more able to negotiate and obtain credit. (1)

Issues.

Appraisal of whether or not the target group identified has been helped to enter the credit market through obtaining and holding a stake in a housing project.

Evidence.

- o Percent of households owning home (vs. renters).
- o Percent of households having bought back mortgage.
- o Percent of households owning land.
- o Percent of households obtaining credit on consumer durables.

Further discussion of affordability issues appears in the following section: Real Estate Value — Housing Quantity and Distribution. However, it is worth mentioning here some additional indicators:

- o Change in percent of income going into household.
- o Rate of turnover (do people have to move because of the cost of purchase or rent).

- o Pattern of household expenditure (are people giving up expenditure on other necessities to afford the house).
- o Level and length of arrears in monthly payments.
- o Rate and level of house completion by those original purchasers still in the project.

2. Real Estate Value

This concept includes a wide range of factors such as:

- a. Lot size
- b. Location and access
- c. Density of urban facilities - schools, markets, health clinics
- d. Market availability of mortgage funds
- e. Numbers of buyers in the market
- f. Scarcity of dwelling type
- g. Quality of design and construction and suitability

For a particular AID project, (a), (c), (d), (e) and (g), with reference to core structures, are given or known.

Here we focus upon location with particular reference to closeness to work and environmental quality.

a. Location and Environment

Potential impacts of site location on project beneficiaries are now carefully addressed in the project design and implementation phases. Thus site location is considered mainly as a 'given' in most project evaluations. This strong concern for site location results primarily from early experiences with projects (in India, Zambia and Kenya for example) which failed because sites were badly located. (1) The poorer families who were the intended beneficiaries of these projects preferred to move back into their old neighborhoods where they would be closer to sources of employment. Consequently, the World Bank now considers the most important aspect of site location to be its accessibility to employment. (2) Other important considerations include physical land characteristics, proximity and availability of off-site infrastructure services and the incorporation of the site within an overall urban development plan.

Because sites are carefully selected with these criteria in mind, the literature survey had very little to say about the impacts of site location. There were, however, two examples of rural projects where partial flooding and dampness associated with the location of the site were considered by inhabitants to be negative aspects of the project. (3) The literature did not treat projects located in earthquake, landslide or flood areas.

Two USAID project evaluations, however, were found which deal with the special approaches in planning for seismic areas. (4)(5) Considerable research has also been done on housing construction in these areas. (6)(7) Reports concerning projects in other earthquake prone countries such as Columbia, however, do not mention any special considerations in site location.

Issues.

Impacts on beneficiaries provoked by air and water pollution or those concerning the destruction of vegetation have not yet been treated in the literature on low income housing projects in developing countries. Even though some of these issues might be addressed in the site selection process, the desire to locate projects near areas of employment and the fact that some squatter upgrading schemes are located in environmentally precarious areas, points out the need to continue the analyses of site location into the project evaluation phase. While there is also considerable interest and literature on the impacts of development projects on the environment, these too have not yet been systematically applied to housing projects in developing countries. (8) An environmental impact assessment of the UMOJA Project in Kenya was scheduled to be conducted but no publication or report was found.

Other outstanding issues include the effects of development on water pollution and runoff, increases in air and noise pollution, and aesthetics.

Evidence.

- o Percent of population endangered by natural disasters and accidents.
- o Identification of elements of site and project which may be harmful to population, particularly children.
- o Number and types of households and workers displaced by project.
- o Relation of site to mass transit and employment areas.
- o Detection by human senses of pollutants in air.
- o Identification and location of sources of air pollution.
- o Proportion of households affected by air pollution.
- o Identification of areas of water pollution.
- o Proportion of households affected by water pollution.
- o Proportion of areas landscaped and/or replanted.

- o Percent of households receiving revenue from rental units within neighborhood.
- o To provide information on expenditures.
- o Expenditure patterns; ability to purchase basic necessities.
- o User rates for utilities.
- o Changes in expenditures related to housing.
- o Changes in local income taxes.

b. Access to Credit

It has been acknowledged that credit from regular financing institutions such as banks or loan associations is virtually inaccessible to most low-income households. Many sociologists and anthropologists have reported, however, the use of informal systems with high interest rates. These informal credit systems tend to put borrowers in a very precarious financial position.

Also, the literature mentions that households rely on their extended families for financial help, especially when faced with a non-routine expense or investment possibility such as the purchase of a piece of land, construction loan, etc. Repayments are in cash, goods or with direct services.

In some of the housing projects undertaken by AID and the World Bank, there is a home improvement and/or construction material loan program. These loans enable households to afford investments in housing that they could not afford previously, not for lack of income, but due to an inability to save the required large sums of money required for initial purchases. Other projects offer a small business loan component which would provide the beneficiaries with sewing machines, tools, refrigerators, etc.

The UN, in its study of 23 housing projects in Colombia, noted the "urgent need to undertake a co-operative organization program. Credit and consumer co-operatives would not only help to avoid the proliferation of unproductive shops, but would also alleviate to a great extent the economic difficulties caused by low family income." (1)

Based on the improvements in public services and access to secure land tenure, homes in many upgraded and sites and services projects quickly experience a substantial increase in value. It can be assumed that the owners of such homes are in a better position vis-a-vis the financing institutions to obtain credit. This encouraging situation does not, however, apply to renters (except perhaps for consumer credit) or squatters who still generally lack sufficient collateral to obtain credit from a formal financial institution.

Issue.

Though some studies and some evaluation reports mention credit-worthiness, few, if any, focus on the impact housing may have on household access to credit.

Evidence

- o Types and uses of loans granted project beneficiaries.
 - o Percent of households receiving credit for housing construction.
 - o Percent of defaults on loans.
- c. Consumption Patterns

The question has been raised as to whether participation in housing projects would or would not have a negative impact on consumption of basic necessities such as food or medicine or other non-basic consumption items as well.

Most studies concerned with the economic impact of low income housing projects deal with income and expenditures rather than with the potential changes in consumption patterns that reflect a change in income and/or expenses.

One can infer from studying the literature that in a project where households have seen their income rise, and where housing costs and other necessities have not increased as much, or even diminished, then households have benefited, and are able to increase their consumption of goods or save for deferred consumption. The UN reports that in Colombia, "the installments which the homeowners pay on their house, being some 20 percent less than the amount they used to pay, frees a considerable part of their income, which they can now use to purchase goods and services, with great benefit to the national economy." (1)

In Kolfe, Addis Ababa, on the other hand, despite the low rent/income ratio, most families had difficulty in paying rent. The decrease in consumption can reach a level where it outweighs the increased benefits provided by the project. (2)

Meanwhile, where increases in household income have not followed access to improved housing, and where expenditures for housing have increased, households have had to modify their consumption patterns. For example, a small percentage (six percent in Rifle Range, and ten percent in Kampung) of households relocated in low cost housing in Penang, Malaysia were in arrears and faced eviction. (3)

Households often choose to expand their homes in order to be able to accommodate renters. Others still choose to occupy less of their existing home. Edward Popko has studied in Colombia the relationship existing between renting and consumption. He writes, "When a family builds rental property, they are postponing current consumption. Their willingness to postpone can be reduced to a time preference for some future consumption." (4)

Changes in basic consumption patterns do not depend strictly on questions of housing affordability, income and expenditures. It is mentioned in the literature on nutrition and health (5) that change in a household's opportunities with respect to gardening, fishing, cattle raising, etc, may positively or negatively influence consumption patterns.

Issues.

Many changes in consumption patterns are not readily observable. To detect these changes over time, use should be made of longitudinal studies.

Evidence.

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Issues.

Appraisal of whether or not the target group identified has been helped to enter the credit market through obtaining and holding a stake in a housing project.

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Because sites are carefully selected with these criteria in mind, the literature survey had very little to say about the impacts of site location. There were, however, two examples of rural projects where partial flooding and dampness associated with the location of the site were considered by inhabitants to be negative aspects of the project. (3) The literature did not treat projects located in earthquake, landslide or flood areas.

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Issues.

Impacts on beneficiaries provoked by air and water pollution or those concerning the destruction of vegetation have not yet been treated in the literature on low income housing projects in developing countries. Even though some of these issues might be addressed in the site selection process, the desire to locate projects near areas of employment and the fact that some squatter upgrading schemes are located in environmentally precarious areas, points out the need to continue the analyses of site location into the project evaluation phase. While there is also considerable interest and literature on the impacts of development projects on the environment, these too have not yet been systematically applied to housing projects in developing countries. (8) An environmental impact assessment of the UMOJA Project in Kenya was scheduled to be conducted but no publication or report was found.

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- o Identification of elements of site and project which may be harmful to population, particularly children.
- o Number and types of households and workers displaced by project.
- o Relation of site to mass transit and employment areas.
- o Detection by human senses of pollutants in air.
- o Identification and location of sources of air pollution.
- o Proportion of households affected by air pollution.
- o Identification of areas of water pollution.
- o Proportion of households affected by water pollution.
- o Proportion of areas landscaped and/or replanted.

identified as seriously falling short of its objectives. Because unrealistic aspirations of both project planners and inhabitants were defeated by inflation and rapid rises in construction costs, a major project in Senegal remains largely unoccupied. (1) Several models and techniques have since been developed which relate project standards and financing to affordability in order to avoid similar problems in future projects. (2)

a. Household Income

Past evaluations of housing projects note that there are many pitfalls inherent in attempting to determine household income. A respondent household may genuinely not know its total income or may give mistaken information in order to minimize a perceived risk of higher taxes. In addition, beneficiary selection criteria which stipulate a maximum allowable income for a particular project often result in a household underestimating its income in order to qualify for the selection process.

Definitional inaccuracies also account for discrepancies in establishing household income. Many housing programs equate the earned income of the head of household with total household income. This approach fails to recognize the substantial quantity of household income, especially among the lowest income ranges, which is derived from other sources such as part-time informal sector employment of other family members, gifts and other transfer payments. Additional income can also be generated as a result of the project.

A good example of household income generated by the project is found in the case of Las Colinas in Bogota, Colombia. In his study (1), Edward Popko reports that since the upgrading of this spontaneous settlement significant changes have taken place. Almost 30 percent of the entire barrio population is renting out part of their property. These householders create a new landlord class with a highly liquid source of income. This additional income might affect the affordability calculations for the project beneficiaries.

Issue.

Increments in household income of the prospective project beneficiaries should also be estimated for the first 4-5 years of the life of the project. These projections are particularly important where the financing mechanism used to recover project costs employs an increasing monthly or yearly amortization payment based on a variable interest rate, indexing of the outstanding loan principal, etc., yearly increases called for in household amortization payments must be compared with projected increases in family income in order to evaluate the family's continuing capacity to afford the housing solution proposed in initial project design.

Evidence.

- o To provide information on revenues.
- o Monthly family income (including informal sources).
- o Salary of head of household.

b. Land Tenure

The research and literature concerning the impacts and importance of land tenure are continually growing. The inducements necessary to promote housing consolidation and improvement have been found to be based more on the security of tenure than on any particular form of tenure or actual ownership. (9) For sites and services projects some form of fee simple ownership or long term lease is normally used and seen as having positive effects.

In upgrading projects, types of tenure are often much less clear. Even though laws and land registration systems attempt to clearly establish the legality or illegality of site occupation, customary law, land use rights and political considerations often render the one-project situation uncertain. Consequently, the degree of housing consolidation and improvement is induced by having a belief in the security of tenure. In Tondo Manila inhabitants attached significant value to very meager houses of salvaged materials because they believed the house and lot would become much more valuable if and when the government provided deeds as the law provided. (10) Consequently the amount of housing improvement in this area has been impressive. On the other hand, the will to build was seriously weakened in a project in Jamaica once this security was considered to be in doubt.

According to the World Bank: "Introducing an element of equity into urban land ownership by giving squatters security to tenure is an urgent policy issue in most cities in developing countries and one with high returns in terms of retained and improved housing stock, access to earning opportunities and consequent wealth." (11) As mentioned above, observed impacts on the security of land tenure have included housing consolidation and improvement, improved maintenance, a more stable community and greater resident satisfaction.

Where security of tenure exists, the overwhelming majority of families have been willing to make considerable outlays for the improvement of their shelter. This phenomena has been experienced in virtually every project. Housing standards are often considerably higher than expected as well, with a large proportion of buildings built in solid materials.

The provision of tenure also has significant impact on land values and land use, both in and adjacent to the project site. An evaluation of a project in Panama, for example, found that land values practically tripled in only three years. (12) Because the rise in land values appears to be a key impact of tenure and of low income housing projects in general, considerably more research and literature on the impact of tenure on land values can be expected in the near future. Already measurement criteria are being established and experience gained in this regard.

Issues.

The improvement of methods of assessment and measurements.

Evidence.

- o Type of tenure as percent of distribution.

- o Percent of households holding tenure leading to house ownership.
- o Percent of households expressing satisfaction with form of tenure.
- o Turnover of houses.
- o Proportion of annual personal income of households devoted to housing improvement and maintenance.
- o Owner's estimate of housing values vs. sales prices.
- o Type and proportion of changes in land use and values of adjacent properties.

c. Physical Installations

i. Roads

The literature survey revealed very little information concerning the impact of residential roads on project beneficiaries. Where roads are mentioned in some detail (mostly in project descriptions and evaluations) emphasis is placed on their physical characteristics, costs and problems of maintenance. Several studies pointed out that even small, relatively unused residential roads of low grade materials had rapidly deteriorated due to the lack of maintenance. (1) Upgrading studies generally cite the importance of roads to allow for the collection of garbage and the passage of emergency vehicles. In the one example encountered, where an actual traffic study was conducted, it was found that 50% of the roads in several projects in Columbia were travelled by less than 10 vehicles per hour during peak periods and consequently could be considered superfluous. (2) None of the studies attempted to compare residential roads with automobile ownership or with the development and location of commercial activities and/or cottage industries. Only one study analyzed the effectiveness of the street layout, pointing out a project in Colombia, where the layout of roads had no systematic relation to a rather steep slope and forced more than one-third of the project beneficiaries to extensively excavate their sites at considerable cost. (3) Several techniques for analyzing local movement patterns have been established but there does not seem to be any published application of these techniques to developing countries. (4)

ii. Paths

Like roads, paths are most often described in terms of their physical characteristics, costs and maintenance. Little is known or published about their impacts on beneficiaries or the advantages or disadvantages of pedestrian access. Deterioration of walkways and the conditions around them, poor lighting and security problems have in some cases been cited by inhabitants as sources of dissatisfaction with the neighborhood. (5) In one case however, the pathway system in a project in Addis Ababa apparently worked so well that project inhabitants complemented it with a system of walkways through individual compounds. (6)

Even though paths are considered as a cost-effective solution to providing access to plots in low income housing projects, very little evaluation of their performance and role in neighborhood development has been done.

iii. Drainage System

Another basic assumption of Sites and Services and Upgrading projects is that better drainage will reduce the risks of standing water and flooding and thereby increase beneficiary health and neighborhood satisfaction. In some extreme cases good drainage may also be crucial to the very survival of the project. A survey of the literature however was unable to find any systematic assessment of the impacts of good drainage. Poor drainage and the lack of maintenance was expressed as negative elements of satisfaction in a few instances. (7)

iv. Fresh Water Supply

Fresh water supply is consistently cited by beneficiaries in low income housing projects as being one of their most important needs. Little research however has been published on how the provision of potable water affects their daily activities and health. It has been noted in some situations that the change from standpipes to individual water connections has had a significant impact on the social interaction and household activities of women.

v. Sewerage and Sanitation

Improvements in sewerage and sanitation are also considered to have significant impact on personal health and neighborhood satisfaction. Lack of on-site piped water supply, sewerage and drainage were often cited as making the neighborhood "dirty, smelly, insect and fly-infested and generally unsightly". (8) Once again no published studies were found dealing directly with impacts on beneficiaries of improved sanitation. Studies did show however, that the use of communal facilities have generally proven to be unsuccessful and that occupants prefer to have their own more convenient and private facilities even if they have to provide them on their own. There are some examples where families have even replaced facilities provided by the project that they thought were too small or poorly designed. Many technical studies of sanitation systems exist which deal with the testing and improved performance of different sanitation systems and their cost-effectiveness. (9)

vi. Electricity

In addition, no household surveys were found which considered the impacts of electricity on the beneficiaries. Studies of rural electrification however showed that an eventual increase in the possession of durable goods, such as refrigerator, iron, radio-cassette and television can be expected. (10) Changes in family activities will also occur since electricity will allow more household members to do things after dark by illuminating more areas of the house.

vii. Street Lighting

Virtually no information was found in the literature survey concerning the impacts of street lighting, even though its presence was often considered by project beneficiaries as having a positive effect on crime and the overall attractiveness and modernization of the neighborhood. Taking Zimbabwe, as one example, streetlighting did have the effect of lengthening the active day and allowed people to go outdoors more often in the evening. In most projects street lighting has been limited to major streets which can be expected to have considerable impact on the location of certain commercial activities and on land values.

Issues.

In general, there is little information on the direct impacts on beneficiaries of specific elements of physical infrastructure. The positive aspects of roads, paths, potable water, sewerage and street lighting are generally assumed. Most present project evaluations are only concerned with whether or not these elements are in place. In addition, most projects have not been occupied long enough to make a full evaluation of the impacts possible. Some issues which need to be reviewed would include: how improved accessibility affects land values, employment opportunities and business activities; how a road layout can be evaluated for its efficiency and cost-effectiveness; and the direct impacts of potable water, sewerage and electricity on households.

Evidence.

- o Street layout, location and widths.
- o Maximum distance to house from road.
- o Number of households with access to public transport within an acceptable distance from their residence.
- o Number and type of public services and facilities with vehicular access.
- o Traffic levels and hazards, noise and air pollution nuisance; frequency of accidents and other factors affecting satisfaction.
- o Maintenance of roads.
- o Number of households relying on walking to stores, recreation, schools, bus stops, etc.
- o Proportion of households served by drainage system.
- o Percent of households maintaining drainage system.

- o Percent of households expressing satisfaction in drainage system.
 - o Percent of households no longer endangered by flooding.
 - o Number of households using sanitation systems; population benefiting.
 - o Proportion of households maintaining sanitation systems.
 - o Number of households benefiting from garbage collection.
 - o Number and proportion of population benefiting from piped water connections.
 - o Number and proportion of population within distance of a water standpipe.
 - o Number and percentage of households benefiting from street lighting.
 - o Number and types of commercial activities benefiting from street lighting.
 - o Indications of maintenance of street lighting system.
 - o Number and kind of commercial activities benefiting from electricity.
- d. Housing Quantity and Distribution

Post project evaluations usually measure the impact of the project or program on the overall housing stock. This impact can often be considerable. Cameroon, for example intends to satisfy approximately 40 percent of the housing demand in its major cities during the next five years through the sites and services program. Other countries such as Zambia show similar ambitions. A detailed estimate relating housing programs to housing need according to the types of housing solutions and target groups is usually made during the project programming and justification stage. This can also be referred to during evaluation.

Recent studies and evaluations of completed projects have indicated a strong desire by homeowners to increase their incomes through renting part of their dwelling unit, even in situations where official restrictions exist against it. Where they exist, a large number of rented units can lead to higher densities than originally anticipated and cause crowding. In one project in Las Colinas, Columbia, families generally ignored the

need for more space and lower density. As rooms were added and improved, kinfolk and boarders who helped pay for improvements moved in. (1) Surveys showed that additional rental units were housing up to 30% more families in projects than authorities originally believed. (2) Although poor families generally require more space for labor intensive laundering, cooking and bathing, indwelling density voluntarily increased in a significant way.

While the impact of crowding on health and social interaction has been the object of several studies, one of the more significant studies has indicated that crowding in itself produces very few consequences. (3) This is seen to be due to man's ability to adapt and would particularly be the case in developing countries where low income inhabitants show a great deal of adaptability. (4) Several studies including one in Dakar, Senegal showed that people were not concerned and did not complain about the high densities. (5)

A better understanding of planned and actual densities will help determine the accessibility to beneficiaries of public facilities and services and also provide guidelines for improved planning in the future.

As already seen in the Senegal project, a slow rate of occupancy can be a sign of very serious problems and a warning of eventual project failure. Many families who cannot or choose not to build on their site as soon as possible may be forced into a situation of paying considerable "double rent". In this situation, inflation and the rising costs of construction may also eventually eliminate the possibility of building in the future all together. Reasons for falling into a double rent situation however may be very real. With the cold war in Bogota, for example, households preferred to save money and pay double rents rather than to build temporary wooden dwelling units. In this case a livable core house might have been a better project solution. The fact that almost a third of the families planned their homes for income earning activities also delayed construction.

In most projects restrictions are established preventing beneficiaries from selling their plots or houses before a certain period of time has passed. Often plots will revert to the government if a minimum investment is not made. A low rate of occupancy and housing construction may indicate considerable speculation and the fact that the original beneficiaries will sell out when they have the opportunity.

In many projects low income families need to take up loans in order to pay for their new housing. In self-help housing construction, these loans often include the purchase of the plot as well as some building materials. In Panama, however, where the vast majority of original project sites had been improved, it was found that loans did not positively affect the speed of this process. In other cases, the poor take up of loans coupled with the occupancy rate can indicate that the project is not affordable to the target group.

Issues.

Some outstanding issues would include the overall impact on housing distribution resulting from national housing institutions now working with the affordability approach; identification of problems arising from differences in planned and actual densities; and what possibilities exist for speeding up occupancy and reducing double rents.

Evidence.

- o Proportion of annual net increase in housing stock.
- o Difference in actual density and planned project density; percent of owners renting part of house.
- o Proportion of households now living in crowded housing conditions compared to existing situation in low income neighborhoods (average number of persons/room; m²/ person).
- o Proportion of households living in crowded housing conditions compared to accepted government standards (e.g. government housing projects) (average number of persons/room; m²/ person).
- o Proportion of vacant dwellings or plots to the total number of houses or plots in project.
- o Proportion of dwellings or plots only partially occupied.
- o Proportion of occupant households who are original, 2nd occupiers, 3rd occupiers.

e. Housing Quality

A stated and essential objective of virtually all types of low income housing projects is to improve the quality of housing for the defined target group population. The literature survey showed that most project evaluations attempt to examine, in one way or another, the major changes and impacts of the project on housing quality; considered both in terms of the benefits to the individual project beneficiaries as well as percentage improvements in the overall housing stock of the community. The criteria most frequently used to determine impacts include (1) directly observable physical aspects such as building condition and materials, and the provision of urban services, (2) the satisfaction of the inhabitants as expressed through attitude surveys and realized in the maintenance and/or improvement of the dwelling unit, and (3) the estimated value of the house as determined from owner estimates, from analysis of real estate and rental markets, or from a combination of both.

Depending on the country, the context of the project and the constraints of the evaluation, one or more approaches may be developed and applied. Most simple evaluations emphasize existing physical aspects and compare them with either the compilation pre- project living conditions of the beneficiaries (longitudinal analysis) or with the conditions of neighborhoods from which the beneficiaries came (cross-sectional analysis). The latter type of comparison appears to be more prevalent because it does not require careful pre-project baseline data on the beneficiaries.

Apart from general building conditions, improvement in housing quality is most often measured by an improvement in the durability of wall construction. A major change between pre- and post- project construction is often the increase in cement block walls. To build durable homes with walls of solid materials is frequently seen by

inhabitants and authorities alike as the single most important improvement in housing quality that can be made. Additional criteria used to measure improvements include access to potable water, provision of sanitation facilities and electricity, and some measure of density such as the number of persons per room. Although there have been attempts to apply these criteria in a systematic way, no single research methodology has yet been adopted. (1)(2)

The second approach is simply to determine whether or not the inhabitants are satisfied with the quality of their housing. Most often this approach takes the form of attitude surveys supported by observations on the degree of maintenance and ongoing housing improvement. As Scen points out, however, the quality of a dwelling, or the occupant's satisfaction with it at a given point in time, can be determined only in relative terms since these can vary according to circumstances. Satisfaction is strongly influenced by the difference between the occupant's present and previous dwelling and by what he considers practical. It is based not only on his life style but also on what stage he is at in this life style. Soen further suggests a ranking of priority needs beginning with basic shelter, and followed in order by comfort, convenience through socializing, self-expression and finally aesthetics. (3) According to this theory, occupants will not be overly concerned with the latter needs until the preceding ones have been satisfied. Thus, continuing maintenance and improvement of the housing unit can be seen as a sign of progressively fulfilling these needs and as an expression of satisfaction and pride in the dwelling unit. Successful projects show a high level of housing improvement and satisfaction by the inhabitants during the first few years following residency, even though they often have to seriously remodel their house plans to meet their needs. (4) Common recurring problems which households often remedied on their own initiative include: the poor planning and small size of kitchens, unacceptable sanitary facilities, lack of adequate storage space and inadequate room sizes.

Estimates and comparisons of housing value have also been used to determine improvements in housing quality. Potential indicators which are now being tested include the cost of construction, the owner's estimate of sale price, rental values and the interrelationships between these indicators. (5) In some cases it may also be appropriate or useful to include the services of a local professional appraiser or real estate agent, as well as neighbors' estimates for comparison. Major physical indicators of housing value appear to be wall construction and finish, foundations and the size of the unit and plot.

Issues.

While the housing value approach reflects very well the idea of housing as an investment, it may not always be suitable for one time evaluations concerned with the progressive development found in self-help housing and neighborhood upgrading. In some countries, such as Cameroon for example, housing value may also be related more to the scarcity of housing solutions which provide land tenure than to an actual improvement in housing quality.

With sensitive observers and a systematic approach, the physical assessment of housing quality can be accomplished in a relatively short time. Interviews with inhabitants concerning satisfaction with their housing can also be done quickly if a strict statistical approach is not required. An assessment of housing value however would probably require careful pre-evaluation preparation and organization.

Issues concerning housing quality which still need to be resolved would include among others: the importance of housing quality to occupants at different stages in their life styles; the relationship between housing quality and tenure; the potential of housing value as an indicator of overall impact, and the demonstration effect on adjacent private development and housing quality.

Evidence.

- o Proportion of households living in dwellings of definitive materials.
- o Proportion of households living in dwellings of traditional improvable materials.
- o Proportion of households living in dwellings of temporary materials.
- o Proportion of households living in unfit and obsolete dwellings.
- o Proportion of housing units that are considered substandard and change in number and percent of people living in them.
- o Proportion of households living in dwellings without:
 - piped water supply
 - flushing w.c.
 - bathing facilities
 - electric facilities
 - electric light
 - cooking space under cover
- o Proportion of households living within specified walking distance of source of safe water for drinking and bathing.
- o Proportion of households living in structurally unsound dwellings in the face of local disaster risks.
- o Indoor dwelling spaces per person for houses of particular types (average) (vs. existing and acceptable standards).
- o Proportion of households adequately maintaining their house and the grounds around it.
- o Percent of households "upgrading" their own housing.

- o Proportion of households expressing satisfaction with size, number and arrangement of rooms.
- o Proportion of households satisfied with construction materials and finishings.
- o Proportion of households satisfied with overall residential environment.

3. Social Potential

a. Work

The relationship between work and housing is a question of employment opportunities, accessibility to work places and productivity. (1)

If a project is located near sources of employment, i.e. city downtown, industrial park, large factory, market, etc. the effect on employment is likely to be positive. On the contrary, if the project is located far from the urban centers and employment opportunities, the high costs of public transportation or lack of transportation will render finding employment difficult and uneconomical especially for people working in the informal sector or traders or craftsmen relying on a neighborhood clientele.

The larger the city the more acute the problems. In a small city the location of a housing project is not too important for one is never too isolated. In large cities and metropolises, however, accessibility is crucial. Adequate housing and social services cannot make up for a lack of employment opportunities and many beneficial aspects of improved housing will be offset. (2)

On a project site itself, there is usually a substantial amount of beneficiary employment generated by the construction and upgrading of houses and infrastructure. This is however of limited duration and does not apply to contractor built houses or apartments.

Overall changes in employment and their impacts on family revenues cannot be easily detected especially since low income households rely heavily on informal activities to sustain themselves.

An area which is even more difficult to evaluate is the relationship between improved housing and productivity. There have been several studies on this subject especially under the impetus of L. Burns. The results have not been very conclusive. (3) This is due to the fact that improved housing by itself has not been shown to affect productivity. There are many other factors involved.

The U.N. considers that improved housing affects productivity in two ways: "(a) improved living conditions tend to decrease morbidity and absenteeism (see section on health) and (b) improved living conditions should directly affect motivation and thus increase productivity." (4)

In relation to point (a), one finds for example a statement from L. Burns saying that "While it is abundantly clear that reduced absenteeism leads to increased output

under conditions of full employment, the case is less clear where unemployment and underemployment are the rule." He then mentions the linkage between output and living conditions. So, "If the benefits attributed to housing are more than illusory, then the benefits, in effect, accrue to the economy in general rather than to housing in particular." (5)

The United Nations gives an example of negative impact on productivity in the case where continued eligibility for housing benefits is determined by an annual income ceiling. (6)

Issues.

It is probably not possible in a short time to measure the impacts of improved housing on productivity. Over a decade or so some important linkages may become apparent. Immediate, project related impacts however, may be visible in the informal employment sector. For the most part these impacts will probably be short term and will concern the disruptions to informal employment due to the change of location, start up times of new craft industries and the lack of an adequate clientele. An understanding of some of these mechanisms would be worthwhile.

Evidence.

- o Proportion of employed persons with access to the working place within "x" minutes travel time and "y" travel cost.
- o Number of new long-term and short-term jobs produced by project construction; estimate of total number of new jobs.
- o Number and type of new informal employment due to increased economic activity within neighborhood.
- o Number and rate of employed, underemployed and unemployed.
- o Number of households experiencing change in earning capacity because of increased availability of employment opportunities within neighborhood and/or participation in training programs.
- o Number of absences from work due to housing related problems.
- o Number of workers laid off due to cutbacks.

b. Participation

"In many circles, community participation has been seen as a solution to the housing problem." (7) Indeed, many of the upgrading and sites and services projects sponsored by AID, IBRD, IDB, etc. are designed to take into account the ideas, opinions, needs of the participants themselves, to put their efforts to work directly in the hope that the input of the participants will insure the projects with a greater success.

But as the United Nations Committee proceeds to say "in spite of the interest shown the results of these efforts have been discouraging." Participation within existing communities as it is the case with upgrading projects is difficult and time consuming. It is even more so with sites and services projects where community developers have to confront a non existing or newly created community which do not yet have any leaders or organizations.

However, there are examples of successful experience. Some squatters, especially, in Latin America, have a history of community organization and joint participation without formal assistance, from the time they prepare for land invasion to several years later when they request title to their land and provision of social and physical infrastructure. (8) Other communities have responded well to outside encouragement seeking to promote community participation.

Issues.

While some studies have attempted to examine the type and extent of participation including the power structure on which it is based, the effect of participation on the well being of the individual remains obscure. It has been assumed by some for example that social awareness, greater satisfaction and greater care for one's home, neighborhood and environment would ensue. This has in fact not always been the case. Consequently, the ways, if any, in which the possibilities and difficulties in housing help or hinder people working in groups to obtain training, experience and interest in wider participation remain to be examined.

Evidence.

- o Change in population mix.
- o Number and types of households displaced.
- o Population distribution by age, income, etc. and household type.
- o Place of origin of occupiers (a) prime and (b) prior to purchase/tenancy.
- o Proportion of households taking up building materials loans.
- o Percentage of residents participating in group activities within the neighborhood.

- o Number and type of group activities for children, youth, men and women.
- o Number and type of group activities related to the physical improvement or management of neighborhood.
- o Number and extent of representation in community organizations.
- o Number, method of selection and turnover of local leaders.

c. Education

An aspiration of many families who migrate to cities and become squatters is to increase the chances of their children to receive an education.

Kerry Feldman points out in his study of squatter communities in Davao City, Philippines, that the advance by squatter children over their parents is quite dramatic though these children "enter and exit school levels at their own pace, which is considerably behind the ideal ages for Filipino children". (9)

Despite the abundant literature on education, there are very few empirical studies carried out to assess the relationships between housing, especially improved housing and education. (10)

The provision of housing in itself does little to improve education. Accessibility and affordability of schools, teachers, and libraries are essential. The provision of a school program or literacy campaign in a squatter settlement will likely do more in terms of education than improved housing.

However, better housing with proper lighting and opportunities to find a place to read and concentrate on homework will encourage and facilitate good performance in school. Electricity will also permit the installation of television, videos, etc. in the community or individual homes, promoting better information, adult education, etc.

Indirectly, if the impact of housing on health is significant, and therefore absenteeism much reduced, then housing as a result of this has a positive impact on education.

Leland Burns, as part of a larger study, tried to assess the effects of improvements in housing conditions on education in Monterrey, Mexico and Pine Ridge, South Dakota. (11) Those two studies were conducted over a period of one year for Pine Ridge and 16 years for Monterrey. The results of the two studies were partially offsetting. In Monterrey, the hypothesis that improvements in housing quality would "increase the propensity for education among the sons of rehoused workers" was not statistically supported. At Pine Ridge the hypothesis that a decrease in absenteeism would follow improvements in housing could not be highly substantiated given the small sample. (12)

In Paquiestancia and Cariacu, Ecuador, evaluations which were conducted over a few months time indicated that education was the major aspiration of 81 percent of the

demonstration village households for their children: all primary school-aged children were attending school and even some older children were attending secondary schools. By comparison and despite their higher income only 6 out of the 10 control groups expressed the same concern for education, largely reflecting the lack of schooling opportunities available. (13)

In a study of 23 urban self-help and mutual aid housing projects in Colombia, the United Nations reported that 80 percent of school age children attend school (schools of the Ministry of Education and schools provided by the National Housing Agency) a higher percentage than the national urban average. However, the two shift system that each school has to follow lowers the quality of the education. (14)

Issues.

Impacts of housing on education are in many ways diffuse and, apart from providing improved potential conditions for undertaking homework, indirect. The impacts take a long time to work through a community and consequently a time of measure of almost two decades may be required. With new projects measurements have to be limited to the potential for impact (i.e. provision, proximity, affordability etc.) The importance and popularity of adult evening courses is also an issue to be investigated.

Evidence.

- o Proportion of primary school age children attending neighborhood schools.
- o Percent of primary school students with access to school within "x" minutes distance by foot from home.
- o Percent of families able to afford education in neighborhood schools.
- o Number and type of programs for adult education.
- o Change in physical conditions affecting current expressed satisfaction with school location and number of households potentially affected.
- o Percent resident satisfaction with educational possibilities in neighborhood.
- o Number and percent of students having to switch schools.
- o Identification of overcrowding "breakpoints" (added shifts; poor student/teacher ratios; etc.).
- o Percent of students with ability to do school work at home.
- o Percent of students able to use library services in the neighborhood.

- o Frequency of absenteeism from school due to inadequate housing.

d. Vocational Skills

Information concerning the impact of vocational training in association with housing improvement schemes is not easy to come across.

Only a minority of low income housing projects have a formal vocational training component. Most of the ones that do are involved with self or mutual help construction techniques and only little if any clerical training and non-construction related crafts training. Few vocational schools are being set up although there is an extensive program in Egypt.

Though information is lacking, it could be inferred that the more that housing construction in a project is done through self or mutual help means, the larger the population which is given the chance to acquire additional and possibly marketable skills. If the dwellings are fully built by a building contractor, no benefits will be achieved in terms of gain in skills to the dwelling occupants unless they form part of the formal construction team.

If community participation is high in handling matters such as cost recovery, sale of materials and management of project in general, some community members would also acquire new clerical skills.

Issues.

Vocational training programs and housing improvement programs have different policies, sources and agencies; co-ordination of effort, focus on target groups and specific geographic areas is needed if the two are to offer mutual support. Some idea of the types of vocational training encouraged by housing improvement programs should be obtained.

Evidence.

- o Access to training and job opportunities for clerical work.
- o Change in numbers in training.
- o Percent in training.
- o Access to training and job opportunities for craftwork.
- o Change in numbers in training.
- o Percent in training.
- o Percent apprenticed to workshops, repair units.

e. Health and Nutrition

It is a common working assumption that a strong relationship exists between housing and health. (15) Many social scientists and health practitioners have tried to relate, or measure the impacts of housing on health in the aim to demonstrate a positive relationship (i.e. that improved housing and improved infrastructure result in better health for their users).

The main basis for this argument has been that in developing countries the contamination of food, water or soil with human waste due to the lack of potable water and sanitation facilities, favors the transmission of fecally related and fecally transmitted diseases. These diseases are responsible for high infant mortality, illness and premature deaths among adults, malnutrition, low productivity, absenteeism, etc. There are other factors impinging on health beside a deficient or lack of water supply and sanitation systems.

The use of certain construction materials and design in certain areas of the world can also be detrimental to health. For example, thatch roofing is, in Venezuela (16) and several other South American countries, a breeding ground for the barbeiro bug which is responsible for Chagas disease. Lack of ventilation, sunlight and space tend to increase the incidence of airborne diseases. (17)

It appears that the provision of a housing superstructure by itself will in most cases only minimally influence the health of its users. The provision of sanitation and water supply systems appear to be much more important.

For example, the evaluation of the binational rural housing demonstration project in Colombia and Ecuador (18) showed that in Colombia the project dwellers who enjoyed potable water and bathroom facilities seemed to be in over-all better health when compared with the control groups. In Ecuador, where potable water and sanitation facilities had not yet been installed, most respondents felt there had been no change in their health.

The provision of well-equipped and staffed health care centers, health and nutrition programs, combined with housing, potable water and sanitation systems is very important. It can be inferred that the combination of providing all of the above amenities will optimize the chances of project inhabitants to improve their health and nutrition.

Nutrition deserves some additional consideration beyond its links to consumption and the hygienic decisions and practices of the population. The best sanitary conditions, nutrition programs, etc. will not compensate for the loss of activities and incomes such as growing food, raising animals, access to traditional sources of food, keeping shops, etc. which contribute to the potentiality of informal economic activities.

We have thus far only dealt with the physical aspects of health. It should be mentioned however that comfort (thermal, acoustic, visual and spatial) as well as aspects related to mental health are also important and that house and neighborhood design can influence as well those two sides of health. For example, it has been recognized that high rise apartment living has had some detrimental effects on the well-being of dwellers not used to this type of environment. (19)

It is understandable that these issues have not been taken into consideration as much as they should when one is preoccupied with providing the very basic amenities of housing and health care.

Issues.

While in theory it has been widely accepted that improved housing has a beneficial impact on health, field observers have experienced difficulty in trying to prove this view. Very often no change or even a negative impact has been recorded. (20)(21)

This is due to several factors. First and foremost, impacts on health cannot be easily measured over a short period of time. It will take years to affect long term impacts. Second, cultural and environmental factors and lack of information may offset the impact of improved and sanitary housing. For example, a child who attends an unsanitary school, or worker who works in an unsanitary factory will get contaminated while outside his home. The misuse or non-use of new housing or neighborhood amenities will not affect the prevalence of disease.

Evidence.

- o Change in number of citizens who are beyond "x" minutes from emergency facilities.
- o Number and capacity of facilities and staff.
- o Change in average number of days of waiting time for hospital admittance for elective surgery.
- o Change in affordability of medical services (percent of families able to afford services).
- o Change in incidence of reported illness due to inadequate water supply, sewage and garbage collection.
- o Change in incidence of fires, explosions, traffic accidents, etc. Reduction in accidents related to children's play.
- o Awareness of climatic comfort within and around house; number of people expressing dissatisfaction.
- o Amount of noise levels (interior and exterior) and number of people bothered by noise.
- o Visual attractiveness of development as rated by residents and "experts."
- o Identification of usually attractive and unattractive elements.
- o Identification of conditions that affect households' current expressed satisfaction with privacy from neighbors.

- o Households expressed satisfaction with size and arrangement of interior spaces.
- o Number of households within "x" minutes of markets and/or shopping areas.
- o Measure of affordability and quality of stores and prices; affect of cost of housing on resources available to buy food.
- o Percent of total space used and number of households producing foodstuffs or keeping animals.
- o Ministry of food subsidies.

f. Satisfaction With House or Neighborhood

Satisfaction with one's dwelling and neighborhood is very subjective depending on past experiences and present expectations. This makes the examination of this topic quite difficult.

Dan Soen who has studied "habitability" found that numerous studies have dealt with the problem of occupant satisfaction. Most do not adopt the overall approach; rather a correlation is established between dwellings and various specific factors. (1)

Soen draws our attention to the facts that "one first has to take into account that the occupant's satisfaction expresses the difference between his previous dwellings and the present one. . . . Secondly, people's dwellings desires correspond to what they consider practical, and this is not too far from what is already in the family's possession. Thirdly, since satisfaction is a function of a whole series of factors, some variables are liable to cancel each other out and some to effect negatively the satisfaction of the occupant." (1)

The various evaluations of housing projects reviewed indicate a variety of findings.

For example, the participants of the AID sponsored Nuevo Chorrillo Cooperative Project in Panama appeared to the Evaluation Team to be highly content with their cooperative, homes and lifestyles. (2)

Meanwhile, the Gaborone project in Botswana did not seem to receive the same enthusiasm. Indeed, the residents expressed considerable criticism with the size of the houses, the inadequacy of toilet facilities, plot demarcation and the little attention paid to climatic conditions in the design of the dwellings. (3)

Issues.

While some changes in the quality of life spring up overnight, others do not, thus making the evaluation of long term satisfaction unmeasurable over a short period of time and particularly so just after project completion. Even though expression of satisfaction can change abruptly, inhabitants are often intimately aware of what makes their environment a good or bad place to live. An important issue to resolve concerns the

relation between the life cycle stage and adaptability of the beneficiaries and their satisfaction with a particular type of neighborhood and environment.

Evidence.

- o Percent of households who perceive their community as a good place to live.
- o Percent of households who are satisfied with their security or tenure and housing situation.
- o Average length of residence.
- o Change in capital assets controlled by target population.
- o Percent of households relying upon neighbors for assistance.

g. Family Life

It is generally recognized that housing on a unit, as well as on a cluster or neighborhood basis, exerts considerable influence on the stability and integration of the family. Does change in housing conditions change family activities, customs, harmony, etc.?

The United Nations reports that in fact very few empirical studies have been carried out to establish the influence of improved housing quality on family life. (4)

In the literature on squatter settlements it is often stressed that there is considerable warmth and support between family members, friends and neighbors. It was found that in Kuala Lumpur, ". . . squatters, despite handicaps and hardships prefer to live in these areas" (one of the reasons being) . . . "the appeal of traditional security where persons live in natural groups such as the extended family with relatives and friends close by, the same race, same dialect, religion, clan or caste and the same cultural habits."(5)

These feelings are bound to remain when an area is upgraded. However in sites and services and high rise apartments where people are new to each other, disruption may occur especially when planners and/or government officials may inadvertently put people of different ethno-religious groups together.

In Penang, C. Abraham noted that since moving into the flats the trend to live in nuclear families was hastened and that the frequency of visiting relatives had somewhat lessened. (6)

Psychologists, demographers, social scientists in general have tried to determine the influence of crowding on family life and family happiness. There does not seem to be a general trend. On the contrary findings can be quite contradictory.

For example, M. Mitchell showed that crowding experienced in non literate societies did not seem to have a negative impact on family life (7) unlike in high density housing in Hong Kong where he reported mixed effects on family relations. (8)

C.S. Chilman claims that, "A review of the available and far too scanty social and psychological research concerning the effects of housing, neighborhood and community on families fails to support many commonly held assumptions. Improved housing on other habitat features fail, by themselves, to promote increased social interaction, educational achievements, lower delinquency rates, or better family relationships." (9)

Issues.

Satisfactory family life is very difficult to measure although the measurement of the impact of increased living space on family relationships offers an indicator. The topic is closely related to the expression of general satisfaction with house and neighborhood, freedom from fear of crime, etc.

Evidence.

In general to be gleaned from indicators used under adjacent sections of the topic Social Potential.

h. Self Help

Self-help and mutual aid concepts were institutionalized on the basis that disadvantaged households who could not afford contractor built housing could still have access to their own private dwelling if they took care of the construction themselves.

The concept of self-help and mutual aid originally designed to take care of the physical aspects of housing projects has resulted in an increase of social awareness and feeling of community belonging out of which friendships, groups and associations have sprung up.

In the Santa Lucia Colony Mutual Aid Project, for example, a spirit of cooperation and solidarity which became stronger as construction progressed was reported by many people. In several cases, when participants were unable to obtain work and their families unable to afford to hire help, the group(s) finished the construction work and each family received its own house. (10)

Self-help and mutual aid may in some contexts contribute to the development of social stability and security.

Issues.

Self-help practices of traditional societies form no basis for institutionalized self-help programs in formal housing projects. The social "glue" is quite different. The economy is quite different.

The contributions of households to the self-help process is difficult to track down statistically but interviews with particular families would be illustrative and suggest the format for mini-surveys.

Group construction activities depend upon good organization for their success. It is wise to finish all houses before allocating any to ensure all in the group continue the work.

Evidence.

- o Extent and type of changes made to dwelling or neighborhood by residents.

i. Crime

Many low income areas all around the world are plagued with crime. People with socioeconomic mobility tend to leave their neighborhoods when crime rate increases seriously. However, low income people do not have this mobility and need to rely mostly on community organization to combat crime.

In low income communities where no such community organizations normally exist, the improvement or construction of new housing, especially through mutual help may foster such impetus to organize against crime when taken in conjunction with other programs of help.

M.K. Sen reports that squatters in Kuala Lumpur attach considerable importance to the local community and are concerned with its image "taking pains to prove that it is not tough, troubled or dangerous. . . To the squatters, the area was peaceful because trouble usually meant gang wars, and if you were not involved, you were safe." (11)

The physical layout of the neighborhood also plays a significant role. Street lighting for example is thought to help in discouraging crime and giving people a greater sense of security and safety.

Deim Mayu, Sudan 1000 homes, is reported to be "developing into a well integrated and socially active society. Police records, for example, point to a much reduced rate of crime." (12) The people of Deim Mayu had been relocated 10 years ago from Deim Gelude which was "an area avoided by the average citizen". These improvements were observed over a period of 10 years.

The relationship between crime and housing has been studied extensively in the United States. One of the more well-known works, "Defensible Space" by Oscar Newman, focuses on the forms of residential areas and the way in which they contribute to victimization by criminals. (13) The observations are mostly concerned with high rise projects. Jane Jacobs has also written on this subject. (14)

As Alan Booth puts it in his interpretation of Newman and Jacobs: ". . . the physical features of the urban environment encourage crime in community areas in two ways: first, by permitting non residents to have access to community areas; and second, by limiting the opportunities residents have to observe activities in their own community areas." (15)

Issues.

The interrelationships between crime prevention and improved housing are established in the literature, but they are indirect and hard to measure. Measurements have to be over a decade or more for a general long term trend. Some changes however can be traced probably over a shorter period of time. However, the durability of these changes cannot be assumed.

Evidence.

- o Number of neglected and abandoned youth in neighborhood.
- o Crime rate in existing community.
- o Percent of people feeling a lack of security from crime.

j. Recreation (or social events)

There are two forms of recreation (or social events) considered:

- (1) traditional forms of recreation which the project participants enjoyed before their resettlement or the upgrading of their neighborhood; and
- (2) project related types of recreation such as the construction of a community center, a playground, a soccer or basketball field, parks, organizations of activities, etc.

Recreation, as one of the universal occupations of man, is not formally considered one of his basic needs. This is an error. Since many housing projects only aim at addressing conventionally defined basic needs, recreational aspects are often forgotten; or sacrificed when money runs short. Community developers and social workers do not always stay long enough to have a meaningful impact on recreation development.

In Nuevo Florido, it was reported that after the home demonstrators left, organized social activities declined, alcohol consumption increased and boredom settled in. (1)

It is important to take into account cultural values when designing houses, neighborhoods, and community facilities. This cultural aspect is often misunderstood or neglected due to the complexity of rates of change.

For example, the Kolfe Housing Pilot Project at Addis Ababa received two major criticisms concerning cultural values:

- (1) "the difficulty of placing the traditional ceremonial tent so that it would be in view of all the houses."
- (2) the fact that owing to the design of the house entrance, a coffin cannot go through the door, when customs demands that a dead person start his last journey through the entrance of his own house. (2)

These experiences hint at many concerns but underline the need to provide a potential in projects for social meeting and recreation. Physical planning primers and architectural standards handbooks offer some guidance but generally need cultural translation for any specific country.

Issues.

Need for the realization that play is a basic human need. Some theorists would have it that there is no change and no learning without the element of play. However one should not assume that new elements of play superimposed over existing forms of play will necessarily be successful, because they seem to be "better" than existing ones.

Evidence.

- o Number and types of facilities.
- o Number of households having access within "x" minutes of recreation facilities; capacity versus size of user population.
- o User satisfaction with public facilities.
- o Availability and physical conditions affecting households current expressed satisfaction with recreational opportunities in informal spaces.

k. Social Services

This is interpreted in this classification to cover location issues and social amenities including marketing facilities.

Careful planning for the location and provision of social services such as community centers, day care centers, religious/cultural centers, burial grounds, police stations, post offices, shopping facilities, etc. is essential to the well-being of a community. (3)

Though many housing projects do not include the whole range of such services due to a lack of funds or because the small size of the project does not justify their provision, no housing project exists in a vacuum. They form part of a larger area or neighborhood. They are subject to urban evolution.

It is necessary to make sure that the essential facilities are accessible in adjacent neighborhoods and/or that sites are reserved for future construction if construction is not planned to take place at the same time the houses are being built.

Failure to take into consideration what may seem trivial planning matters to an outsider may cause the housing improvement to have some unexpected adverse impacts. For example:

- (1) Some ethnic groups are used to shopping on streets, other on market squares. They have done so for hundreds of years. It is futile to seek to change their shopping habits through a housing project.
2. Ethnic groups sometimes share a common neighborhood, not by choice but by circumstances, and live in an uneasy state of

territoriality and stability. Planning for their respective churches in "the wrong" location, or in a discriminatory fashion (i.e. one given a particular prominent site) may cause serious disruption and dissatisfaction among the two or more groups.

The non-respect of sacred places, such as nearby burial grounds, may cause an uproar. It is important that plans to extend burial grounds do not interfere or clash with housing project implementation as planned extensions. Some ethnic communities will not live close to the burial grounds of others.

Issues.

Many aspects, some of which have been mentioned above, have too often been neglected until after the fact. They have not been the object of much attention in the literature. This is an area which needs more exploration and more consideration by evaluators. (4) When conducting an assessment, it is indispensable not to pass judgment before having interviewed the participants regarding which types of social services they value the most.

Evidence.

- o Proportion of facilities having access to post office, bus stop, police station, community center, etc. within "x" minutes walk.
- o Change in usage as a percent of capacity; waiting times etc. per facility.
- o Number of stores and services by type available within distance.
- o Proportion of households generally satisfied with local shopping conditions (access, variety, crowdedness).
- o Number and types of facilities.
- o Number of households having access within "x" minutes of recreation facilities; capacity versus size of user population.
- o User satisfaction with public facilities.
- o Availability and physical conditions affecting household's current expressed satisfaction with recreational opportunities in informal spaces.

1. Technology

Considerable research, information and hope has been generated in the past by architects and engineers concerning the application of new, small-scale housing technologies to developing countries. Most attempts to apply these technologies however, have met with little success so that internationally funded housing projects,

such as sites and services and upgrading, now emphasize the application of local materials and technologies as much as possible. The literature survey was not able to reveal any significant evaluation examples concerning the impacts of improved traditional building materials and techniques on the project beneficiaries or the larger community.

A recent report to the U.S. Congress on the Housing Guaranty Program (1) points out that "innovative construction methods or technology are not generally a major feature of the program now, except for the initial design of these reduced standard houses. Construction materials are those traditionally used in the countries and reliance on individual self-help efforts requires the use of the simplest construction methods."

Because the emphasis now rests on the provision of physical and social infrastructure, self-help housing construction and gradual improvement is largely left to the project beneficiary. The uncertain time frame needed for housing consolidation and the need to provide sustained technical assistance have discouraged the application and evaluation of new appropriate building technologies to large scale projects of this type. A report by the United Nations (2) on 23 self-help housing projects showed that families made considerable efforts to improve or enlarge their dwellings using mostly conventional construction techniques. Over 75 percent of the families in these projects used their own resources to improve their homes within two or three years after occupation.

Where new technologies and materials have been introduced it has largely been due to their availability and cost effectiveness for low income families. In Tondo, Manila the introduction of new light weight materials such as chipboard, plywood, etc., had a significant effect on physically improving the housing situation. It not only allowed a significant reduction in the number of buildings normally built of salvaged materials, but also provided a cheaper means of constructing partition walls and minimum load bearing walls on upper floors, thus increasing the amount of space available to families. Within the same upgrading project, 41 percent of structures originally built without toilet facilities were equipped with bucket flush units that could easily be converted to regular water closets once a system of piped water was operative. (3) A basic conclusion supported by the CINVA-RAM experience and the use of corrugated metal roof sheets is that technologies need to be adaptable, able to accept incremental changes, and be small in scale in order to be successfully adopted and applied.

The literature survey also revealed very little about the impacts of technical training. However, in a project in Addis Ababa more families who occupied aided self-help built houses invested in improvements than those occupying contractor-built houses. The majority of these self-help families appear to have carried out the extensions and improvements of their housing by using the training given by the program during the construction of the original house. In a similar project in El Salvador, much of the construction work was carried out by women who made concrete roof beams, cut reinforcing bars, painted and helped men in covering the roofs and plastering. (4)

At present, a major area of interest in the evaluation of housing projects is the determination of how low income families actually construct their houses under the 'self-help' process. In general, results have shown that self-help housing construction does not mean that families actually construct their own houses and that many prefer to hire craftsmen or small scale contractors. Families are, however, intimately involved in the management of construction. This may partially explain why building technology has to

management of construction. This may partially explain why building technology has to remain simple and clear to both owner and builder and why new technologies have been slow to catch on.

Issues.

Very few evaluations have been made on the more subtle impacts of housing technology (spread effects, impact on employment etc.) To do so would require a series of measures taken over a considerable period of time. While much of this evaluation might be done by observation and interviews with key informants, it would need to be done for some time after the project was finished.

Outstanding issues include the 'spread effect' of new housing technologies, i.e., whether those who had been trained in technology during the project had found stable employment; and whether this technology did in fact reduce the cost of housing and maintenance compared with conventional technologies.

Evidence.

- o Percent of households involved in self-help housing.
- o Percent of households involved in physical community improvement programs.
- o Proportion of households able to maintain sanitary facilities.
- o Percent of households generally understanding and satisfied with technology employed; evidence of demonstration effect.
- o Percent of households able to afford new technology.
- c Number of persons trained during project.
- o Number of persons with sustained employment from new technology.

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**PART II. CONCLUSIONS AND IMPLICATIONS FOR THE DEVELOPMENT OF
RAPID ASSESSMENT METHODOLOGIES TO DETERMINE THE IMPACTS
OF SHELTER PROJECTS**

**CHAPTER 2
OVERALL ISSUES IN ASSESSMENT OF THE SOCIAL
IMPACT OF HOUSING**

A. ISSUES IN EVALUATION

The development of improved approaches to evaluation is an integral part of any search for relevant techniques of rapid assessment. The literature of potential relevance to the development of evaluation of housing impact can be conveniently related to the following categories (See Annex I, the Character of the Literature):

1. Social Theory

Lack of binding social theory that relates people to the built environment means that either input/output or effects and impact evaluation is built on a tentative base. The state of the present art is the result of many refinements of pragmatic experience with applied social theories and evaluation practices. It is not an edifice standing on a refined theoretical foundation.

2. Evaluation Theory

This is currently a hybrid theory drawn from a number of disciplines as modified through interpretation based on past experience and experiments.

3. Agency Practice

a. The AID Office of Housing conducts input/output project efficiency evaluations (which are rather confusingly called in some literature "impact" evaluations). These evaluation programs, if continued, could usefully be extended in their terms of reference to attempt, in a modest way, to measure the effects and impacts on the new households which stem directly from a few key components (i.e. having tenure, having clean water supply, etc.). Not only would the evaluations be strengthened but some progress would be made towards being more knowledgeable about what impacts might be measurable in rapid assessment, and by what means.

b. World Bank (Urban Projects and Urban and Regional Economics Divisions) evaluation based on the input/output format has already progressed modestly into the field of outcomes, effects and impacts. This experience, when distilled, will be available to strengthen the evaluation work of others. It may also contribute to the development of rapid assessment techniques, although this is not a declared purpose of the program.

4. Academic Interests

Some academics should be encouraged and supported to look into practical issues surrounding rapid assessment. This work should be done in association with concerned government departments or with consulting firms who have practical experience on

housing evaluation and/or assessment. The academic experience with impact evaluation offers a relevant point of departure for this new research topic.

5. General

The assessment of housing impacts is more complex than solely a concern for the quality of the dwellings. The issues can be conveniently grouped under seven main headings:

- a. Population the project was intended to assist.
- b. Project setting.
- c. Project purposes.
- d. Project implementation.
- e. Project impact: findings.
 - o location
 - o tenure
 - o social infrastructure
 - o public infrastructure (utilities and services)
 - o the quality of houses
 - o small scale enterprise
- f. Project impact: analysis.
- g. Lessons learned and policy implications.

B. ISSUES IN THE SELECTION OF IMPACT MEASURES

1. A review of the literature of evaluation indicates the need to have a knowledge of the range of evaluation tools.
 - a. Appropriate for general use irregardless of the time period available for taking measurements (i.e. key informant interviews).
 - b. Requiring special expertise to use (i.e. social surveys using questionnaires).
 - c. Appropriate to reduce, accelerate or use in reportage format in order to permit rapid appraisal by general users (i.e. citizen interviews).
2. Rapid assessment is composed of measurement (often "rough cut" or by proxy), analysis, judgment and values. The values, and therefore judgments, of the assessors may be rooted in a culture distinct from that of the people investigated. An awareness of the risk to interpretation is a necessary skill of the assessor.

3. There is a need to try to establish priorities among the many aspects or variables that require assessment. Many times this is a difficult task due to the highly interlaced nature of housing action and impact. To undertake an investigation of only a limited number of aspects is to risk leaving many questions unanswered and to possibly miss some of the major benefits of the project. Yet this risk has to be taken.

Priorities will be established, in part, from a review of the general structure and purpose of projects, but will also result from the specific nature of each project. In some instances, a variable (such as fresh water supply to each house) may be of great significance, while in another housing project some other aspect looms large.

4. The need exists to establish a complete picture of the project beneficiaries. Beneficiaries should be defined on the basis of those for whom the project was originally intended (the target population), the initial occupiers of each plot or dwelling, the current occupiers and others who have benefited although they live on adjacent sites.

A measurement technique is often conditioned by availability of appropriate records. Records of school attendance, rental payments, titles to land are often found not to be kept in a format useful to management control or evaluation. Defining control and management requirements for project and facility recording is an important part of any general program which seeks to improve evaluation and establish a foundation for effective rapid assessment.

C. ISSUES OF RAPID ASSESSMENT PRACTICE

1. Appreciation of the character of the task presented by accelerated housing impact assessment is essential for its successful undertaking. This reads as a truism. However, gaining this appreciation is not easy given the present state of theory on social interaction and social trajectories (i.e. paths of development).
2. The definition of "housing" for the purposes of each exercise will be significant and indicate the range of indicators to be reviewed. Housing defined as walls and roofs is a narrower subject than housing defined as a major contribution to urban development and social opportunity.
3. The adoption of the four-week field visit with its emphasis on a one-time field measurement presents a difficulty. The essential requirement for substantive evaluation — a series of measurements taken through time — is circumvented. We, therefore, have to "get around" this difficulty of principle as seen from an academic or professional viewpoint.
4. While rapid assessment is more an art than a science, it can build on social science theory and technique. Sometimes this theory can be borrowed directly. More frequently it will be employed by analogy or reflection to structure professional judgment. Communication theory, systems theory and catastrophe theory all have relevance.

5. The degree of accuracy that is generally acceptable in this type of analysis will determine permissiveness towards the use of reportage, housing participant's perceptions and figures "grasped from the statistical darkness." A general waryness has to be maintained on the human tendency to assess what can be measured easily — and to downgrade the significance, or worse ignore, that which cannot.
6. A suitable modesty concerning the ability to assess on a rapid basis seems called for. Any results must be considered to illumine the field rather than define the nature and scale of impact made. And as we know, things can be transformed by the lighting to appear quite different than they are. Analysis of data will be heavily dependent on the form it takes upon the knowledge of, and selection of, guiding social theory. Interpretation will have its roots in professional experience rather than in theory. All these factors point up the uncertain character of the rapid assessment task and point to the skills of team members that are required.
7. The task demands of assessors:
 - a. A knowledge of evaluation and assessment skills.
 - b. A knowledge of how and when these skills can be employed, and under what conditions their use can take a "shortcut" form at what cost in relevance and accuracy.
 - c. A knowledge of housing conditions, intentions and actualities in the Third World.
 - d. A country profile and preferably personal knowledge of the host country.
 - e. A willingness to embark on accelerated assessment which, however shaped by knowledge of social science based evaluation, will be forced to lean heavily on journalistic type reportage and mass observation techniques.
8. In summary the skills required of the team:
 - a. Experience in technical administration, project management, consulting or professional housing experience, rather than purely a design or academic orientation.
 - b. Judgmental interpretation of often sparse or contradicting information or evidence.
9. The personal qualities of the team have to compensate for the lack of time available to conduct the evaluation.
10. One, or preferably two members of an assessment team should have previous experience at conducting similar evaluations.

11. Among the personal qualities that appear to be desirable:
 - a. Self awareness. Knowledge of the self, of one's abilities and limitations and of how one is perceived by others.
 - b. Social awareness. Social and cultural empathy with the ways of others and the skills to understand the inner coherence of other societies.
 - c. Communication skills. Ability to communicate; ability to listen.
 - d. Sensitivity to people. Will go "where angels fear to tread" but is never "a bull in a china shop".
 - e. Creative in problem solving. Ability to distinguish facts from opinions (but also capable of recognizing the latter as a fact of a particular kind), to attach meaning to facts and turn data into information.
 - f. Learning skills. Ability to learn and internalize quickly the cultural mores of a people. Able to listen to the managers and participants of a project in order to draw relevant conclusions from their experience.
 - g. Analytical skills. Ability to analyze and cross relate data, extract and synthesize information into coherent findings and recommendations.
 - h. Adaptable. Able to adjust academic and professional deep probe/long term evaluation techniques to rapid assessment situations. Willing to accept that some social indicators are not fully reducible to quantities. Willing to use proxy measures and to take risk of interpreting participant perceptions and the reportage of others. Able to operate in stormy, dynamic and sensitive environments without contributing to any rise in tension.
12. Assessors should be experienced housing and evaluation generalists, having spent many years in developing countries.
13. In addition to contributing a specific assessment report, each team member should submit their own recommendations for improving accelerated evaluation. Generalities may be useful, but most significant would be recommendations on how to measure by proxy specific social indicators.

CHAPTER 3

THE NATURE OF RAPID ASSESSMENT

There is no literature on the rapid assessment of the social impact of low income housing. The literature on evaluation allows access to the topic.

A. LESSONS LEARNED FROM THE LITERATURE ON EVALUATION

The ample literature which exists on evaluation is derived from many disciplines and cross-disciplinary studies. There is a limited amount of literature on the evaluation of housing projects. Most of this focuses on the efficiency with which projects were implemented (i.e. inputs and outputs) rather than their social impact once implemented. Much of this type of literature is only published "in house" and a high proportion in draft or work in progress format. It is not available for citation. (1)

The lessons learned from a study of the literature include the following:

1. Housing project evaluation takes a long time to pre-plan and organize and often many years to carry through.
2. The literature is multi-faceted and in flux, contains contradictions and many languages of description which stem from the wide range of disciplines. (2)(3)
3. There is a lack of binding social theory, or evaluation theory, either for project efficiency or social impact evaluation and assessment. Disciplines have their own theory in accord with interests.

In architecture, there are theories that link the perception of physical conditions and environment with personal behavior (4) and the character of communal space with crime rates (5). In physical planning and land development many theoretical and national modes of interaction are adopted in explanations of the interaction of man and land use (6)(7). Each reflects an underlying base profession within land use study (i.e. accountancy or land surveying). In economics, at a pragmatic level, a practical literature of evaluation has been developed based, among other parameters, on the interrelation of land development and employment generation. (8)

In the social sciences the applied systems theory has been adopted by some researchers to reveal relationships between project inputs and outputs and consequent effects and impacts through a series of interactions with the physical, social and cultural climate. The aim is to obtain a level of knowledge between the merely anecdotal: "This happened . . ." and the dubiously academic: "Questionnaires sent to 100 firms showed that . . ." (3) Catastrophe theory penetrates further levels of explanation focusing on sudden divergences from norms. (9)

4. There are three types of effects and impacts: direct, indirect and intangible.
 - a. Direct. The readily observed and easily counted (e.g. type, quantity and quality of houses, infrastructure, density, means of transport, schools, markets, services, etc., their cost and price level in use).
 - b. Indirect. Those that result from the creation of new physical surroundings — the outcome of the project. These include changes in household living patterns, institutions, etc. They are more difficult to measure and interpret. They are often not quantifiable, or quantifiable only after the most extended research (e.g. family life, consumption patterns, health, nutrition, education, community stability and security, education levels, participation, income and expenditure, work opportunities, productivity and vocational training).
 - c. Intangible. Changes in social outlook, in attitudes, in motivations and interests.

5. Selection of the indicators to measure direct impact is not easy, for the indirect less easy still, and for the intangible very difficult indeed. Apart from the matter of selection there is the difficulty that a housing project offers such a small statistical base on which to undertake a study resolving major issues such as changes in health or nutrition, birth rates or life expectancy. Improvement in the housing stock (a direct impact) can be measured by a count of the increase in numbers/proportion of houses of standard materials. Linkages of improvement in health to housing quality on the basis of any specific housing project component or aspect is virtually impossible to prove. (10) For example, statistics from a particular country may indicate that the prime causes of infant mortality are the following:
 - a. Diseases of the intestine and of parasites;
 - b. Respiratory and other contagious diseases.

The former are closely associated with poor water quality, inadequate water supply and poor waste disposal. The latter are related to overcrowding, and to a certain extent, to quality of house construction.

While improvement in housing quality may relieve unfavorable environmental impacts on individuals and households, it only offers potential for health improvement. Whether health improvement takes place and infant mortality decreases will also be determined by:

- a. Parallel improvement in nutrition;
- b. Health education and hygiene programs;
- c. Physical access to medical advice and care;
- d. Willingness to take medical advice;

- e. Ability to pay for medical service.

Of these, only part of (c) may lie in the hands of housing project implementors.

- 6. The lack of confidence in the ability to measure accurately the indirect and intangible effects means that, in practice, very large samples have to be studied, over many years and at scales larger than any one housing project (i.e., citywide or nationwide). Where "answers" are required for a project within a few years of occupancy, one can only draw attention to the potential offered (i.e., better roofs, closeness of health clinics, clean water supply). Some correction of first impressions is possible through inter-project comparison.

B. IMPLICATIONS FOR RAPID ASSESSMENT

- 1. Most project assessment undertaken over a few weeks cannot be considered an evaluation. There is no possibility of complying with the procedures inherent to an evaluation, i.e.:
 - a. Measurements taken over a time series;
 - b. Cross-checking through a statistical comparison of many indicators per variable assessed;
 - c. The use of sample surveys;
 - d. Frequent reviews of method.
- 2. It has to be accepted that the literature of evaluation offers very limited guidance as to how to undertake a rapid assessment, or what to do concerning the selection of impact indicators.
- 3. The methodology for undertaking a rapid assessment has to be constructed from sources other than the literature of long-term evaluation. This literature can serve as a background against which to identify issues. Prominent among these are:
 - a. The need to establish the priorities of low income housing projects (i.e. the offering of a potential to join the urban world). These priorities determine the input/output scales used in the Logical Framework of project design and will influence the selection of indicators of intended effects and impacts which form the focus (with unintended effects) of the rapid assessment of post project impacts.
 - b. The need to establish the priorities of impact measure (i.e., the key variables). This is crucial to successful assessment because of the short time available on field visits, the need to focus at once on what it is essential to do, and the need to define and identify what

social indicators might serve as proxies for a variable or a group of variables since the potential listing of relevant indicators is infinite. (See table in the Annex.)

- c. The need to find a "shape" for the field experience of rapid post-project assessment. Pending the relevant experience gained from the implementation of the assessment program, the development of methods and techniques must be derived from:
 - o the purpose of assessment (i.e. to influence later project design, to inform Congress, to train evaluators).
 - o a definition of the character of person who would be suited to undertake rapid assessments of housing impact.
 - o an emphasis on the distinction to be made between project efficiency assessment (inputs and outputs), and project impact assessment (effects and impacts) plus the realization that the latter cannot be undertaken without reference to and knowledge of the former.
 - o the severe constraints put on the assessment team by the restricted field visit time of three to four weeks.
 - o the format of reporting (i.e., terse and in length not to exceed fifteen pages).
- d. The need to focus on measuring direct effects on a short visit (i.e., "how many stand to benefit from the proximity of a functioning health center" rather than "to what extent has health improved due to"), given the difficulty of measuring indirect effects and impacts revealed by the literature review (11).

C. FIELD APPROACH TO RAPID ASSESSMENT POST PROJECT

At the outset there is a conflict. If we focus, as seems wise, upon the measurement of direct impact measures (i.e., very close to the measurement of outputs) such as the number of people, houses, persons per dwelling, the number of households renting out part of their dwelling, the number that have left the project and/or sold or rented out their dwelling, types of employment of participants, etc., we will learn much, but not reveal some of the policy trajectories that were stated for the project. These unanswered policy questions in evaluation terminology often fall into the indirect category of measure. They stem from the potential for change that is offered by the new physical environment, the access to credit and the social participation potential of having a place in a developing urban environment. Changes in expenditure patterns, school attendance, health, and community stability can be inferred to be related to housing but the nature of the relationship, the need or not for supporting structures (such as health education or community education programs) is far from clear. (12)(13)(14)(15)

However, some mention of these matters will be required in a rapid assessment. They can build on the project input/output analysis (if already undertaken) and be

extended by citizen interviews, key informant interviews, field observation and overviewing (without statistical analysis being available) project, education, health and utility corporation records.

D. THE PURPOSES OF PROJECTS

As declared in the Office of Housing, AID, Annual Report for 1980, these are:

"The policies of the Agency continued to reflect the Congressional mandate to concentrate AID's programs on the poor. . . ."

"This group is defined as the poorer half of the urban population of a given country or city."

"In accordance with this mandate, various approaches to low cost shelter were initiated, including slum upgrading, basic or core housing, and the development of lots serviced with utilities to be later improved by the purchaser. Emphasis has been placed on the provision of basic services to provide a sanitary living environment and lay the groundwork for orderly, economical development as families are able to afford improvements and expansion. Typically, a family having an income below the median level in a developing country will be able to amortize a loan no greater than \$1,000-4,000, depending on the country and location and it is within this financial context that the Office of Housing develops its programs."

"In 1978, with the increasing recognition that shelter development and community development are interdependent, the authorizing legislation was amended to allow the financing of community facilities and services with Housing Guaranty loans. Such facilities could include, for example, schools, health clinics and community centers, job skill training centers, employment offices, markets, small industry centers and post offices."

In the development stage of the project, the host country is encouraged to take a broader look at its shelter problems, particularly those of financing and low income households, and to develop new long range shelter policies based on sound cost recovery strategies. Important principles of the Housing Guaranty Program are: (1) maximizing a country's resource investment in shelter and (2) continuously recovering and reallocating that investment to ensure a more equitable distribution of limited shelter resources." (16)

These policy themes may be summarized as being:

- o The need for affordability.
- o The belief in giving access into the urban economy through assisting in the development of a real estate asset of value.
- o The offering of social potential for personal, family and community development.

These three themes thus shape the field assessment work, analysis, interpretation and report writing.

It was not a declared intent of the terms of reference for the rapid assessment of housing impact on households to investigate economic issues as well. But, the undertaking of social impact analysis of housing without reference to the economic issues surrounding the target group, and the costs they incur per developed lot or dwelling, is to avoid central issues. It has been past practice to heavily subsidize a project, then measure its social impact and conclude that the beneficiaries have benefitted in various ways. However, this type of statement would be misleading when making cross project comparisons. The subsidized project is not an answer to the essential problem, the providing of adequate housing at costs that people can afford.

In undertaking post-project rapid assessment, a balance will need to be kept in the consideration of the three themes and at direct and indirect indicators.

1. Affordability

This concept is constructed around the question of "are the households in a state of equilibrium" (i.e., willing and able to pay for the house and services offered within the terms and rates charged). This question has to be assessed for:

- a. Purchasers;
- b. Renters.

Indicators include:

- a. Change in percent of income going into housing;
- b. Rate of turnover (do people have to move because of the cost of purchase or rent);
- c. Pattern of household expenditure (are people giving up expenditure on other necessities to afford the house);
- d. Level and length of arrears in monthly payments;
- e. Pattern of income generation (taking in renters, which could cause overcrowding and adversely impact the health potential of the project);
- f. Rate and level of house completion by those original purchasers still in the project.

2. Real Estate Value

This concept is an effective measure, in principle, of the impact of a housing project. Well-designed houses (in the technical, aesthetic and cultural dimensions) and well-serviced neighborhoods lead to a more rapid increase in value than ones which are badly designed and implemented houses. This indicator also measures to a certain extent the success or failure in part of wider aims such as housing sector development, national productivity and capital formation.

While real estate value is a good indicator of many aspects of social development, its assessment can be influenced by the following:

- a. Lot size;
- b. Position/location/access;
- c. Density of urban facilities — schools, health clinics, markets (absolutely and relative to citywide standards);
- d. Market availability of mortgage funds;
- e. Number of buyers in the market;
- f. Scarcity of dwelling type;
- g. Quality and suitability.

In a rapid assessment visit, it may be necessary to restrict consideration to house quality, location and access and density of urban facilities.

3. Social Potential

The use of the word potential may need further explanation. It has been argued that in rapid assessment it is possible to obtain usable answers to questions that in format relate to direct outcomes of the project (i.e. what percentage of households are located near, or nearer than previously, to a market center, place of employment, etc.). Indirect questions that ask, for example, what proportion of households have improved health as a result of the project, are virtually incapable of being answered, even within the framework of extensive evaluation programs. So we focus on the measure of potential developmental impact offered by the project, avoiding in rapid assessment, those indirect impacts which are very difficult to measure.

The implications of the focus on the measurement of potential can be illustrated by reference to an example, the search for key indicators for a particular urban upgrading project which has tenure, paved and drained roads, piped water supply, building material loans and health clinics as components. Focusing on direct impacts and the need to keep the number of measures low, we refer to the table in the Annex on the selection of indicators and construct a preliminary table for the specific project (Table 1).

This exercise gives fourteen variables and seventeen indicators around which data search and questioning can cluster. The answers to these seventeen enquiries would reveal the impact of the project. Should seventeen enquiries be too many — as is quite probable for a three-man team operating over three to four weeks in the field — then this list has to be cut down on pragmatic grounds. Suggestions for achieving this appear in Chapter 4. Nine to ten indicators may suffice. Proxies, perceptions and judgments are used to the extent that project and facility records, mini surveys and observations fail to give a clear indication of the project's impact.

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TABLE 1
(page 1 of 4)

PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA
1. <u>AFFORDABILITY</u>	(a) HOUSEHOLD INCOME	Change in amount and sources of revenue related to work. Change in amount of revenue related to rental properties. Change in proportion and types of expenditures	Monthly family income (including informal sources). % of households receiving revenue from rental units within neighborhood. User rates for utilities. Changes in expenditures related to housing.
2. <u>REAL ESTATE VALUE</u>	(a) LAND TENURE Tenure Land Values (b) HOUSING QUANTITY AND DISTRIBUTION Types and Target Groups	Change in proportion of households having type of tenure consistent with their economic status. Change in land values. Changes in number and type of adequate housing affordable by target group households.	Type of tenure as % of distribution. % of households holding tenure leading to house ownership. Turnover of houses. Owner's estimate of housing values vs. sales prices. Key informant's estimate of housing values vs. sales prices. % of project housing units actually affordable to and taken up by target group.

TABLE 1
(page 2 of 4)

PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA
	<p>Occupancy</p> <p>Types of Loans</p> <p>(c) INFRASTRUCTURE INSTALLATIONS</p> <p>Effectiveness and Use of Roads</p>	<p>Change in road standards appropriate to target group.</p> <p>Change of physical conditions which influence household's expressed satisfaction with roads.</p>	<p>% of houses inhabited by target group households.</p> <p>Proportion of dwellings/plots only partially occupied.</p> <p>Proportion of occupant households who are original, 2nd occupiers, 3rd occupiers.</p> <p>Proportion of households taking up loans for plot purchase.</p> <p>Proportion of households taking up building materials loans.</p> <p>Maximum distance to house from road.</p> <p>Number of households with access to public transport within an acceptable distance from their residence.</p> <p>Number and type of public services and facilities with vehicular access.</p> <p>Maintenance of roads.</p>

TABLE 1
(page 3 of 4)

PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA
	Drainage System	Change in percentage of households benefiting from and maintaining system.	Proportion of households served by system.
		Change in percentage of people endangered by flooding.	% of households no longer endangered by flooding.
	Sewerage and Sanitation	Change in percent of households benefiting from adequate sanitation facilities and garbage collection.	Number of households using sanitation systems; population benefiting.
			Proportion of households maintaining sanitation systems.
	Fresh Water Supply	Change in population receiving safe potable water supply.	Number of households benefiting from garbage collection.
			Number and proportion of population benefiting from piped water connections.
	(d) HOUSING QUALITY		Number and proportion of population within ___ distance of a water standpipe.
	Implications for Future Housing Quality	Change in house maintenance.	Proportion of households adequately maintaining their house and the grounds around it.
			% of households "upgrading" their own housing.

CHAPTER 4

UNDERTAKING AN ASSESSMENT

The development of an appropriate attitude to the task of undertaking rapid assessment of housing impact in one three-to-four week field visit is an essential element of the assessment team.

A. ORIENTATION

Three aspects are significant:

1. Orientation towards the constraints offered by the severe limitations on time.
2. The need for the assessing team to establish their particular purpose in the light of purposes given by others:
 - a. In order to help limit the number of measures to be taken;
 - b. In order to be able to prepare a draft report before leaving the country visited.
3. The need to establish, prior to the field visit, the way that the report will be put to use (i.e. to improve the relevance of policy and/or to improve the design of projects). The stated use will influence the design of the field study, field visit scheduling, the report organization and have some influence on the choice of assessment priorities. For example, if integration of a project with adjacent neighborhoods and the city as a whole is made a survey theme, then some of the time of the assessing team is going to be spent beyond the immediate project area. The implications of this for the final report should be discussed and any false expectations about the degree of confidence to be placed in its content cleared before undertaking the work. The necessity of adding a member to the team specifically to treat the wider intra-urban ramifications of the project should be discussed.

B. KEY ORGANIZATIONAL ISSUES

1. Pre-Departure

- a. Get all parties (national government of host country, USAID departments involved, community leaders, etc.) to agree to the purpose and design of assessment. Allow long lead time for this (say, three months). Ensure an official is appointed to represent the visiting team prior to arrival and after departure.
- b. The pre-planning of access to baseline data will enable the time in the field to be used more profitably. The more that is known about

the input/output structure of the project the more readily will the team be able to focus on effects and impacts.

- c. Select the team members and the techniques to be used at the same time. Some social scientists may not be able, or willing, to switch over from an academic time period of many months or years to the required professional time period of three to four weeks.
- d. Agree early on the size and structure of the budget for the particular survey. Interpretation of aerial photographs or execution of mini surveys can be expensive. Mini surveys need to be planned in part, with a local survey expert, prior to team arrival.

2. On Arrival

Establish the level or levels (i.e. national housing sector, citywide, program) that is to be assessed in addition to the project. Many indicators (birth rate, migration, etc.) are only collected at levels higher than the projects.

Clarify with the local host country representative the study's purpose and use.

Agree and confirm the total time available and the field time available (e.g., three to four weeks in field, six in total) for the assessment. Survey and interview behavior in the field will be determined by time available.

C. RECOGNITION OF TYPE OF PROJECT

There are four basic types of low income housing projects:

1. Walk-Up or High-Rise Apartments

They are characterized by: (a) complete urban infrastructure including water, sanitation, electricity within buildings; and (b) multi-level buildings (up to four stories for walk-up).

2. Sites and Services Projects

These are characterized by the subdivision of a site into plots and the servicing of this site: (a) infrastructure (the level varies greatly from communal standpipes and sanitary facilities, open sewers and unpaved roads to individual water, electricity and sewerage connections and paved roads); (b) type of dwelling (it varies from core house to full house, built either by self or mutual help or contractor); (c) materials loans often are an integral part of such projects.

3. Neighborhood Upgrading

It is characterized by the general improvement of the existing urban habitat. It is the only type of project that does not involve a major relocation of

the project beneficiaries. It usually implies an improvement in roads, street lighting, supply and sanitation systems in houses (i.e. consolidation of existing houses) with help offered through materials loans.

4. Rural Housing

This is characterized by the small scale of the projects and by their location in rural areas.

Any of the above types (except rural housing) may be accompanied by the provision of community facilities and services such as schools, markets, health centers, community centers, etc.

Size of project (i.e., number of households effected) will be an important aspect of type.

Difficulties of Assessment. Walk-up and multi-story apartment dwellings are unlikely to form part of any current assessment program. Putting these to one side, sites and services projects are perhaps the easier to assess. Project beneficiaries are easy to determine. They now occupy land that was previously unused for residence. Furthermore, all families are subject to roughly the same set of project components to approximately the same extent.

The assessment of the impact of an upgrading project is less easy. Families enter the project circumstance from a wide range of situations. While some will be considerably impacted, others will be hardly at all. Accessibility within the project area, even when improved with widened roads and paths may still vary greatly. Some households may now be quite close to a clean water supply; others, while better off than before, still have quite a walk. Some may be close to a health clinic and use its facilities while yet others in the same project area perceive the clinic as being a long way off and not accessible to them.

5. Social Indicators and Project Type

Project objectives and project type offer forceful guidance as to which variables and indicators should be considered under the three themes of affordability, real estate value and social potential. The upgrading example considered in Section 3, Social Potential, Chapter 3, give an instance of how this might work (Table 1).

For a sites and service project providing a core house, an associated building loan program plus a vocational training and small business/craft development program, the social potential indicators would include:

- a. Tenure (leading to community stability);
- b. Paved and drained roads (improved access and potentially healthy environment);
- c. Piped water to lots (potential for improved health);
- d. Building material loans (community protection and stability);

- e. Vocational training (improved productivity and earning potential);
- f. Small business establishment (development of management skills, access and use of credit and of the newly acquired vocational training).

Factors (a) through (d) will be subject to the further variables of lot size, family income and family size. Two, or at most three indicators per aspect or variable should reveal enough information to make a rapid assessment. This would give 12 to 18 indicators of social and economic potential. These can usefully be selected from the table in the Annex or alternatively inspired by the table listing.

The methods for satisfying or obtaining evidence in a short period of weeks are contained in the table under conditions of rapid assessment. They are drawn from the following list which shows their degree of reliability. Reliability varies from good through fair to low. In each case, a current position is compared with an earlier state or with comparable groups/housing areas nearby.

6. Degrees of Confidence in Modes of Enquiry and Sources

- a. Good
 - o aerial photo analysis (scientific)
 - o mini surveys
- b. Fair
 - o project records
 - o bank records
 - o land survey records
 - o construction records
 - o project plans
- c. Fair to low
 - o school attendance records
 - o aerial photo analysis (art and judgment)
 - o employer records
 - o police records
 - o key informants
- d. Low
 - o citizen interviews
 - o observation
 - o newspaper files
 - o community organizations
 - o political party and labor unions
 - o photography

- o walking tour

Where the degree of bias is likely to be high the rating is low. Unless record keeping was initially organized with the view to being used one day for evaluation or management control purposes, they are unlikely to be in a form immediately useful to an assessing team. It is highly unlikely that such data can be transformed into a useful format within the three- to- four-week time frame of a field visit, since this is likely to be a highly labor intensive exercise. The assessors who are faced with such raw data will be forced to rely on key informants and the enquiry techniques of group (d).

D. FIELD VISIT PRACTICE

Three requirements dominate practice:

- o The need to organize the work of the team to make the most effective use of the three-to-four week field visit;
- o The acceptance of the need to focus on three themes: affordability, real estate value and social potential;
- o The need to select a minimum number (say somewhere between 15 and 20) of indicators to illustrate the variables used to explore the three themes.

1. Preparatory Work

The team will build on the preparatory work that will have been undertaken some months before to ensure that persons in authority are aware of and in agreement with the assessment objectives. A local representative of the incoming team will have obtained permission to examine records, permission to visit and survey households and will have assembled project documents, project implementation records and other data. He will have made contact with a government department or university department that is willing to help with mini surveys (or will have discovered that this is not a possibility). He will (or will not) have obtained aerial photos.

2. Work Administration

Once in the country, the team should immediately have a meeting to agree upon the interpretation of their assessment brief in light of the nature of the information collected (or not collected) and the permissions obtained (or not obtained):

- a. The character of the implemented project: site and service, upgrading, etc.
- b. Specific objectives of the project.
- c. History of implementation.
- d. Within the three-fold approach, the likely nature of the social indicators required.

- e. The possibility of answering these indicators given the type of data and the time available. (This possibility will vary greatly in accord with whether project records are complete and in a form useful to the assessment process, and with whether monitoring reports are available and whether mini surveys are a possibility.)

Using this immediate brief the members of the team will now visit the project area, establish its general setting in the city, note in what ways the project objectives appear by reflection from what can be seen, appraise if the variables and indicators provisionally agreed upon can be tested by sight, interview, photography, etc., and to what degree of confidence.

After this reconnaissance visit, there should be a further meeting to reappraise project character, effects and impacts; and to further development of the project by households since formal implementation. A more serious effort is made at this meeting to establish the indicators to be used. First a review is made of the context of assessments:

- a. Needs and necessities of the target population;
- b. USAID Office of Housing Program Objectives (i.e., balance of inputs and outputs);
- c. USAID Office of Evaluation Objectives (i.e., analysis of effects and impacts);
- d. Current policy issues in assessment and housing as seen by donors (i.e., affordability, social stability and productivity);
- e. Current policy issues in housing as seen by host countries (i.e., social equity and employment enhancement);
- f. The specific aims of the series of assessments and the need for a shared approach so that comparisons can be made (a) from cross project analysis, and (b) from comparisons between impacts and planned for project outputs;
- g. The aims and purposes of the specific projects (i.e., affordability, sustainability, replicability);
- h. Professional priorities that are in the minds of members of the assessing teams;
- i. The meaning that is given by all parties to the assessment to the term "housing" — its scope, breadth and purposes;
- j. Priorities revealed through preliminary consultation with:
 - o project administrators
 - o key informants

- o selected participants in reconnaissance survey
- o evaluation studies of any kind that may have been used.

In seeking the list of social indicators, the team will work from their provisional list and now:

- a. List direct impacts and those obviously brought about by the project components (e.g., water supply installed);
- b. List other changes that offer social potential that might be expected to result indirectly from the project;
- c. Look through the list and select the ten impacts that appear to have potential in providing the most relevant information for shaping future policy. Each team member should select his or her ten impacts independently of the other team members;
- d. Pool the separate lists to see where there is agreement on key issues and which items that only appear on one person's list should be added to the action list of social potential indicators, real estate value indicators, or affordability indicators;
- e. Assemble a list of social indicators ranked in order of importance under each of the three themes (i.e., construct a Table, as in Chapter 1 for the project);
- f. Assess whether the team will be able to collect the information on each indicator within the time available;
- g. Review the list, which should not be of more than fifteen variables each to be measured with at least two indicators, to see how it compares with objectives of project documents and other published statements.

With the agreed upon list of indicators, data collection, analysis and interpretation will commence (and, if possible and thought necessary, mini surveys finally commissioned).

A formal mid-visit meeting should be held to examine the experience of assessment. Data holes should be identified and the decision made to abandon certain indicators if information cannot be obtained even by hearsay or observation. Other indicators may be identified as possible replacements. At this meeting, the general direction of the assessment should be articulated by the team leader and the form of analysis adopted brought out into the open, i.e., we know so (it was measured); we think so (it was observed); we feel so (inferred); or agree so (it must be after what we saw and heard about interrelated aspects).

3. Interpretation

The basis of interpretation should be made public within the team (i.e., based on professional experience, common sense, the view of key informants who have gained respect, etc.). A discussion of bias among the team, key informants

and citizens interviewed would be in order at this time. Necessary corrections of interpretation should follow.

Interpretation of the data and analysis will be directed towards satisfying the key themes of enquiry — the project effect and impact upon house affordability, the obtaining of a capital asset of value and the offering of social potential.

In returning to the project site at this stage of the assessment, field focus (probably week three of a four-week study) should now be on filling in gaps in knowledge and perspectives. New avenues or new indicators should not be taken up.

4. Final Report

A few days prior to the completion of the field visit, a team meeting should agree on the format of the report and who is to write which section and to what point (i.e., what kind of interpretation is provisionally appearing against each aspect or indicator).

The report is prepared in draft before leaving the country (Table 2). Cross-cultural and cross-country comparisons that may seem apt should be noted and recommendations for improving the rapid assessment procedure listed.

E. LESSONS LEARNED

1. Do not attempt more than is possible in the time available. If what is possible in the time available does not meet the needs of the assessment program, then this program eventually will have to be changed or a longer period made available for the project assessment field visits.
2. Give judgmental weight in the final report to those aspects which cannot readily be measured. Failure to do this is likely to lead to a skewed report in which emphasis is given to aspects purely because they can be readily measured.
3. It is the declared intention that post project rapid assessment focus upon effects and impacts. These form a continuum in time with the pre-project situation, project inputs and project means and outputs. In order to measure effects, the assessor regresses through the outputs, project implementation means to the pre-project situation and to project inputs. Not only is the baseline situation required but a series of measurements at differing time periods (say one year after occupancy, three years and then five to ten years) is necessary. Even with several visits of a rapid nature only "snapshots" of project impact on beneficiaries can be taken. These, when processed, cannot be expected to lead to analytically and statistically valid results (to obtain such would require pre-planning of an evaluation process before design work was started, monitoring throughout the implementation phase and the collecting of data against the evaluation parameters or variables; all to be accompanied by in-depth and mini surveys). Rapid assessment, based on one visit, is thus a resoundingly

challenging task, however well it is pre-planned and inspection tightly organized.

F. RECOMMENDATIONS

1. While accepting limitations of accuracy, post-project rapid assessment of housing impact could be more effectively carried through if seen as an element in a continuous assessment system. This would be a management exercise accompanying design, implementation and project follow-up. At a number of key stages from pre-project to project completion, a rapid assessment would be made of pre-identified components, and effects and impacts. At the earlier stages of the sequence, the emphasis would be on inputs and outputs.

The coverage of such a continuous assessment program would be as follows. Reporting on:

- a. Inputs. Objectives of the project (the wider objectives of the Office of Housing often include National Policy and Program influence through HIG);

Project design efficiency (the PADCO/Bertaud Model can be used as a rapid measure to test design against target groups, affordability criteria and cost estimations) (1);
 - b. Means. Construction efficiencies (time and costs, use of small scale contractors, job generation, etc.);
 - c. Outputs. The project as an entity and a composite of components when built in comparison to the input specifications;
 - d. Effects. Extent of national policy and programming influences, city or neighborhood influences (did it lead to other upgrading or whatever), operations of the project (schools operating, clinics operating, etc.);
 - e. Impact. Impacts on the standard of living of beneficiaries: affordability, real estate value, social potential.
2. This management program of assessment would be given strength by being accompanied by a program of evaluation. The evaluation phase would focus on a very limited number of projects but follow through the same set of concerns as the assessment program that covered a far greater number of projects. In this fashion, both types of investigation could benefit from each other. A refining of tools of enquiry should be expected as a result.
 3. The deep probe type of housing impact evaluation which is followed by the World Bank DEDRB program should be seen as an eventual third source of technique refinement. The operating costs of this type of evaluation are high. US\$250,000 was not considered sufficient in a recent instance to undertake quite a small post-project survey. Further, there is probably not

the need for more than one institution to develop this particular type of research knowledge.

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FURTHER READING

While not dealing specifically with rapid one-measurement evaluation, the following will be found useful:

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- (2) AID, Evaluation Handbook, 2nd edition, Washington, D.C., 1972.
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TABLE 2

Organization of Assessment Report

Population project was intended to assist

- o demographic description linked to income levels
- o social mobility of interest

Project setting

- o problem identification that gave rise to project
- o target population, their society and environment and other appropriate baseline information

Project purposes

- o outputs intended, purposes, goals — levels and targets
- o strategy — the proposed pattern of implementation

Project implementation

- o history — what actually happened/institutional performance
- o who turned out to be the beneficiaries

Project impacts: findings

1. Affordability

- a. household income
- b. consumption patterns
- c. access to credit
- d. control of capital assets

2. Real estate value

- a. location/environment
 - implications for households, environmental quality
 - access to facilities and services
- b. land tenure
 - purchase
 - lease
 - rent

- c. physical installations
 - roads
 - paths
 - drainage
 - sewerage
 - fresh water supply
 - street lighting
 - house electrical connection
 - maintenance of above

- d. housing quantity and distribution
 - types and target groups
 - housing stock implications
 - planned density and actual density
 - occupancy
 - take up of loans

- e. housing quality
 - types of construction and material use
 - age and condition
 - house maintenance
 - standards
 - perceptions and satisfactions

3. Social potential

- a. work (access; productivity)
- b. participation (community related; type; relation to power structure)
- c. education (access; performance)
- d. vocational skills (clerical; craftsmen)
- e. health and nutrition
- f. satisfaction with house or neighborhood
- g. family life
- h. self help
- i. crime
- j. recreation (social events)
- k. social services
- l. technology
 - appropriate to means of households
 - replicability
 - training requirements met

Project impacts: analysis (survey the listing under "project findings" interpret and assess meaning.

- o relate findings to individuals, households, housing clusters or groups, the wider estate or neighborhood, the city
- o be ready to record cross-cutting issues (assistance to women, the poorest people, community development potential, etc.)
- o assess cause and effect relationships
- o review and put to one side competing explanations
- o review recurrent cost burden for households and comment on sustainability of project
- o review replicability and spread effects
- o review institutional effects
 - which retard social potential
 - are developmental in impact

Lessons learned and policy implications

- o for USAID role in further housing projects
- o for USAID policy development
- o for housing policy in general in LDC's
- o for institutional development in LDC's

ANNEX I

THE CHARACTER OF THE LITERATURE

The literature of potential relevance to the development of rapid assessment of housing impact is very great. The literature of evaluation and housing is extensive and for discussion it can be conveniently related to five headings:

- (1) General Social Theory
- (2) General Theory of Evaluation
- (3) Housing Policy and Programs in LDC's
- (4) Agency Approaches
- (5) Academic Approaches

A. GENERAL SOCIAL THEORY

There is no general theory of the interaction of society, habitat and environment. Many disciplines in social science and many applied professions such as architecture and physical planning have their own theories. These have often been criticized as being naïve and deterministic. Overarching theory such as communication theory; systems theory; and catastrophe theory appear to have relevance. The concepts of feedback and interference in communication theory; of social development paths interacting with their environments in systems theory; and the explanations for sudden divergence from expected ways given by catastrophe theory all illumine the field of why people in housing projects react to them the way they do.

B. GENERAL THEORY OF EVALUATION

Since there is none on rapid assessment this is the most relevant we can consider. It is an art as much as a science. The theories — they are legion — are exploratory, tentative and fall into two major groupings:

1. The social effects and impacts that result from housing action. This is primarily a concern of academics who spend long periods identifying researchable topics, deciding on what and how to measure, many years of measuring accompanied by a continuous reappraisal of the relevance of theory and experimental method. (3,4)
2. The input/output efficiency of project implementation. This is primarily the concern of housing agencies and their financing banks. Selection of indicators that explain output in terms of input is still subject to considerable discussion and review. Experimental method is at an early stage of development. Short cut methods have yet to be developed and evaluation of this kind also takes many years. (5,6)

The OECD Development Centre in Paris leads the field in the discussion of the state of the art at the present time. (7,8,9)

C. HOUSING POLICIES AND PROGRAMS

These are significant for the evaluator since projects take the form they do as a result of current policy interests. In the sixties, low income housing was often built to high levels of physical standard, highly subsidized and offered for rent, not sale. This type of program/project could by its nature only reach a small proportion of low income people in need. In the seventies and currently, policy now emphasizes meeting the needs of as high a proportion of the poor target groups as possible, given the funding available, offering basic urban services and perhaps a core house, and the accompanying of this with employment generation programs and health programs. The two typical project formats of today are:

1. The sites and services scheme with a building loan and employment generation support.
2. Urban upgrading including a mixture of health, employment generation and other supporting programs. A building loan offer may also form a part.

The emphasis of these programs is on affordability, the creation of real estate as a basis for the stable community and the offering of social and economic potential for individual, household and community development.

D. AGENCIES

There is a wide range of technical and financial agencies operating internationally: bilateral and multilateral. Of immediate concern are the attitudes to housing evaluation adopted to date by USAID and the World Bank.

1. Office of Housing, AID

The Office of Housing has been conducting the following types of evaluations:

a. Regular project evaluations

Annual regular evaluations to determine the progress made toward goal achievement against stated benchmarks on the PPTN (Planned Performance Tracking Network).

Final regular evaluations to assess the success of a project in achieving its stated outputs, purposes and goals. FRE are ideally scheduled at the end of the project. They summarize the events described in and the actions resulting from the series of ARE and PPTN revisions. The FRE will focus on the overall institutional and beneficiary impacts of the HG project.

b. Special evaluations

Case studies are "designed to capture the extent to which a series of the HG projects authorized in a given country over a period of time may have:

- o effected changes in national housing policy;
- o promoted the growth and development of shelter institutions capable of replicating the shelter solutions demonstrated by HG projects;
- o produced actions to provide shelter and improve the living environment of the poor."

Intensive evaluations. A few HG projects are chosen for intensive evaluation. They have unusual characteristics designed into them in order to test certain hypotheses. Their purpose is to determine in a scientific way if a relationship exists between specific shelter program inputs and hypothesized effects.

The various types of evaluations undertaken by the Office of Housing are based on the Logical Framework and emphasize the short range impacts of housing projects and programs on the institutional, financial and management aspects of said projects and programs. They use an input/output model.

There has been little evaluation of the medium and long range impacts on project beneficiaries.

2. World Bank

All projects undertaken by the World Bank are subject to evaluation or control of some sort at various points during their life cycle. There is the appraisal, just before the loan is made, annual reports during the implementation and supervision phase (much like AID, Office of Housing annual regular evaluation reports). "Evaluation retrospective" ends the project cycle much like the final regular evaluation of the Office of Housing. During the various steps of the project cycle, the technical, economic, financial and institutional aspects are being focused upon.

"In 1975 an agreement was reached between the Urban Projects Department (URB) and the Urban and Regional Economics Division (DEDRB) of the World Bank and the International Development Research Center (IDRC) in Canada to initiate a 5-year evaluation of selected urban shelter programs being developed under World Bank loans. Initially the evaluation covered El Salvador, Zambia and Senegal and in 1977 the Philippines was also included. Subsequently, the evaluation was extended to include Indonesia and Colombia although IDRC is not involved in these latter two countries."

The major findings of the study are still being compiled and will not be made officially available before the Fall/Winter of 1981/82. The methodology used is long-term and assumes lengthy periods over which measurements are made.

However, from conversations with staff members of the World Bank (DEDRB), the major areas of concern of this study are:

- a. To develop appropriate methodologies of evaluation of urban shelter programs. A series of manuals currently under preparation will cover the following: evaluation design; longitudinal impact evaluation; questionnaire design; basic evaluation systems; non-survey techniques; statistical analysis and computer issues in data analysis.
- b. To examine what socioeconomic impacts urban development projects are having on their beneficiaries and surrounding communities, particularly in regards to employment, income, popular participation, community awareness, affordability, etc.
- c. To examine what physical impacts, housing projects have had on the housing stock.
- d. To examine project implementation (mutual and self-help, popular participation, etc.).

3. Other Agencies

The Urban Projects Department of the Inter-American Development Bank is currently preparing a study of the evaluation of housing projects.

The Habitat Agency of the United Nations has much project review experience but has yet to develop an approach to the detailed evaluation of housing impact.

A number of developing nations have already institutionalized an evaluation process for housing (i.e. Singapore, Colombia, Kenya, Korea, Brazil, etc.). Other countries are seeking to do so and have sought the help of international agencies.

E. ACADEMIC STUDIES

The interest of these studies is that unlike the majority of agency studies they do focus upon the social and economic effects and impacts of implemented housing projects. Thoroughness is the theme, however, not speed of evaluation. Studies take very many years to plan and execute. A new body of theory is growing up as a result of the interaction of theory and the evaluation of planned evaluations. (10,11)

The academic literature shows that the interest in the relationship between the built environment and human behavior stems from the fifties. It is founded on the interdisciplinary contacts possible in university life. Sociologists, architects and psychologists have shown a particular interest in this work. In the sixties and seventies, much research was undertaken on the informal and illegal squatter settlements found in LDC's. (12) It is only recently, however, that research has moved towards the study of the impact of formally implemented site and service projects and urban upgrading. This work is still exploratory. In common with other evaluation work it is planned and executed over lengthy periods of years. (13,14)

F. OVERVIEW OF THE LITERATURE REVIEW

The general impression is of a subject of growing interest to agencies and academics and one exhibiting great movement and inevitably some contradictions. Many disciplines are involved and each have their own approaches. These are sometimes difficult to reconcile. Each discipline has its own language and a satisfactory cross-disciplinary language for evaluation is yet to develop.

A strong impression is given by the literature that both input/output and effects and impacts evaluation take a great deal of time — indeed many years of measuring. Of the two, there is most hope for developing simpler methods of measurement for input/output evaluation, since this deals with more direct issues than does the evaluation of effects.

The literature does not lead at all to the notion that evaluation will in the foreseeable future be reduced to a short time period.

Rapid assessment of housing impact will therefore develop as a topic in its own right. It will not be evaluation. It will have to develop its own levels of confidence and acceptance. In attempting to formulate an approach in this study to the founding of this new art, the following were found to be particularly useful.

1. Evaluating Social Projects in Developing Countries, Freeman, H.E., Rossi, P.H., Wright, S.R., OECD, Paris, 1979.

This work reviews the state of the art and defines approaches and terminology. Impact evaluation is seen as but one of possible types of evaluation. Others being evaluation as a base for project planning, evaluation based upon project monitoring, project efficiency evaluation and comprehensive evaluation — which includes all the foregoing.

Survey techniques are reviewed. Assessments are made of the use of available data, key informant interviews, service and treatment records and of census data. A lengthy review of the problems of impact assessment is given in which there is a thorough discussion of the difficulties of design of a sample survey and of the resort to judgmental approaches when data is there and time is short.

2. A Management Approach to Project Appraisal and Evaluation, Imboden, I., OECD, Paris, 1978.

This is a practitioner's handbook and gives advice on selection of social indicators. A distinction is made between evaluation based on monitoring and conceived as part of project management and post-project completion evaluation. While the latter is not advocated outside of a management framework, full advice is given on how to undertake it. Neither this volume or the preceding reference concerns itself with rapid evaluation based on a one visit/one measurement situation.

3. On the Measuring and Planning of the Quality of Life, Drewnowski, J., Mouton, the Hague, 1974.

This is an introduction to the science and art of using variables and social indicators as measures of social welfare. The approach is both historical (referring to Benett, M.K., "On the Measurement of Relative National Standards of Living," 1937) and practical. Attention is drawn to the value ridden and judgmental nature of the interpretation of social measurements. Regret for the lack of binding social theory is expressed.

4. Systems Behavior, eds. Beishon, J. and Peters, G., Harper and Row, 2nd Edition, 1976.

An anthology of the topic. Contains many review articles which offer systems theory as the armature for integrating models that portray social complexity. The article "Towards a Systems Based Methodology for Real-World Problem Solving," by Checkland, P.B., has a direct application to housing project formulation and evaluation.

5. Catastrophe Theory, Postle, D., Fontana Publications, U.K., 1980.

This is an introduction to the work of Rene Thom and the exposition of Christopher Zeeman. The theory offers an explanation for sudden divergencies in social life and offers a useful theory for the evaluator to consider as a base for training questions and reviewing effects of project impact.

6. Using an Impact Measurement System to Evaluate Land Development, Schaenman, P.S., The Urban Institute, Washington, D.C., 1976..

This offers a more applied theory than the previous references and forms a useful guide, through analogy, of a form of rapid evaluation might follow.

7. Social Impacts of Land Development, Christensen, K., The Urban Institute, Washington, D.C. 1976.

Offers guidelines for the organization of an impact evaluation which has considerable overlap in subject area with that of housing.

8. Social Impact of Housing, United Nations, New York, 1977.

A report of an Interregional Seminar which focused on the selection of housing impact indicators.

G. ASSESSMENT SEEN AS A NEW ART FORM

The development of rapid assessment as a parallel discipline to that of evaluation suggests the need for a new identifying term. Rapid evaluation should not be used since this is a contradictions in terms. Rapid retrospective, accelerated project overview, post project appraisal suggest the meaning of the term we seek. This report has adopted the term rapid assessment.

H. ORIENTATION

Evaluation and assessment cannot stand outside the project management process. Some permanent relationship between a project and its ultimate evaluation is required. The final paragraph of an OECD report reads:

"The keystone of any evaluation scheme in the last analysis now appears to be and is likely to remain permanent evaluation, although no doubt much would be gained if it were more systematically approached than it generally is. Regardless of the considerable usefulness of ex-ante evaluation as a means of improving project selection and programme preparation, it is of no help in evaluation properly so called (i.e. in controlling effectiveness) except as a basis of reference, and a not altogether reliable one at that. Nor can ex-post evaluation qualify as a wholly comprehensive and objective method (or as comprehensive and objective as it is humanly possible to be) unless enriched by the enlightenment which only the daily provender of permanent evaluation can supply." (10)

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- (12) Improvement of Slums and Uncontrolled Settlements, Department of Economic and Social Affairs, U.N., New York, 1971.
- (13) The DEDRB Program of the World Bank, in progress.
- (14) The USAID Office of Housing Evaluation program.

ANNEX II

TABLE GIVING SUMMARY OF PROJECT IMPACT MEASURES AND RAPID ASSESSMENT POSSIBILITIES

Degree of confidence in accelerated method featured in final column is expressed on a scale as follows: Good — A; Fair — B; Fair to Low — C, Low — D.

During a four-week appraisal, answers or impressions relating to about three affordability indicators, three real estate and fifteen social potential would seem to be a maximum. The balance of the selection made will be initially influenced by the character of the housing project and the issues highlighted in the brief handed to the assessment team. This list will be highly modified by the availability or lack of data and the degree of access possible to citizens and key informants.

ANNEX TABLE

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
1. <u>AFFORDABILITY</u>	a. HOUSEHOLD INCOME	Change in amount and sources of revenue related to work.	Monthly family income (including informal sources).	Project documentation.	Project records; (B) Citizen interviews. (D)
			Salary of head of household.	Project documentation.	Citizen interviews. (D)
		Change in amount of revenue related to rental properties.	% of households receiving revenue from rental units within neighborhood.	Project documentation.	Mini survey; (A) Key informants. (C)
			Change in proportion and types of expenditures.	Expenditure patterns; ability to purchase basic necessities.	Project documents; citizen survey.
		User rates for utilities.		Utility records.	Utility records. (B)
		Changes in expenditures related to housing.		Project documents; rental survey.	Project documents; (A) Mini survey. (A)
		Changes in local income taxes.	City records.	City records. (C)	
	b. CONSUMPTION	Change in types and amount of consumption.	Consumption of durable goods.	Citizen survey.	Observation; (D) Mini survey. (A)
			Consumption of water and energy.	Utility records; citizen survey.	Utility records; (B) Mini survey. (A)
			Consumption of public services (garbage collection, etc.).	Facility records.	Citizen interviews; (D) Mini survey. (A)
	c. ACCESS TO CREDIT	Change in credit-worthiness.	Types and uses of loans granted project beneficiaries.	Banks, credit unions.	Bank records. (B)
			% of households receiving credit for housing construction.	Bank records.	Bank records. (B)
			% of defaults on loans.	Bank records.	Bank records. (B)
	d. CONTROL OF CAPITAL ASSETS	Change in home ownership.	% of households owning home (vs. renters).	Project documents.	Project records. (B)
			% of households having bought	Bank records.	Bank records. (B)

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ANNEX TABLE

PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
	(See also Social Potential; Technology)	Change in ownership of personal property.	% of households owning automobiles.	Project documents.	Observation; (D) Mini survey. (A)
		Change in ownership of businesses.	% of households owning small businesses.	Project documents.	Walking tour; (D) Key informant. (C)
		Change in ownership of land.	% of households owning land.	Project documents.	Key informant. (C)

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ANNEX TABLE

PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
2. <u>REAL ESTATE VALUE</u>	a. LOCATION Implications of Site Location for Households	Change in population endangered by flooding, earthquakes, landslides, mudslides and other natural disasters and accidents.	% of population endangered by natural disasters and accidents. Identification of elements of site and project which may be harmful to population, particularly children.	City plans; municipal records. Observation; key informants.	Observation; Key informant. (D) Key informant. (C)
	Implications of Site Location on Environmental Quality	Change in the level of air pollutants and number of people at risk or bothered by pollution.	Detection by human senses of pollutants in air. Identification and location of sources of air pollution.	Project documents. City plan; project documents. Citizen surveys.	Project records. (B) Observation. (D) Observation. (D)
		Change in water pollution and population affected.	Relation of site to mass transit and employment areas. Proportion of households affected by air pollution.	Key informants. Observation.	Observation; Key informant. (D) Observation. (D)
		Change in presence of vegetation.	Identification of areas of water pollution. Proportion of households affected by water pollution.	Observation; key informants. Observation; key informants.	Observation. (D) Observation. (D)
			Proportion of area landscaped and/or replanted.	Observation.	Observation. (D)

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION:
2. <u>REAL ESTATE VALUE</u>	b. TENURE Tenure	Change in proportion of households having type of tenure consistent with their economic status (and desires).	Type of tenure - % of distribution.	Project records; cadastral survey; citizen records.	Project records. (B)
	Outlays		% of households holding tenure leading to house ownership.	"	Project records. (B)
			% of households expressing satisfaction with form of tenure.	Citizen survey.	Citizen interviews; (D) Mini survey. (A)
	Land Values	Change in outlay for housing.	Turnover of houses.	Real estate statistics.	Project records; (B) Key informant. (C)
			Change in land values.	Proportion of annual personal income of households devoted to housing improvement and maintenance.	Citizen survey; bank records.
	Land Values	Change in land values.		Owner's estimate of housing values vs. sales prices.	Bank records; citizen survey.
			Type and proportion of changes in land use and values of adjacent properties.	Aerial photo analysis; real estate sales records; government land agency.	Aerial photo analysis; (A/C) Real estate agencies; (B) Government land agency. (B)

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ANNEX TABLE

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
2. <u>REAL ESTATE VALUE</u>	c. <u>INFRASTRUCTURE INSTALLATIONS</u> Effectiveness and Use of Roads	Change in road standards appropriate to target group.	Street layout, location and widths.	Project documents; city documents; observation.	Project records. (B)
		Change of physical conditions which influence household's expressed satisfaction with roads.	Number of automobiles per household; existence of adequate parking.	Municipal records; aerial photo analysis.	Observation; (D) Key informant. (C)
		Maximum distance to house from road.	Maximum distance to house from road.	Aerial photo analysis; project documents.	Observation. (D)
		Change of physical conditions which influence household's expressed satisfaction with roads.	Number of households with access to public transport within an acceptable distance from their residence.	Aerial photo analysis; transport agency documents.	Project plans; (B) Key informants. (C)
		Change of physical conditions which influence household's expressed satisfaction with roads.	Number and type of public services and facilities with vehicular access.	Project documents; city plans; agency records.	Project records; (B) Observation. (D)
		Change of physical conditions which influence household's expressed satisfaction with roads.	Traffic levels and hazards, noise and air pollution nuisance; frequency of accidents and other factors affecting satisfaction.	Project documents.	Key informants; (C) Citizen interviews; (D) Observation. (D)
		Change of physical conditions which influence household's expressed satisfaction with roads.	Maintenance of roads.	Project documents.	City or project records; (B) Observation. (D)
	Effectiveness and Use of Paths	Change in percentage of households able to walk comfortably to desired destination.	Number of households relying on walking to stores, recreation, schools, bus stops, etc.	Census data; citizen surveys.	Citizen interviews. (D)
	Effectiveness and Use of Paths	Change in physical conditions which influence household's expressed satisfaction with pedestrian paths and sidewalks.	Path layout, location and conditions.	Project documents.	Project records. (B)
		Change in physical conditions which influence household's expressed satisfaction with pedestrian paths and sidewalks.	% of households satisfied with paths; perception of walking conditions.	Citizen surveys.	Citizen interviews. (D)
Drainage System	Change in percentage of households benefiting from and maintaining system.	Proportion of households served by system.	Project documents.	Observation. (D)	

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
	Sewerage and Sanitation		% of households maintaining system.	Project documents.	Observation. (D)
			% of households expressing satisfaction in system.	Surveys of existing low income neighborhoods.	Citizen interviews. (D)
		Change in number of people endangered by flooding.	% of households no longer endangered by flooding.	Municipal records; city plan.	Project layout & design; Observation. (B) (D)
		Change in percent of households benefiting from adequate sanitation facilities and garbage collection.	Number of households using sanitation systems; population benefiting.	Project documents.	Observation. (D)
			Proportion of households maintaining sanitation systems.	Project documents.	Observation. (D)
	Fresh Water Supply		Number of households benefiting from garbage collection.	Project documents; facility records.	Facility records. (B)
		Change in percent of households expressing satisfaction in sanitation system.	% of households satisfied with sanitation system.	Citizen surveys.	Citizen interviews; (D) Min survey. (A)
		Change in population receiving safe potable water supply.	Number and proportion of population benefiting from piped water connections.	Project documents; facility records.	Project records; (B) Facility records. (B)
	Street Lighting		Number and proportion of population within _____ distance of a water standpipe.	Facility records; city plan.	Facility records. (B)
		Change in evening activities due to street lighting.	Number and percentage of households benefiting from street lighting.	Project documents; facility records.	Observation; (D) Citizen interviews; (D) Min survey. (A)
		Number and types of commercial activities benefiting from street lighting.	City plans; facility records; observation.	Observation; (D) Key Informants. (C)	

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
	House Electrical Connection	<p>Change in population's perception of neighborhood and feelings of security.</p> <p>Change in number of cottage industries due to access to electricity.</p> <p>Change in number and kind of durable goods and electrical appliances.</p>	<p>% of population expressing satisfaction with street lighting.</p> <p>Indications of maintenance of street lighting system.</p> <p>Number and kind of commercial activities benefiting from electricity.</p> <p>Number and kind of electrical appliances since having access to electricity.</p>	<p>Citizen surveys; facility records.</p> <p>Facility records.</p> <p>Observation; mini-surveys.</p> <p>Project documents.</p>	<p>Citizen interviews; (D) Key informant. (C)</p> <p>Observation. (D)</p> <p>Observation; (D) Mini survey. (A)</p> <p>Observation; (D) Citizen interviews; (C) Mini survey. (A)</p>

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
2. REAL ESTATE VALUE	d. HOUSING QUANTITY AND DISTRIBUTION	Changes in number and type of adequate housing affordable by target group households.	% of project housing units actually affordable to and taken up by target group.	Project documents.	Project records; (B) Bank records; (B) Key informant. (C)
	Types and Target Groups		% of houses inhabited by target group households.	Project documents.	Project records; (B) Observation. (D)
	Housing Stock Implications		Number of housing units provided compared to actual demand (project and total).	Project documents.	Key informants. (C)
	Planned Density and Actual Density		Proportion of annual net increase in housing stock.	Project documents.	Aerial photo interpretation; (A/C) Building records. (B)
			Difference in actual density and planned project density; % of renters.	Project documents.	Project records; (B) Key informant; (C) Citizen interviews; (D)
			Proportion of households now living in crowded housing conditions compared to existing situation in low income neighborhoods (ave. no. of persons/room; m ² /person).	Project documents; census data.	Citizen interviews; (D) Key informant; (C) Mini survey. (A)
	Occupancy		Proportion of households living in crowded housing conditions compared to accepted government standards (government housing projects) (ave. no. of persons/room; m ² /person).	Project documents; housing agency records.	Mini survey; (A) Citizen interviews; (D) Observation. (D)
			Proportion of vacant dwellings/plots to the total number of houses/plots in project.	Project documents.	Observation; (D) Project records. (B)
			Proportion of dwellings/plots only partially occupied.	Project documents.	Observation; (D) Project records. (B)
			Proportion of occupant households who are original, 2nd occupiers, 3rd occupiers.	Project documents.	Mini surveys. (A)

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
	Take Up of Loans		Place of origin of occupiers (a) prime and (b) prior to purchase/tenancy. Proportion of households taking up loans for plot purchase. Proportion of households taking up building materials loans.	Project documents; social surveys. Project documents. Project documents.	Mini-surveys. (A) Project records; Bank records. (B) (B) Project records; Bank records. (B) (B)

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
2. <u>REAL ESTATE VALUE</u>	e. HOUSING QUALITY Existing Housing Quality and Condition	Change in types of construction and material use. Change in distribution of houses according to age and condition. Change in distribution of houses by level of standards.	Proportion of households living in dwellings of definitive materials. Proportion of households living in dwellings of traditional improvable materials. Proportion of households living in dwellings of temporary materials. Proportion of households living in unfit and obsolete dwellings. Proportion of housing units that are considered sub-standard and change in number and percent of people living in them. Proportion of households living in dwellings without: - piped water supply - flushing w.c. - bathing facilities - electric light - cooking space under cover Proportion of households living within specified walking distance. Source of safe water for drinking and bathing. Proportion of households living in structurally unsound dwellings in the face of local disaster risks.	Census data; project documents; building research agency. " " Census data. Census data; city hall building research agency. Census data; mini-surveys. Utility company studies Water supply company. Census data.	Aerial photo analysis; (A/C) Ground level observation & photography (D) Mini survey. (A) " " Aerial photo analysis + ground checks; (A/C) Walking tour; (D) Mini survey. (A) Observation; (D) Building research agency. (B) Mini survey; (A) Utility company records. (B) Aerial photo analysis. (A/C) Observation. (D) Observation rooted in knowledge. (B)

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
	Implications for Future Housing Quality	<p>Change in house maintenance.</p> <p>Change in perceptions and satisfaction.</p>	<p>Indoor dwelling spaces per person for houses of particular types (average) (vs. existing and acceptable standards).</p> <p>Proportion of households adequately maintaining their house and the grounds around it.</p> <p>% of households "upgrading" their own housing.</p> <p>Proportion of households expressing satisfaction with size, number and arrangement of rooms.</p> <p>Proportion of households satisfied with construction materials and finishings.</p> <p>Proportion of households satisfied with overall residential environment.</p>	<p>Project records; census data.</p> <p>Observation.</p> <p>Observation.</p> <p>Project documents; building research agency; university.</p> <p>"</p> <p>"</p>	<p>Observation; (D) Mini surveys. (A)</p> <p>Observation; (D) Citizen interviews; (C) Mini surveys. (A)</p> <p>Observation. (D)</p> <p>Citizen interviews. (D)</p> <p>Citizen interviews. (D)</p> <p>Citizen interviews. (D)</p>

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
3. <u>SOCIAL POTENTIAL</u>	a. WORK Employment Availability	Change in accessibility of appropriate employment.	Proportion of employed persons with access to the working place within _____ minutes travel time and _____ travel cost.	Census data; transport surveys.	Field observation; (D) Citizen interviews; (D) Mini survey. (A)
		Change in the number of available jobs.	Number of new long-term and short-term jobs produced by project construction; estimate of total number of new jobs.	Construction records.	Construction records; (B) Project records; (B) Previous projects. (B)
		Change in earning capacity.	Number and type of new informal employment due to increased economic activity within neighborhood.	Project documents.	Field observation; (D) Citizen surveys. (D)
		Change in absenteeism and job stability.	Number and rate of employed, underemployed and unemployed	Census data; municipal data; project data.	Observation; (D) Municipal surveys and/or records; (B) Mini survey; (A) Newspaper files. (D)
	Productivity	Change in earning capacity.	Number of households experiencing change in earning capacity because of increase availability of employment opportunities within neighborhood and/or participation in training programs.	Project documents.	Citizen interviews; (D) Employer records; (B) Newspaper files; (C) Ministry of Labor files. (C)
		Change in absenteeism and job stability.	Number of absences from work due to housing related problems.	Employer records.	Employer records; (C) Key informant; (C) Citizen interviews. (D)
		Change in population mix.	Number of workers laid off due to cutback.	Project documents.	Project records; (B) Citizen interviews; (D) Mini survey. (A)
		Change in population mix.	Population distribution by age, income, etc. and household type.	Census data.	
b. PARTICIPATION Type and Extent of Participation	Change in population mix.	Number and types of households displaced.	Project documents.	Project records; (B) Citizen interviews; (D) Mini survey. (A)	
	Change in population mix.	Population distribution by age, income, etc. and household type.	Census data.		

ANNEX TABLE

PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION	
II-14	Relation to Power Structure	Change in neighborhood activities.	Percentage of residents participating in group activities within the neighborhood.	Project documents.	Citizen interviews; (D) Observation; (D) Key informant. (C)	
			Number and type of group activities for children, youth, men and women.		Citizen survey; (D) Observation; (D) Key informant. (C)	
			Number and type of group activities related to the physical improvement or management of the neighborhood.	Project documents; survey of existing neighborhoods.	Community action organizations; (D) Citizen interviews; (D) Key informant. (C)	
			Community representation.	Number and extent of representation in community organizations.	Community organizations	Community organizations; (D) Party headquarters. (D)
	c. EDUCATION Access to Education			Number, method of selection and turnover of local leaders.	City Hall; key informants.	Party headquarters; (D) Local leaders; (D) Key informants. (C)
			Change in distance from educational facilities.	Proportion of primary school age children attending neighborhood schools.	School records; project documents; census data.	School records. (C)
				% of primary school students with access to school within _____ minutes distance by foot from home.	School records.	School records; (C) Citizen interviews. (D)
			Change in affordability of education.	% of families able to afford education in neighborhood schools.	Project documents.	Citizen interviews; (D) Mini survey. (A)
			Change in continuing education opportunities for adults.	Number and type of programs for adult education.	School records; citizen survey.	Key informant. (C)
				Change in physical conditions affecting current expressed satisfaction with school location and number of households potentially affected.		

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
	<p>School Performance</p> <p>d. VOCATIONAL SKILLS</p> <p>Access to training and job opportunities for clerical work.</p> <p>Access to training and job opportunities for Craftwork.</p> <p>Informal sector "training".</p>	<p>Change in in-school factors affecting performance.</p> <p>Change in out-of-school factors affecting performance.</p> <p>Change in numbers in training.</p> <p>Change in numbers in training.</p> <p>Youth employment.</p>	<p>% resident satisfaction with educational possibilities in neighborhood.</p> <p>Number and percent of students having had to switch schools.</p> <p>Identification of crowdedness "breakpoints" (added shifts; poor student/teacher ratios; etc.).</p> <p>% of students with ability to do school work at home.</p> <p>% of students able to use library services in the neighborhood.</p> <p>Frequency of absenteeism from school due to inadequate housing.</p> <p>% in training.</p> <p>% in training.</p> <p>% apprenticed to workshops.</p> <p>% apprenticed to workshops, repair units.</p>	<p>Project documents.</p> <p>School records.</p> <p>Key informant; citizen survey.</p> <p>Library records; key informant.</p> <p>School records; key informant.</p> <p>Registrations of private and government training institutions; community development agency.</p> <p>Registrations of private and government training institutions; community development agency.</p> <p>Youth agencies; charitable trusts.</p>	<p>Newspaper files. (D)</p> <p>School records. (C)</p> <p>Mini survey. (A)</p> <p>Mini survey. (A)</p> <p>School records; Key informant. (B) (C)</p> <p>Key informants. (C)</p> <p>Key informants. (C)</p> <p>Works manager interviews; Key informants. (C) (C)</p> <p>Observation; Key informants. (D) (C)</p>

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ANNEX TABLE

PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
	<p>e. HEALTH</p> <p>Prevention of Illness and Accident</p>	<p>Accessibility to medical facilities (travel time, cost and permission to enter).</p>	<p>Change in number of citizens who are beyond _____ minutes from emergency facilities.</p>	<p>Transport surveys; medical facility records; analysis of existing norms in low income neighborhoods.</p>	<p>Field observations. (D)</p>
	<p>Number and capacity of facilities and staff.</p>	<p>Agency documents.</p>	<p>Field observations. (D)</p>		
	<p>Change in average number of days of waiting time for hospital admittance for elective surgery.</p>	<p>Medical facility records.</p>	<p>Medical facility records. (B)</p>		
	<p>Change in affordability of medical services (% of families able to afford services).</p>	<p>Medical facility records.</p>	<p>Mini surveys; Citizen interviews. (A)</p>		
	<p>Reduction of sources of potential illnesses.</p>	<p>Change in incidence of reported illness due to inadequate water supply, sewage and garbage collection.</p>	<p>Medical facility records.</p>	<p>Mini surveys. (A)</p>	
	<p>Change in incidence of crowding (number of persons/room; number of persons/housing unit).</p>	<p>Project records; census data.</p>	<p>Field observations. (B)</p>		
	<p>Reduction of sources of potential accidents.</p>	<p>Change in incidence of fires, explosions, traffic accidents, etc. Reduction in accidents related to children's play.</p>	<p>City records.</p>	<p>City records; Observation; Newspaper files. (C) (D) (D)</p>	
	<p>Change in thermal comfort.</p>	<p>Awareness of climatic comfort within and around house; number of people expressing dissatisfaction.</p>	<p>Project documents; National Standards Bureau.</p>	<p>Mini survey; Citizen interviews. (A) (D)</p>	
	<p>Change in acoustic comfort.</p>	<p>Amount of noise levels (interior and exterior) and number of people bothered by noise.</p>	<p>Project documents; existing data; National Standards Bureau.</p>	<p>Mini survey; Citizen interviews. (A) (D)</p>	

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
II-17	e. HEALTH Prevention of Illness and Accident	Accessibility to medical facilities (travel time, cost and permission to enter).	Change in number of citizens who are beyond _____ minutes from emergency facilities.	Transport surveys; medical facility records; analysis of existing norms in low income neighborhoods.	Field observations. (D)
		Reduction of sources of potential illnesses.	Number and capacity of facilities and staff.	Agency documents.	Field observations. (D)
		Reduction of sources of potential accidents.	Change in average number of days of waiting time for hospital admittance for elective surgery.	Medical facility records.	Medical facility records. (B)
		Reduction of sources of potential accidents.	Change in affordability of medical services (% of families able to afford services).	Medical facility records.	Mini surveys; (A) Citizen interviews. (D)
		Change in thermal comfort.	Change in incidence of reported illness due to inadequate water supply, sewage and garbage collection.	Medical facility records.	Mini surveys. (A)
		Change in acoustic comfort.	Change in incidence of crowding (number of persons/room; number of persons/housing unit).	Project records; census data.	Field observations. (B)
	Comfort and Stress Related Factors	Change in thermal comfort.	Change in incidence of fires, explosions, traffic accidents, etc. Reduction in accidents related to children's play.	City records.	City records; (C) Observation; (D) Newspaper files. (D)
		Change in thermal comfort.	Awareness of climatic comfort within and around house; number of people expressing dissatisfaction.	Project documents; National Standards Bureau.	Mini survey; (A) Citizen interviews. (D)
		Change in acoustic comfort.	Amount of noise levels (interior and exterior) and number of people bothered by noise.	Project documents; existing data; National Standards Bureau.	Mini survey; (A) Citizen interviews. (D)

ANNEX TABLE

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
	Nutrition	Change in visual comfort.	Visual attractiveness of development as rated by residents and "experts."	Review of similar type projects.	Mini survey; (A) Citizen interviews;(D)
		Identification of " jally attractive and unattractive elements.		Citizen interviews;(D)	
Change in spatial comfort.		Identification of conditions that affect households' current expressed satisfaction with privacy from neighbors.	Comparison with existing low income neighborhoods; project documents.	Mini survey; (A) Citizen interviews;(D)	
		Households expressed satisfaction with size and arrangement of interior spaces.	Project documents.	Observation; (D) Mini survey; (C) Newspaper files. (D)	
Change in accessibility to shopping facilities (distance, travel time, cost).		Number of households within _____ minutes of markets and/ or shopping areas.	Project documents; project layout plan.	Observations & measurements. (A)	
	Measure of affordability and quality of stores and prices; affect of cost of housing on resources available to buy food.	City records; project documents; newspaper files; key informant (university: social work).	Citizen interviews;(C) Newspaper files; (D) Key informant. (C)		
Change in availability of space for growing and/or selling home-grown or produced products.	% of total space used and number of households producing foodstuffs or keeping animals.	Project documents.	Observation; (D) Aerial photos. (A/C)		
Change in calorie intake.	Ministry of food or subsidies	FAO statistics; national records.	Key informant (university: medical or home economics). (C)		

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PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
3. <u>SOCIAL POTENTIAL</u>	i. RECREATION & SOCIAL EVENTS Access to Recreation	Increased use of public facilities. Informal spaces.	Number and types of facilities. Number of households having access within _____ minutes of recreation facilities; capacity vs. size of user population. User satisfaction with public facilities. Availability and physical conditions affecting households current expressed satisfaction with recreational opportunities in informal spaces.	City plans; project documents; agency records. Project documents; city plans. Project documents. Project documents; survey of existing neighborhoods.	Project records; Observation. (B) (D) Project records; Observation. (B) (D) Mini surveys; Public records; Newspaper files. (A) (B) (D) Observation; Citizen interviews; Aerial photo analysis. (D) (D) (A/C)
	j. SOCIAL SERVICES Access to Social Services	Government services. Shopping facilities.	Proportion of facilities having access to post office; bus stop; police station; community center, etc. within _____ minutes walk. Change in usage as a percent of capacity; waiting times etc. per facility. Number of stores and services by type available within _____ distance. Proportion of households generally satisfied with local shopping conditions (access, variety, crowdedness).	Government plans and programs; city plans. Facility records; project documents. Project documents. Project documents.	Observation; Aerial photo & map analysis. (D) (A/C) Facility records; Mini surveys. (C) (A) Walking tour. (D) Citizen interviews; Mini survey. (D) (A)

ANNEX TABLE

PROJECT ASPECT OR COMPONENT	IMPACT CRITERIA	SOCIAL INDICATOR OR PROXY MEASURE	BASELINE DATA: CONTROL OR COMPARATIVE DATA	SOURCES OF DATA	ACCELERATED METHODS OF NEW DATA COLLECTION
3. <u>SOCIAL POTENTIAL</u>	k. TECHNOLOGY Appropriateness of Technology to Means of Households	Change in number of households applying technology.	% of households involved in self help housing. % of households involved in physical community improvement programs.	Project documents; key informants. Community organizations key informants.	Project records; Key informants. (B) (C) Community organization; Key informants. (D) (C)
	Replicability of Technology	Change in receptiveness to new technology.	% of households generally understanding and satisfied with technology employed; evidence of demonstration effect.	Observation; citizen surveys. Observation; key informants.	Observations; Key informants. (D) (C) Observation; Key informants. (D) (C)
		Change in affordability of new solution due to cost of new technology.	% of households able to afford new technology.	Project documents.	Observation; Mini surveys; Citizen interviews; Key informants. (D) (A) (D) (C)
	Training Requirements Met	Change in employment due to application of technology.	Number of persons trained during project. Number of persons with sustained employment from new technology.	Project documents. Key informants.	Project records. (B) Mini survey; Key informants. (A) (C)

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ANNEX III

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