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# A Manager's Guide to Monitoring and Evaluating Urban Development Programs: A Handbook for Program Managers and Researchers

Michael Bamberger and Eleanor Hewitt

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**A Manager's Guide to  
*Monitoring and Evaluating Urban Development  
Programs: A Handbook for Program Managers  
and Researchers***

Michael Bamberger and Eleanor Hewitt

The World Bank  
Washington, D.C., U.S.A.

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ABSTRACT

This Manager's Guide provides an overview of Monitoring and Evaluating Urban Development Programs. A Handbook for Managers and Researchers.<sup>1/</sup> The Handbook is comprehensive, but can be easily understood by urban policy-makers, managers and evaluation practitioners in developing countries. It provides guidance on all stages of the design and implementation of a monitoring and evaluation system and presents the main options with respect to scope, key research issues and organization. Monitoring and evaluation systems that can be applied to both individual projects and to integrated multi-component urban development programs are described. This guide highlights the aspects of most interest to managers and development planners. It is cross-referenced to facilitate use of the Handbook.

Urban development projects vary widely in scope and complexity and in the resources that are available for monitoring and evaluation. The Handbook is designed to help managers and policy-makers decide on the types and complexity of the studies that are most appropriate for their project and to select among the range of available research and analytical procedures. A distinction is made throughout between basic monitoring and evaluation techniques, which are simple and economical to apply in any project, and more complex techniques, which are only appropriate in certain circumstances.

All of the methods described in the Handbook have been field tested, most but not all of them as part of World Bank projects. The unique contribution of the Handbook is to show how approaches taken from the fields of sociology, economics, anthropology and accountancy can be combined in an integrated monitoring and evaluation strategy.

1. Bamberger, Michael, and Eleanor Hewitt. 1986. Monitoring and Evaluating Urban Development Programs: A Handbook for Program Managers and Researchers. World Bank Technical Paper 53. Washington, D.C.



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1. THE IMPORTANCE OF MONITORING AND EVALUATION AS MANAGEMENT TOOLS  
(Introduction and Chapter 1)<sup>1/</sup>

Monitoring and evaluation are practical tools which should form an essential part of good management practice. Monitoring is an internal project activity which assesses (a) whether project resources (money, materials, staff, etc.) are being delivered and used in accordance with the approved budget and timetable, (b) whether the intended outputs (numbers of houses constructed, training courses given, patients treated, etc.) are being produced in a timely and cost-effective manner, and (c) the efficiency with which the project is being implemented. Projects which do not have an effective monitoring system are more likely to suffer some of the following types of problems:

- ° delays and cost overruns
- ° exclusion or under-representation of certain sectors of the target population
- ° problems of quality control
- ° long delays in detecting problems or conflicts among the implementing agencies or between these agencies and intended beneficiaries

The primary purposes of evaluation are to assess the extent to which the intended impacts (increases in income, reduced incidence of certain infections, improved housing quality, etc.) have been produced and to compare the cost-effectiveness of a project with possible alternatives. When a project does not have an effective evaluation system the danger is increased of the following kinds of problems:

- ° continuing a project which is not producing the intended benefits
- ° wasting money by not selecting the most cost-effective option
- ° greater difficulty in detecting and correcting some of the factors which are reducing project impact.

A well designed and implemented monitoring and evaluation system can be a cost-effective way to:

- ° Provide constant feedback on the extent to which the projects are achieving their goals
- ° Identify potential problems at an early stage and propose possible solutions.
- ° Monitor the accessibility of the project to all sectors of the target population.
- ° Monitor the efficiency with which the different components of the project are being implemented and suggest improvements.

<sup>1/</sup> All references are to the appropriate sections of Monitoring and Evaluating Urban Development Projects: A Handbook for Managers and Rsearchers (Technical Paper 53).

- ° Evaluate the extent to which the project is able to achieve its general objectives.
- ° Provide guidelines for the planning of future projects.

Many project managers have been discouraged by the belief that monitoring and evaluation are highly technical fields which should be left to research specialists or which are too expensive and complex to be of practical utility. However, monitoring and evaluation need not be complicated or expensive, and the size and complexity of the studies can be adapted to suit the needs and resources of each project. For example, the monitoring studies described in Section 4 are all simple, short and economical. The role of the manager is to define the topics which need to be studied, to make sure that researchers use the most cost-effective methods, and to arrange for reports to be reviewed, discussed and acted upon.

2. THE EXPERIENCE ON WHICH THE PROPOSED SYSTEMS ARE BASED  
(Introduction)

The methods described in this Handbook are based on ten years of World Bank experience and a review of the extensive evaluation literature produced since the early 1970s. The World Bank urban evaluation experience began in 1975 with a cooperative venture with the International Development Research Centre (Ottawa) which supported a five-year evaluation of four of the first World Bank financed urban shelter projects in El Salvador, Zambia, Senegal and the Philippines. Since then the Bank has provided assistance to governments in Asia, Africa and Latin America in the design of their own monitoring and evaluation systems; and new evaluation techniques designed to provide more rapid feedback or a better understanding of the point of view of intended beneficiaries, have been tested. All of the methods described in the Handbook have already been field tested, most but not all of them as part of World Bank projects.

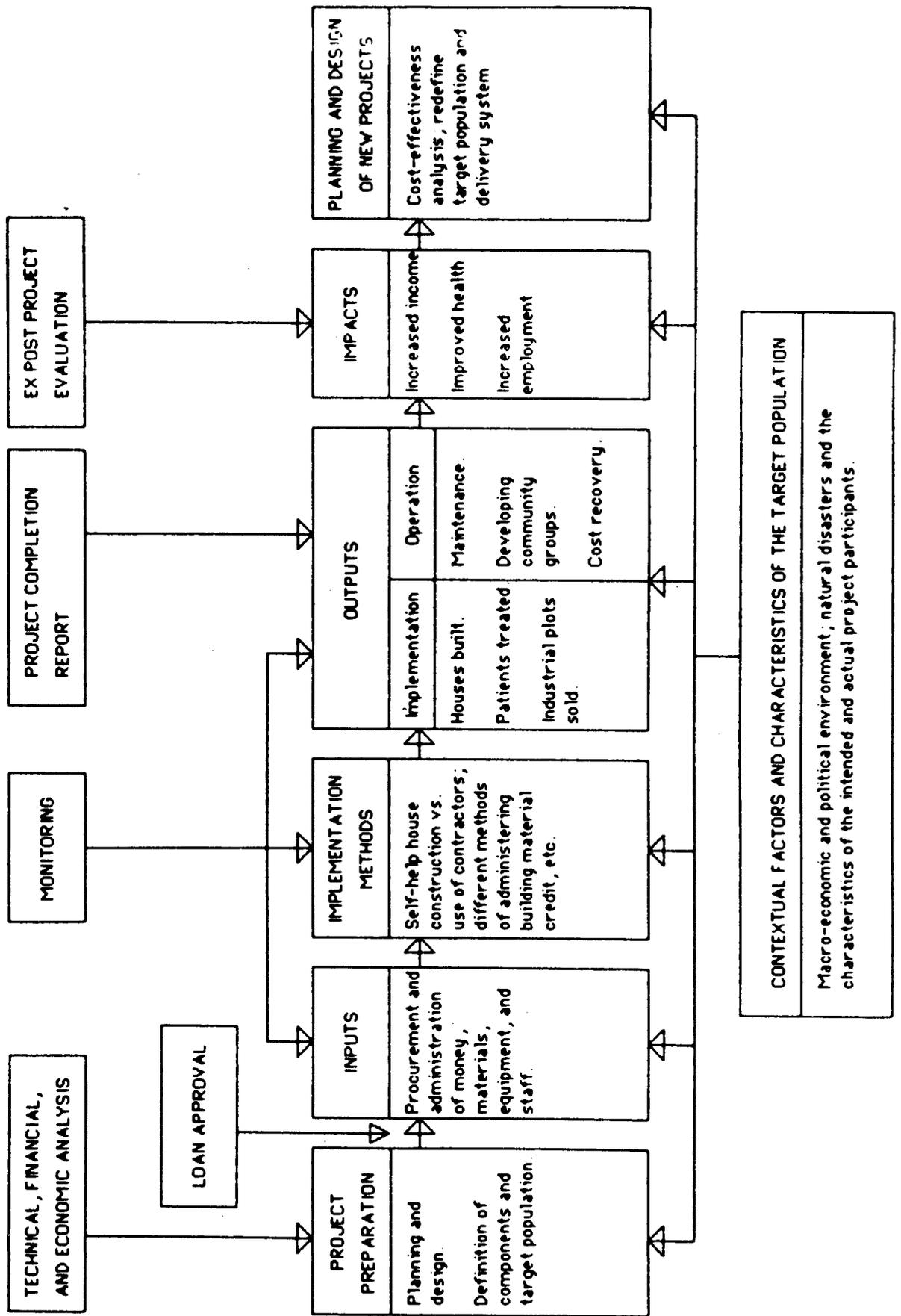
3. A MODEL OF THE MAIN STAGES IN THE DESIGN AND IMPLEMENTATION  
OF AN URBAN HOUSING PROJECT  
(Chapter 1 - Section B and Annex A)

In order to be able to design and interpret a program of monitoring and evaluation, it is essential to have a model of the process of implementation of the project being studied. This helps managers and evaluators define the key issues to be studied, and provides the framework for interpreting the results of the individual studies. Figure 1 describes a model which can be used to identify and describe the main stages in any urban development project. The figure shows how the model can be used to describe the main stages in a project to renovate urban housing in a large city. The project can be broken down into six sequential stages:

- Stage 1: Planning and design of the project. During the planning stage, assumptions are made about the needs of certain sectors of the population and about the relative effectiveness of alternative delivery systems.
- Stage 2: The resources allocated to the project. The resources include money, land, professional staff, machinery and equipment.
- Stage 3: The delivery systems through which resources are converted into outputs.
- Stage 4: Defining the outputs which the project is intended to produce.
- Stage 5: Defining the impacts which it is hoped will occur as a result of the project. (See Chapter 4-Section 5 and Annex A).
- Stage 6: Using the results of the first project to help in the selection and design of future projects. Many projects form part of an ongoing urban development program and frequently the results of the first project are intended to provide guidelines for the definition and design of future projects.

The model also refers to the economic and political context within which the project develops and to the characteristics of the target population. Projects do not develop in a vacuum, and success is significantly affected by the characteristics of the target population, and by the political and economic context within which the project is implemented.

Fig 1-1 FRAMEWORK FOR MONITORING AND EVALUATION OF THE PROJECT IMPLEMENTATION PROCESS



4.

#### THE FUNCTIONS OF MONITORING

Monitoring is an internal project activity concerned to assess whether project resources are being administered and used as intended and whether they are producing the intended outputs. Monitoring can be divided into performance monitoring and process monitoring.

##### 4.1 Performance Monitoring (Chapter 2)

The purpose of performance monitoring is to assess the extent to which project resources are being used in accordance with the approved budget and timetable and whether the intended outputs are being produced in a timely and cost-effective manner. Performance monitoring may also assess whether project benefits are reaching the intended population groups. Box 1 is an example of a monitoring study in a squatter upgrading project which showed that many tenant families were not receiving the full benefits of the project as landlords were not always willing to give them access to drinking water and toilets. As a result of the study project management introduced stricter controls to ensure that landlords did provide water connections for their tenants.

##### BOX 1 USING A MONITORING STUDY TO IDENTIFY SECTORS OF THE POPULATION WHO WERE NOT BENEFITTING FROM A SQUATTER UPGRADING PROJECT IN BOLIVIA

One of the findings of a participant observer study in La Paz, Bolivia, was that the community leadership in an upgrading project consisted almost exclusively of middle-income homeowners. It was found that the interests of poorer renters, and of low-income households on the periphery of the community, had not been adequately taken into account. As a result of the study, discussions were started with representatives of some of the peripheral areas and plans were made to extend infrastructure to include them.

The study consisted of a trained participant observer living in the community for three months (the participant observation approach is explained in Annex 1).

Source: Lawrence Salmen. 1983. "Participant Observer Evaluation of Urban Projects in La Paz, Bolivia, and Guayaquil, Ecuador." Water Supply and Urban Development Department. Discussion Paper No. 36, World Bank, Washington, D.C.

Performance monitoring is intended to improve project supervision, and it is essential that management receive constant feedback on key indicators of project performance so that problems can be detected and corrections made. Box 2 is an example of how a monitoring study in Senegal was able to identify the reasons for the slow rate of completion and

BOX 2 HOW A MONITORING STUDY HELPED DEVELOP AN ACTION PLAN TO  
SPEED UP THE RATE OF HOUSE CONSTRUCTION AND OCCUPATION IN A  
SITES AND SERVICES PROJECT IN DAKAR, SENEGAL

A monitoring study was conducted in Dakar, Senegal, at the request of project management to determine the reasons for the slow rate of plot occupancy in a sites and services project. The study showed that most of the houses were much larger and more expensive than intended in the project design and that this was both slowing down occupancy and excluding lower income families. Some of the reasons included: (a) administrative difficulties in obtaining approval plans for small houses; (b) families were not aware of the cost implications of designing a larger house; (c) families were not familiar with the concept of progressive development whereby a small core house could be built and occupied and later expanded; and (d) many higher income families were able to obtain a plot due to the lax screening procedures. As a result of the study, an "Action Plan" was initiated which successfully encouraged people to build smaller houses and which imposed stricter screening procedures on applicants. Technical assistance was provided in recruiting and supervising subcontractors and the procedures for approving the plans for smaller houses were streamlined.

The study, which involved interviews with a sample of participants and discussions with project staff, was completed in under three months by a team of four interviewers working with a supervisor and research director.

Source: Bureau d'Evaluation, 1979. "Study of Purchasers of Serviced Plots Who Have Not Yet Begun Construction." Office D'Habitation de Loyer Modéré, 1979. Dakar, Senegal.

occupation of houses, and how it was able to help with the design of an Action Plan to reduce costs and increase the speed of completion. (Annex G describes a basic performance monitoring system which can be simply and economically applied in any urban project. Annexes H and I describe a more comprehensive "network based" system which is appropriate for many more complex projects).

#### 4.2 Process Monitoring (Chapter 3)

The purpose of process monitoring is to assess the efficiency and effectiveness of project implementation. The speed and costs of the delivery system and the quality of the outputs are measured, and where possible a comparison is made with alternative approaches. The effects of the delivery system on the level and distribution of project benefits may also be assessed. Box 3 describes several monitoring studies which have shown how poor communication between management and beneficiaries can affect the efficiency of project implementation and the distribution of benefits.

5.

THE FUNCTIONS OF EVALUATION  
(Chapter 4)

Whereas monitoring is an internal project activity intended to improve the performance of an ongoing project, the purpose of evaluation is to help with the selection and design of future projects. Evaluation can be divided into impact evaluation and cost-effectiveness analysis.

5.1 Impact Evaluation

The purpose of impact evaluation is to estimate the net impacts of a project on the target population by comparing the conditions of the affected groups after the project has taken place with what they would have been without the project. Depending on the information required for future project planning, studies can either be designed to provide general descriptive information on impacts, or to produce quantitative estimates of the magnitude of the impacts. For example, project impact on household income could be studied through qualitative interviews and observation with a small number of families, or through a longitudinal impact study using interviews with a large sample of project participants and a control group at two or more points in time. The first option would be much cheaper and faster, but much less precise. The manager, not the researcher, must decide which approach would best provide the information needed for future

BOX 3 SOME EFFECTS OF INADEQUATE COMMUNICATIONS ON PROJECT IMPLEMENTATION

The following are examples of how poor communications can affect the process of project implementation:

\*\* It was several years before the executing agency in Guayaquil, Ecuador, realized that community leaders, who were from one of the opposition parties, were deliberately misinforming the community about the services being offered. Due to this the community showed no interest in the project and it was never started.

\*\* In a squatter relocation project in Recife, Brazil, the implementing agency believed that the community had been informed by their leaders as to the nature and costs of the project and that most families were in agreement. A rapid study revealed that most families had not in fact been informed and due to this were becoming hostile to the project.

\*\* In Usulután, El Salvador, it was found that many low-income and illiterate households were not applying to purchase houses in the project as they had not been reached by the mass media communication techniques which had relied on publicity through the cinema and radio or through written communications.

policy decisions. (Chapter 4-Section 4 discusses the alternatives to large scale quantitative evaluation. Annex B describes the data collection techniques which can be used with these approaches).

Quantitative impact evaluations estimate the degree to which the observed changes can be attributed to the effects of the project (have been "caused" by the project) and examine the factors which contribute to the degree and direction of the impacts. Box 4 is an example of the use of a "quasi-experimental" evaluation design to estimate the impact of increased housing expenditures by project participants on food expenditures. A "control group" with similar socio-economic characteristics was selected, and a survey was applied to both participants and the control group before the project began to determine how much each group spent on food. The survey was repeated after the project was completed and it was found that during a period of high inflation, food expenditures by participants had increased much less than for the control group; suggesting that the project might have had a negative effect on food expenditure. However, care must be taken in the interpretation of the findings because it is not possible to randomly assign subjects to the experimental and control groups in the way which is done in experimental psychology. This means that there may be differences between the two groups at the time the first survey is conducted. For example, participant and control families may be different in terms of the number of family members, income, employment or the time they have been living in the city. Some of these factors may affect food expenditure, so that the observed differences between the two groups, after the project may be caused by some of these initial differences rather than by the effects of the project itself. A number of statistical techniques have been developed for the analysis and interpretation of these "quasi-experimental designs." (Chapter 4-Section 5 describes the basics of quantitative evaluation. Annexes D, E and F describe sampling, design and analysis procedures in more detail).

BOX 4 EXAMPLE OF A QUASI-EXPERIMENTAL IMPACT EVALUATION DESIGN  
TO EVALUATE THE EFFECTS OF HOUSING INVESTMENTS ON HOUSEHOLD FOOD  
EXPENDITURES IN EL SALVADOR

A concern of housing planners is that the need of poor families to mobilize resources for purchasing or upgrading their housing may result in reduced expenditures on food and other basic necessities. This hypothesis was tested on a sites and services project in El Salvador by comparing food expenditures of participants and a control group in 1977 before the project began and again in 1979 when the project had been underway for around 18 months. The results were as follows:

Average monthly expenditures on food (pesos)

|               | 1977  | 1979  | % change |
|---------------|-------|-------|----------|
| Participants  | 177.4 | 240.6 | + 35.6   |
| Control Group | 155.2 | 241.5 | + 64.2   |

The T-Test score of 4.63 (with 356 degrees of freedom) was statistically significant at the 0.0005 level, thus supporting the hypothesis that project participation would negatively affect food expenditures. The control group was essential to this design, to provide information on general trends in food expenditure and to control for the effects of inflation. A weakness of the design is that it is not possible to determine the extent to which the slower rate of increase in food expenditures is due to the initial differences between the two groups rather than to the effects of participating in the project.

Source: Michael Bamberger. 1982. "Statistical Procedures for the Evaluation of Project Impacts." Water and Urban Development Department. World Bank, Washington, D.C.

5.2 Cost-Effectiveness and Cost-Benefit Analysis  
(Chapter 4 - Section 6)

The purpose of cost-effectiveness analysis is to compare alternative projects in terms of the cost of producing a given output. Box 5 describes a large-scale evaluation of the cost-effectiveness of the Experimental Housing Allowance Program in the United States which provided grants to families to make improvements to their dwelling units. It was found that this approach, in which families were responsible for making the improvements or for hiring the contractors, was much more cost-effective than conventional schemes in which federal or state agencies were directly responsible for building or renovating dwelling units. It was estimated that the evaluation, which cost about \$50 million over a 10-year period could potentially save the federal government up to \$7-8 billion per year.

BOX 5 COST-EFFECTIVENESS ANALYSIS OF A LARGE SCALE PROGRAM OF HOUSING ALLOWANCES DESIGNED TO STIMULATE HOUSING IMPROVEMENTS

The Experimental Housing Allowance Program (EHAP) sought to test the efficacy of providing poor households with allowances they could use to improve their present housing or to find better rental accommodation. It was believed that stimulating the private market would be more effective than the government directly providing housing. A sample of approximately 1,800 low income households was randomly divided between the experimental group which received housing allowances and a control group which did not. One of the experiments involved a three-year demand study to observe the effect of increased income (housing allowance) and reduced prices (payment of a proportion of rent) on housing consumption. Participating households were required to provide monthly information and to respond to periodic interviews. The control group received no assistance but was asked to provide similar information, for which they received a small payment.

It was found that a relatively small proportion of eligible families decided to participate in the project and to apply for benefits. Only 27% of eligible households applied for housing allowances, and only between 10% and 25% of the additional income was used to increase housing consumption.

Although the participation rates were relatively low, the EHAP program appeared to be a cost-effective way of improving housing quality for specific target groups. The observed improvements were produced significantly more cheaply than through conventional programs and it has been estimated that the implementation of the evaluation recommendations could potentially save federal housing agencies as much as \$7-8 billion per year.

Source: Raymond Struyk and Marc Bendick. 1981. Housing for the Poor. Urban Institute, Washington, D.C.

Box 6 illustrates the use of cost-benefit analysis to compare the benefits and economic rates of return of eight low-cost housing options in El Salvador. Costs and benefits were computed for each year of the estimated 20 year life of each project, and net benefits (the difference between benefits and costs) were computed for each year. Net benefits were then discounted to obtain the Economic Rate of Return and Net Present Value (NPV). When NPV's were divided by costs, it was found that the cost-effectiveness ratio of sites and services projects was at least twice as high as that of conventional government housing programs. The conclusion of this analysis was that housing for the poor could be provided much more economically through sites and services than through conventional housing programs.

BOX 6 COMPARING THE BENEFIT/COST RATIOS OF ALTERNATIVE URBAN HOUSING PROJECTS

A comparison was made in El Salvador of eight low-income housing options in terms of their costs and benefits to both the nation and the participant households. It was shown that the economic rate of return on progressive development approaches (sites and services and squatter upgrading) ranged between 18 and 33 percent, whereas the rate for conventional government housing programs (multi-family and single family completed units) ranged between 9 and 13 percent. The ratio of Net Present Value to costs was at least five times higher for the sites and services projects than for conventional housing. These findings suggested that the large scale implementation of progressive development would be very cost effective and would make projects more accessible to low-income households.

Source: Marisa Fernandez-Palacios and Michael Bamberger. 1984. "An Economic Evaluation of Low-Cost Housing Options in El El Salvador." Water Supply and Urban Development Department Discussion Paper No. 55, The World Bank, Washington, D.C.

6. INTEGRATING MONITORING AND EVALUATION INTO A MANAGEMENT  
INFORMATION SYSTEM

Although each of the four types of study, described in Sections 4 and 5 of the present document, have different purposes, they complement each other and should be used together in an integrated monitoring and evaluation program. Let us assume, for example, that the evaluation of a water supply and sanitation project finds that the expected improvements in the height and weight of young children have not taken place. The impact evaluation on its own cannot explain whether this finding means that the underlying assumptions of the project are invalid, or whether the problem is due to the way in which the project was implemented. In this case process monitoring could identify the problems which occurred during project implementation and could assess the extent to which these problems have contributed to the lack of expected impacts. If serious problems occurred during implementation, it would clearly be difficult to interpret the lack of impact as evidence that improved water and sanitation will not potentially affect child health. In cases such as this the monitoring studies can greatly increase the operational utility of the impact study. In other cases the impact study can be used to complement the findings of monitoring studies by assessing whether a project which is being implemented very efficiently, is producing the intended impacts. For example, if an efficiently run job training program does not have any impact on income or employment there may be no justification for it being continued.

7.

## PLANNING THE MONITORING AND EVALUATION SYSTEM

(Annex C presents a step by step guide to the decisions which must be taken on the design and implementation of a monitoring and evaluation system).

This section describes the main decisions and actions which a manager must take in selecting and planning the appropriate types of monitoring and evaluation studies for a particular project. Table 1 summarizes the main stages in planning and implementing the systems.

### 7.1 Defining the Issues to be Studied

Every study involves costs of money and staff time, and it is therefore essential for management to select carefully the issues which should be covered by the monitoring and evaluation. There are usually a number of different ways in which any topic can be studied, and as the approaches vary considerably in terms of detail, complexity, time and cost it is important for the manager to define carefully exactly what types of information are needed. Managers must decide the relative importance of each of the four types of monitoring and evaluation studies described in Sections 4 and 5 and how resources will be allocated between them.

### 7.2 Organizing the Monitoring and Evaluation (Chapter 5)

Decisions have to be made about whether monitoring and evaluation will be conducted within the executing agencies or whether some or all of the studies will be subcontracted to other organizations. Where monitoring and evaluation are conducted internally, decisions have to be made on the location of the monitoring and/or evaluation units within the organizational structure. The decision must also be made as to how and when to use consultants.

### 7.3 The Scope and Intensity of the Studies (Annex C-Section 1.3)

For large projects with many components, and possibly covering many different geographical areas, research priorities must be established. It would be excessively expensive and time-consuming to intensively study every component in every area and consequently management must decide which components or areas are the most important to study. As discussed previously, it is also important to define whether precise quantitative estimates of impact are required, or whether descriptive studies will suffice.

TABLE 1: SOME KEY ISSUES IN THE DESIGN AND MANAGEMENT OF THE MONITORING AND EVALUATION

PLANNING THE MONITORING AND EVALUATION

1. Defining the key issues to study and their relative importance
  - \* Performance monitoring
  - \* Process monitoring
  - \* Impact evaluation
  - \* Cost-effectiveness evaluation
2. Defining the organization of the monitoring and evaluation
  - \* Conducted by the implementing agency or sub-contracted
  - \* Where should the monitoring and evaluation units be located in the organization
  - \* What should be the functions (if any) of consultants
3. Defining the scope and intensity of the studies
  - \* Geographical coverage
  - \* Level of detail and precision required
4. Ensuring the studies are "user oriented"
5. Defining resource requirements
  - \* Staff
  - \* Financial resources
  - \* Equipment, office space, etc.

MANAGING THE MONITORING AND EVALUATION

1. Defining the role of project management
2. Defining the main users of the monitoring and evaluation and their information needs:
  - \* Project managers
  - \* Urban development planners
  - \* National finance and planning ministries
  - \* International donor agencies
3. Defining the outputs and ensuring they are operationally useful:
  - \* Planning studies for selection and design of new projects
  - \* Monthly or quarterly monitoring reports
  - \* Continuous panel studies
  - \* Special studies to provide feedback on problems or issues identified by management
  - \* Mid-term evaluation review
  - \* Impact and cost-effectiveness studies
  - \* Project completion report
4. Developing procedures for the regular review of monitoring and evaluation reports

#### 7.4 Ensuring That the Evaluation Is "User Oriented" and Not "Technique Oriented" (Annex B-Section 1)

Many monitoring and evaluation researchers have become experts in the use of particular research techniques, and some researchers are more concerned with the selection and refinement of the techniques than with ensuring that the studies will satisfy the information needs of the project manager. All research methods have their strengths and their weaknesses and a good evaluation design should always include a number of different techniques so as to obtain a wider understanding of the problem and to avoid the types of bias which inevitably occur when only one method is used.

When talking to evaluators, the project manager will discover that there is a controversy between the advocates of quantitative ("objective") methods, which seek to provide rigorous statistical estimates of project impacts; and the advocates of qualitative ("subjective") methods, who seek to understand the value systems of the affected populations and their attitudes to the project. Both quantitative and qualitative methods have their strengths and weaknesses, and the evaluation design should include both.

#### 7.5 Defining Resource Requirements (Chapter 5-Section F)

Monitoring and evaluation techniques vary widely in terms of their scope, complexity and cost. One of the functions of the manager is to select the types of studies and the organizational structure which best respond to the needs and resources of the implementing and policy-making agencies. Resources should be allocated to high priority issues and care must be taken to avoid investing resources in studies with limited operational utility.

When addressing the issue of affordability of an evaluation it is important to keep in mind the concept of cost-effectiveness. In a complex project there may be a justification for investing large sums of money in order to conduct a rigorous evaluation of alternative investment strategies, as this may permit very large cost savings in the design of future projects.

8.

MANAGING THE MONITORING AND EVALUATION

8.1 The Role of the Project Manager in Monitoring and Evaluation  
(Chapter 1-Section A)

Monitoring and evaluation are management tools, and in order for them to be operationally useful the project manager must be actively involved in all stages of design and review of the studies and in the implementation of the recommendations. Although the technical aspects of the studies are the responsibility of the research team or consultants, the project manager must control the selection of studies and ensure the important operational questions are being addressed. When the responsibility for the design and execution of monitoring and evaluation is left to researchers, the studies may become too academic and their operational utility may be reduced.

8.2 Defining the Main Users of Monitoring and Evaluation  
(Chapter 5-Section A)

In order to ensure that the monitoring and evaluation reports will be operationally useful, it is first necessary to define the potential users of the studies and their information needs. There are usually four main groups of users:

- (a) Project managers: who use the information to control the implementation of the projects for which they are responsible; to ensure that objectives are being reached and that the benefits are reaching the target population; and to help in the design of future projects or the extension of the project to new areas.
- (b) Urban development planners: who use the information to evaluate the project impacts on the overall development of the city; to compare the costs and performance with alternative investments and to plan new projects.
- (c) National finance and planning ministries: who use the information to speed the receipt of future disbursements by international donor agencies; to control internal cash-flow and to evaluate revenue generating impacts of the projects.
- (d) International donor agencies: for those projects which are partly financed through an international loan, the donor agency will require monitoring and evaluation information to use as part of their regular supervision and planning activities and to project future disbursement schedules. In addition to these groups of primary users, the information is of utility to a wide range of researchers and academic institutions.

### 8.3 The Outputs of Monitoring and Evaluation and Their Practical Utility.

It is important to ensure that monitoring and evaluation studies appear in a timely fashion, are simple to read and address the key operational issues. The following are some of the types of operationally useful studies and reports which can be produced.

- (a) Evaluation studies can be very helpful in the planning of a new project. For example, participant observation or other in-depth studies can estimate the likely reactions of a community to a proposed project and can identify potential problems which may arise in certain communities. (See Chapter 3 - Sections 2, 3 and 5).
- (b) Monitoring reports are usually produced monthly or quarterly to provide a summary of key indicators on the progress of each project component, together with an indication of key problems and issues requiring attention. The report should provide feedback on community attitudes and interactions with other organizations, as well as summarizing information collected within the agency itself. (See Annex G).
- (c) Panel studies may be conducted on certain projects to provide continuous feedback on implementation and to identify potential problems. For example, a sample of households who are renovating their houses could be visited every month to observe the progress of their work and to identify the types of problems which they are encountering. (See Chapter 3-Section 5).
- (d) Special studies are conducted whenever management requires help in making an important decision. These studies frequently combine a number of different methods, and depending on the issue being studied, may be completed in a few weeks or may require a considerably longer period of time. (The boxes in Chapter 3 provide several examples).
- (e) A mid-term evaluation review is frequently required by the central government or the lending agency. This report reviews progress, identifies key issues and makes recommendations about possible design changes which should be considered. This report is important as it is prepared when the project is sufficiently advanced for there to be a solid basis on which it can be evaluated; but with sufficient time and resources remaining to be able to make corrections if they are required.
- (f) Impact evaluation and cost-effectiveness analysis of project components (see Chapter 4 - Section 6).

- (g) A project completion report is normally required after the final disbursement has been received. This will assess the extent to which project goals have been achieved, the efficiency with which the project was organized and will include recommendations for the design of future projects.

#### 8.4 The Importance of Regular Reviews of Monitoring and Evaluation Outputs

The design of a monitoring and evaluation system is an iterative process in which the quality of the studies and reports will gradually improve on the basis of experience. The quality of the first studies and reports will often be somewhat limited, as both researchers and managers are inexperienced in this field. In order to ensure that the quality of studies improves, regular review procedures should be instituted by which all studies are discussed and evaluated and the key issues for future studies are defined.

The review usually involves the evaluation team presenting their reports in management meetings where they are discussed and decisions made on the actions to be taken. Reports should be circulated before the meetings and divisional managers should be responsible for obtaining comments from their staff.

9.

## SUMMARY OF THE HANDBOOK

### Chapter 1: The Monitoring and Evaluation Framework

This chapter presents the framework within which the objectives, scope and organization of a monitoring and evaluation system are defined. Monitoring and evaluation are management tools and it is important that the project manager be actively involved in the design, review and application of the studies. The system should include performance monitoring (to control the use of inputs and the production of outputs), process monitoring (to evaluate the efficiency and effectiveness with which the project is implemented), impact evaluation to estimate the quantitative effects of the project on the social and economic conditions of the target population; and cost-effectiveness analysis to compare alternative projects in terms of the outputs produced for a given cost. The key decisions which management must take with respect to the planning and management of the studies are discussed and finally a number of common problems in the design and implementation of monitoring and evaluation are identified, and some possible solutions are proposed.

### Chapter 2: Performance Monitoring

This chapter describes the design and implementation of a system to provide periodic feedback on the progress of a project, the extent to which inputs are being used in accordance with the approved budget and timetable, and whether the intended outputs are being produced in a timely and cost-effective manner. Two systems are described, a basic system which can be simply and economically applied to any project; and a more complex system, based on network analysis, which is more appropriate for larger and more complex projects.

### Chapter 3: Process Monitoring: Monitoring the Project Delivery System

This chapter reviews key issues and designs for monitoring the efficiency and effectiveness of the project implementation process. Among the issues discussed are the trade-offs between different indicators of efficiency, and some of the organizational factors which have prevented many projects from effectively monitoring the implementation process. Process monitoring can either be conducted to provide regular information on the progress of implementation, or to provide rapid feedback when problems arise. The main data collection methods are presented, with the recommendation that a multi-method approach should always be used in which quantitative and qualitative methods are combined. Three study designs are described: continuous observation throughout a project, periodic studies, and studies conducted at only one point in time. Techniques are described for monitoring the efficiency of the implementation process. Finally recommendations are presented on how to define the appropriate strategy for process monitoring.

#### Chapter 4: Impact Evaluation

This chapter presents alternative research designs for the evaluation of project impacts. The history of impact evaluation is reviewed and the debate between the advocates of qualitative and quantitative approaches is discussed. Key issues, including whether and when to conduct impact evaluations, are discussed and examples of different research designs are presented. A number of simple evaluation designs are presented as alternatives to the large-scale quantitative approaches in those situations where it is not necessary to obtain precise quantitative estimates of project impacts. With respect to quantitative evaluation, a distinction is made between approaches which estimate net project impacts (the quasi-experimental design) and those which estimate cost-effectiveness (cost-benefits analysis, cost-effectiveness analysis and cost-utility analysis). Finally, guidelines are presented on how to choose the appropriate impact evaluation strategy. The chapter includes cross-references to technical material in the annexes on sampling, research design and statistical analysis.

#### Chapter 5: Managing the Evaluation

This chapter discusses the main issues involved in defining the appropriate organizational structure for monitoring and evaluation at the level of the implementing agencies, the local coordinating agency, specialized sectoral agencies and national development and financial agencies. Some of the issues include: defining who should conduct the evaluation, the role of consultants, the appropriate organizational location of the monitoring and evaluation units, the role of a steering committee, and the distribution of evaluation responsibility between the national, sectoral and local agencies. There is no single best organizational structure and the location of the monitoring and/or evaluation units is determined in each case by the scope and complexity of the project and the relative size and research experience of the different agencies involved. Guidelines are provided for estimating the financial and human resource requirements for different types of monitoring and evaluation programs. The final section discusses common problems in the organization of an evaluation program and some of the possible solutions.

#### Chapter 6: Issues and Approaches in Evaluating Non-Shelter Related Urban Projects

This chapter reviews some of the new directions in urban development which have evolved in recent years and discusses the extent to which the monitoring and evaluation framework presented in earlier chapters is applicable to them. The four types of projects which are discussed are: income and employment generation, health, transport and urban and municipal development. It is concluded that the techniques of performance monitoring can be readily applied to all of these new types of projects, and that process monitoring can be easily applied to the first three and with some difficulty to municipal and institutional development. The main difficulties occur in the evaluation of the impacts of the projects. Problems arise because the size and scope of the projects makes it difficult to identify a control group, because it is difficult to specify

and measure impacts or because the project does not have a single set of outcomes and impacts which can be clearly defined and measured. Strategies are recommended for the application of each type of monitoring and evaluation study to each of the four project areas.

The Handbook contains ten annexes, which provide more detailed and technical discussions of the topics covered in the text:

- A. Defining and Using a Model of the Project Implementation Process
- B. Methods of Data Collection for Monitoring and Evaluation
- C. Manager's Guide to the Design and Implementation of a Monitoring and Evaluation System
- D. The Basic Concepts of Sample Design
- E. Experimental and Quasi-Experimental Designs in Urban Impact Evaluation
- F. Methods of Data Analysis
- G. Sample Outline of a Quarterly Progress Report
- H. Designing a Network-Based System to Monitor Project Implementation
- I. Designing a System for Network-Based Financial Monitoring
- J. A Basic Evaluation Library
- K. Glossary of Terms Used in the Handbook

An extensive bibliography is included to guide readers interested in a more detailed treatment of particular issues.

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