Guidelines for Formulating Projects to Benefit the Urban Poor in the Developing Countries

Volume II: Guidelines for Project Selection, Summary Project Characteristics and Case Studies

April 1976
Agency for International Development
Washington, D.C. 20523

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Volume II:
Guidelines for Project Selection, Summary Project Characteristics and Case Studies

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PLANNING AND DEVELOPMENT COLLABORATIVE INTERNATIONAL
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12 April 1976

Messrs. William R. Miner, Director
and Eric Chetwynd
Office of Urban Development
Bureau for Technical Assistance
Agency for International Development
Department of State
Washington, D.C. 20523

Re: Contract No. AID/TA-C-1107, Amendment No. 2, Guidelines for Formulating High Impact Projects to Benefit the Urban Poor in the Developing Countries

Dear Bill and Eric:

We are pleased to submit the final Guidelines to your office for reproduction.

The material is structured in two volumes:

Volume I: Background, Goals and Project Opportunities

Volume II: Guidelines for Project Selection, Summary Project Characteristics, and Case Studies

Volume I, containing Chapters I through III, which constitute Part I, reviews the scale of the urban poverty problem, identifies varieties of urban poverty, analyzes underlying causes and indicates the goals presumed for the undertaking of projects to benefit the urban poor. Volume II contains Parts II, III, IV and V, together with an appendix for U.S. AID users. Part II identifies the role of projects in each sector in economic and social development together with the policy implications of such projects, describes the characteristics of projects likely to have high beneficial impact on urban poverty groups in the developing countries, identifies the other types of impact they are likely to involve and indicates complementary actions which may be necessary in undertaking them.

Part III reviews the potential uses of the Guidelines in identifying and undertaking projects. Part IV presents summary project characteristics in tabular form and, together with Part V, is intended to be the most frequently used tool in the Guidelines. Part V is intended to contain case study data that will be built up gradually by users of the Guidelines; an illustrative case study is presented to suggest how information in that section might usefully be organized. The appendix indicates how the Guidelines relate specifically to AID procedures and documentation requirements in project identification, project preparation, project review and appraisal and project evaluation.

We look forward to receiving your comments and those of the field missions as the Guidelines are put to use and we hope that they will prove to be a valuable and continually evolving working tool for those concerned with projects to benefit the urban poor in the developing countries.

Yours sincerely,

John D. Herbert
Senior Vice President

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INTRODUCTION

The purpose of Part II is to provide basic information on each of the sectors and project types dealt with in the Guidelines as a context for the day-to-day working materials provided in Volume II.

Each chapter in Part II deals with projects of a different type. Most chapters cover a single sector such as housing or a set of functionally-related sectors such as water supply and sanitation. One chapter deals with overall public management and finance which are not "sectoral" in the usual sense since they have to do with such things as land management and taxation. The management and financial aspects of sectoral projects are treated in the individual chapters which deal with each sector. The concluding chapter discusses the intersectoral links which should be recognized in dealing with projects in individual sectors and potential links between urban and rural projects.

Each chapter is organized in six sections:

A. The Role of the Sector in Development and Its Importance for the Urban Poor. Material in this section of each chapter identifies the ways in which projects in a particular sector, or group of sectors, can be expected to contribute to overall economic and social development -- in particular, the ways in which such projects can be expected to benefit the poor in urban areas.

B. Policy Implications. Individual projects often cannot be fully effective in benefiting the poor unless they are supported by appropriate basic policies (which may also impact groups other than the poor). For example, projects which are intended to incorporate labor-intensive technologies for manufacturing, construction, transportation or other activities are unlikely to be fully effective if national import regulations, industrial incentives and minimum wage laws make capital artificially cheap. This section of each chapter identifies some of the major types of policies that it is desirable to have established if the types of projects dealt with in the chapter are to be as

beneficial as possible. In some cases the distinction between a "policy implication" and a "complementary action that may be needed" (see section E) will not be a clear-cut distinction; in general, "complementary actions" will be used to refer to activities necessitating the undertaking of specific types of projects in sectors other than the one under discussion. "Policy implication" will be used to refer to policies that affect the supply, pricing and/or consumption of services in the sector under discussion (and possibly in other sectors); these policies may or may not require the undertaking of projects in other sectors.

C. Projects with Potentially High Impact. This section identifies for the sector or subject area covered by the chapter some of the major types of project that are likely to have a highly beneficial impact on the urban poor. It indicates the types of impact that can be expected including negative as well as positive impacts if these are likely to be significant, and the types of poverty group most likely to be affected. As a general rule, projects of types that are simple to implement and that yield benefits early are discussed first. In most situations it will be important to take action and achieve results quickly -- while projects with long gestation periods are being initiated.

D. Institutional Aspects. This section discusses the management and financing of projects of the types dealt with in the chapter. It discusses also the potential for participation in project planning, financing and implementation by the poor themselves. In chapters in which these matters are best dealt with in the material on individual types of projects in Section C., Section D. is omitted.

E. Complementary Actions That May Be Necessary. In addition to the basic policies that may be desirable to support particular types of project (policies that will be dealt with in Section B) some types of project may call for action in sectors other than their own if they are to be fully effective. For example, projects in water supply and sanitation that provide an opportunity for the re-use of urban wastes may call for concurrent project development in agriculture. This section attempts to identify at least the major types of complementary action that may be desirable with particular types of project.

F. Other Likely Impacts. Projects intended partly or primarily to impact the urban poor may also impact other groups directly (for example, where improvements in a low-income area lead to increases in land values in an adjacent middle-income area) and/or indirectly through their impact on overall local, regional or national development (for example, where they impact revenues or imports and exports). Decisions on the desirability or undesirability of a project should take into account these other impacts, as well as impacts on the urban poor, if those decisions are to be integrated with broader economic and social development decisions. This section attempts to identify for types of project where this is relevant the kinds of broader impact that it may be important to consider.

Chapter IV

PROJECTS TO INCREASE EMPLOYMENT AND PRODUCTIVITY

A. The Role of Projects Focused on Employment and Productivity

An increase in employment and/or productivity is a prerequisite for any major improvement in low-income household consumption or assets when those improvements are to be achieved through the market place. In many cases, it is a prerequisite also for improvements in public services for the poor if low-income households are to be charged economic or near-economic prices for improved services.[1] A fundamental part of any strategy designed to benefit the poor is therefore likely to have to include projects whose concern is to achieve increased employment levels. There must be a concern not only with employment levels but also with the quality of employment and the income it generates. Even without additional public intervention, large urban economies are capable of generating at least intermittent, low-wage jobs yielding monthly incomes of the order of $5.00-$10.00. Clearly, the aim should be to achieve considerably higher productivity than this.

Opportunities for increasing both employment and productivity for low-income (and, generally, low skilled) groups exist in a number of sectors, including various types of manufacturing, retailing, construction, transportation, sanitation and, in some situations, intensive agriculture close to urban areas.

At least four possible purposes should be borne in mind in undertaking projects in these sectors where the main concern is to benefit low-income groups: 1) increased employment; 2) increased productivity and income per worker; 3) increases in the supply of consumption goods and assets that meet the specific needs of low-income groups; 4) achievement of a sense of purpose, a capacity for subsequent self-improvement and a sense of hope in the low-income participants in such projects -- whether they be laborers or

[1] In some cases, however, as will be seen later, it may be possible to achieve increased consumption by decreasing, rather than increasing, the unit costs of services for the poor -- in water supply, for example, where low-income households previously have had to buy water from private vendors.

low income entrepreneurs. The achievement of the fourth of these purposes undoubtedly depends to some extent on the achievement of the first and/or the second. It is nevertheless one of the most important of the four. If a project generates income for a few months or even a year, but fails to establish a capacity for continued self-improvement and an aspiration for such improvement, it is likely to have done little of real significance for the poor.

To sustain projects designed to increase employment for low-income groups there must be a continuing demand for project output. That demand may be external (export) demand, domestic private demand or domestic demand generated by the government. Increased demand may result from factors such as international market conditions or population growth which are largely beyond governmental control. It may result also from reductions in prices and/or consumer preferences. Increases in employment for the poor may result from increased demand with existing technologies and/or changes in technology which result in higher labor inputs.

Changes in the productivity of the poor may result also from changes in technology, from improvements in services such as water supply, sanitation, health and education which increase productivity directly, or from these and other changes (including the availability of credit, price changes or changes in taxation which benefit the poor) which impact motivation and aspirations and thus influence productivity indirectly.

Among the most important instruments for bringing about increases in employment and/or productivity will be the basic policies which affect levels of demand, choices of technology and/or individual productivity -- for example, export and import policies, labor policies, domestic credit policies, policies which affect the competitiveness of individual industries, foreign and domestic borrowing policies, policies concerning user charges for public services, basic taxation policies and policies concerning the delivery to the poor of essential services which affect individual productivity. Very often, action at the policy level will be at least as important as (often a prerequisite for) achievement at the project level.

Table V.1 summarizes some of the relationships among selected factors which are likely to affect the employment and/or productivity of low-income groups. The table does not pretend to be complete in either the factors identified or the relationships it shows but it serves the following purposes:

1) It points up the importance of basic policy instruments as well as individual projects;

2) It serves as a reminder of the importance of the existence of sustained demand for project output;

3) It serves as a reminder of the interdependence of low-income groups and "other" groups;

4) It identifies some of the major types of relationships among factors affecting low-income employment and productivity which should be kept in mind in designing individual projects.

(See Table IV.1 on following page.)

Table IV.1

ILLUSTRATIVE RELATIONSHIPS AMONG SELECTED FACTORS AFFECTING LOW-INCOME EMPLOYMENT AND PRODUCTIVITY

CATEGORIES		FACTORS EXERTING EFFECT	FACTORS AFFECTED																						
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
LOW-INCOME EMPLOYMENT AND PRODUCTIVITY	1	Increased Low-Income Employment					+																			
	2	Increased Low-Income Productivity					+																			
DEMAND	3	Increased Exports	+									+														
	4	Increased Import Substitution	+									+														
	5	Increased Low-Income Domestic Demand	+									+														
	6	Increased Other Domestic Demand	+									+														
	7	Increased Government Demand	+									+														
TECHNICAL FACTORS	8	Reduced Export Prices			+																					
	9	Reduced Domestic Prices					+	+	+																	
	10	Increased Other Employment						+																		
	11	Increased Other Productivity						+																		
	12	Changes in Technology	+									+														
	13	Motivation and Aspirations of the Poor		+																						
EXOGENOUS FACTORS	14	Exogenous Changes in Export Demand			+																					
	15	Population Growth					+	+	+																	
POLICY INSTRUMENTS	16	Improved Low-Income Services		+					+						+											
	17	Selective Tax Changes					+	+	+						+											
	18	Selective Changes in Service Charges					+	+	+						+											
	19	Domestic Borrowing						+	+										+	+						
	20	Foreign Borrowing							+										+	+						
	21	Policies Affecting Competitiveness								+	+															
	22	Credit Policies												+	+											
	23	Labor Policies												+	+											
	24	Export and Import Policies			+	+																				

During the 1950s, many developing countries became convinced that rapid industrialization would be the best way to provide employment for their expanding labor forces. The results of strategies focused on modern industry have been somewhat disappointing. While manufacturing output in developing countries increased by about 7 percent during the period 1955-1965, labor absorption in the manufacturing sector increased by only 4 percent.[2] Moreover, there is evidence to suggest that the capacity of manufacturing to absorb labor actually declined during the 1960s. This tendency was clearest in Latin America; employment in manufacturing grew by 6.8 percent in 1965-1966 but by only 1.3 percent in 1968-1969.[3]

In some cases it may well be that efficient, large-scale enterprises associated with high growth are effective instruments for providing employment and income to the poor. There is no evidence, however, that large-scale industries are universally efficient users of factor inputs. On the contrary, research in Pakistan, Colombia, India and elsewhere has shown that medium-sized firms often are the most efficient in their use of scarce capital resources, even if at somewhat lower standards of labor productivity.[4] Nevertheless, industrial policies in most developing economies tend to favor large-scale, capital-intensive investments and discriminate against small- and medium-scale enterprises that could provide more employment per unit of output. Financial institutions also have tended to discriminate against smaller enterprises in the allocation of investment funds and working capital. In addition, small enterprises have special difficulty in obtaining access to essential infrastructure and in coping with bureaucratic regulations and controls.

The unsatisfactory experience of the past should not result in a neglect of large-scale enterprise as a source of employment for low-income groups. Scale, in itself, may not be the key factor. Labor-intensity and productivity should be more basic concerns.

Positive experience from other sectors in the past, as well as the negative experience with large-scale manufacturing, suggest that it is important to consider a number of sectors in seeking projects to increase employment and productivity for the poor. The present chapter therefore has a multi-sectoral focus.

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[2]World Bank. Urbanization Sector Working Paper, (Washington, D.C.: World Bank, June, 1972), pp. 14-18.

[3]United Nations Industrial Development Organization. Industrial Development Survey, Vol. V. (New York: United Nations Press, 1973), pp. 65-66.

[4]Raniss, Gustav. Employment and Income Distribution in Developing Countries. (Washington, D.C.: World Bank, mimeograph), p. 14.

B. Policy Implications

A number of policy measures can be considered to influence the choices of technology made by enterprises and to stimulate the growth of employment. Because so many technology decisions are made by private enterprises, it is important that the costs of the factors of production correspond as closely as possible to their costs to society. Too often the prices of imported capital equipment, labor, and financing do not correctly reflect their opportunity costs. The adoption of appropriate policies at the national level can frequently have a far wider beneficial impact on employment generation than the development of individual projects.

Tariff and exchange rate policies may affect the type of technology adopted. Many countries have granted tariff concessions on capital equipment which have contributed to the relative profitability of capital intensive investments. Overvalued exchange rates and import licensing have also contributed to this phenomenon. A comprehensive review of the investment impacts of foreign trade policies will be necessary in many cases.

Fiscal and credit policies also have often encouraged capital development. Large investments frequently are given tax holidays; highly capitalized investments often are eligible for lower interest financing.

To the extent that labor policies make the hiring of labor disadvantageous to employers, capital intensity is encouraged. Thus, minimum wage policies, high social security contributions, premature union pressures, regulations against night work and double-shifting, and labor laws making it difficult to dismiss employees, all contribute to raising the cost of labor above its social opportunity cost. Clearly, no one expects politically responsive governments to take action to reduce wages. However, care should be taken to avoid expanding the (usually union) worker elite at the expense of the still unemployed. Labor surplus countries should de-emphasize minimum wage laws, restrictions against night employment and other regulations which discourage the use of additional labor. For example, social security pensions and medical insurance might be financed out of general taxation rather then out of employers' contributions which increase the effective cost of labor to enterprises.[5]

In some countries traditional import substitution industries may have reached the growth limits set by small internal markets. In these countries "outward looking" industrial policies may be

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[5] International Labour Office. Fiscal Measures for Employment Promotion in Developing Countries, (Lausanne, Switzerland: 1972), p. 328.

modified gradually to remove protective tariffs, quotas and other restrictions in order to encourage industries to become more competitive internationally. A liberalization of imports and exchange rates might stimulate greater local efficiency and facilitate the importation of primary and semi-process goods for re-export. Several labor-surplus economies have successfully implemented such policies, most notably the Republic of China and the Republic of Korea. In many countries outward-looking growth policies may be tempered by the desire not to become too dependent on developed country markets. These countries may wish to devote greater energies developing appropriate enterprises for low-income domestic markets.

C. Projects with Potentially High Impact

Intensive agriculture in or near urban areas, manufacturing, retailing, construction, transportation and environmental sanitation are among the sectors in which there are many opportunities to undertake projects which have high potential for increasing employment and productivity for low-income groups. Projects in several of these sectors are discussed from a service-delivery point of view in other chapters. Here, attention is focused on employment and productivity impacts. Very often, a single project will produce an opportunity to achieve the combined impact of increased employment, higher productivity and better delivery of essential goods and services.

To simplify the presentation of the many different types of projects that are worth considering, projects will be grouped in four categories, each of which calls for somewhat different types of government action, although they also have many elements in common:

1) Support for individual private enterprises.
2) Support for cooperatives.
3) Projects designed to increase the productivity of individuals directly through training or other assistance outside (although not necessarily independent of) specific enterprises.
4) Direct governmental hiring of labor.

Each of these project types might be undertaken in most of the sectors in which important opportunities lie, although projects of type 4) will tend to be concentrated in sanitation, transportation and construction in non-socialist systems.

In each category, each sector will have very specific project requirements that are too numerous to be described in overall guidelines of this kind. Project identification

and preparation usually will require specialized skills for each sector. All that will be attempted here is a broad characterization of project features. In all cases an underlying concern is to suggest types of project that will be capable of sustaining or building up their own momentum after initial governmental support has been provided.

1. Support for Individual Private Enterprises

Even within this single category and within individual sectors, there is a variety of types of project that might be undertaken -- for example, projects to support enterprises where a single entrepreneur is involved, projects to support small corporate entities and projects to support large-scale enterprises using labor-intensive technologies. (Care should be taken to avoid a premature assumption that high levels of employment generation and productivity for the poor can be achieved only through small-scale enterprise.)

Support for private enterprise may require assistance of some or all of the following kinds:

a) Credit.

b) Technical assistance in market analysis, production planning, budgeting and accounting.

c) Selection of a location.

d) Provision of space and/or technical assistance in the construction of space.

e) Technical assistance and funding for the selection and purchase of equipment and supplies.

f) Technical assistance in modifying existing technologies, in production and in quality control.

g) Provision of essential infrastructure.

h) Technical assistance in marketing.

i) Technical assistance and/or funding to support training undertaken by individual enterprises or private-sector training programs.

The types and scales of support needed might range from assistance to the owner-manager of a small job shop in basic bookkeeping to assistance to a large enterprise in the development of modern procedures for worker training to achieve flexibility and stability in employment as well as higher productivity.

A strategy to support private enterprise through assistance of the types suggested above should be concerned with the creation of new entrepreneural activity and job opportunities that would be unlikely to be available without support (for example, where initial support gives potential small-scale entrepreneurs the confidence and capacity to launch new enterprises that they could not undertake alone or where it induces in established entrepreneurs a willingness to expand labor-intensive activities or launch new product lines that they would not otherwise risk.) It should be concerned also with the reinforcement of existing entrepreneural activity to measure productivity as well as open up additional job opportunities in existing types of activity. In the latter area, for example, it often will be desirable to encourage rather than discourage the joint use of space for both residential and small manufacturing, trade or service functions. Existing food and general markets or bazaars provide another fertile ground for support to small entreprises that can also help to achieve the goal of improved consumption of essential items.[6]

The manufacturing sector is perhaps the best-recognized area of opportunity for such project assistance, but other sectors may have a frequently-overlooked potential also.

Increasing concern to re-use urban wastes, for example, may give rise to new opportunities for small-scale enterprises in intensive agriculture close to urban areas.

Small-scale retailing, even down to the scale of "informal sector" street vending, is a relatively unexplored territory for public support, even though it is a large employer in most urban economies. Indeed, vending and similar activities are often mistakenly regarded as "marginal" and "nuisance" activities to be discouraged as much as possible. A more constructive approach would recognize the long-term role of small-scale trade and service activity in the developing world and the opportunities for intermittent income-supplementing employment, as well as principal employment, they provide. To assist rather than discourage such activity, it may be useful to provide minimal infrastructure (such as dry, paved spaces for vending, public water supply, basic night lighting and adequate refuse collection); it may be possible also to provide credit support to supplant private borrowing of working capital at exorbitant interest rates.

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[6]For an excellent analysis of urban food distribution in central markets and the efficiencies and flexibility achievable through indigenous systems see: Löcher, Uli. The Internal Market System for Agricultural Produce in Port-au-Prince. A report prepared for the Interamerican Institute of Science. Port-au-Prince, Haiti: IICA, 1974.

The construction sector is one frequently undergoing rapid growth and it is a sector in which there is relatively great ease of entry at a small scale. It is not uncommon to find even low-income households paying small contractors to build basic housing for them. Labor productivity in this sector often could be increased and the quality of the product delivered to the low-income household improved, through modest funding and technical assistance for small-scale contractors. The types of technical assistance likely to be especially useful include assistance in costing, materials purchasing, work scheduling, construction techniques and credit financing. In addition to direct support for small contractors, there are opportunities to upgrade the quality of construction and increase employment and productivity through direct hiring in the public sector, which often is a major construction employer; opportunities for this will be referred to again in Subsection 4, below.

In analyzing the formal construction sector in developing countries, Turin has suggested that its major features include: a) heavy dependence on imports of building materials and components; b) almost total dependence on imports for plant and tools; c) a high incidence of transportation costs for both local and imported building materials; and d) dependence on foreign skills, both technical and managerial, at least in the less developed countries. He notes that most developing countries devote a considerable effort to modifying this pattern -- through import substitution, education and training. He also suggests that the building materials industry which, except for cement, glass and some finished products derived from the metallurgical industry is traditionally made up of a large number of small production units, does not attract sufficient attention in national economic development plans or in the "project approach" favored by major international and bilateral aid agencies.[7]

The traditional transportation sector is worthy of consideration for support from an employment and productivity point of view for two reasons: a) it is labor-intensive; and b) increases in efficiency in transportation can have favorable productivity repercussions throughout a local economy. Reductions in transportation times and increases in the dependability of services can mean lower labor fatigue, more productive management and reduced product losses through pilferage and spoilage in transportation and storage. Project assistance may be worth considering for a number of types of small-scale transportation (animal-drawn vehicles for goods and passengers, auto and bicycle rickshaws, etc), as well as in more conventional forms of transportation. Moreover, in choices of technology for large-scale mass transportation the employment and labor productivity

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[7]Turin, Duccio. "The Economic Significance of Construction", Architect's Journal, Vol. 150, No. 42, Oct. 15, 1969, pp. 923-939.

characteristics of alternative modes should be given an important place along with capital costs, operating costs and service characteristics. The types of assistance that may be necessary from an employment and productivity point of view in small-scale transportation include: technical assistance in improving vehicle design; credit for owner-operators; simplification of licensing procedures; and assistance in obtaining materials and equipment for maintenance.

Environmental sanitation often can be highly labor-intensive. In addition to its impact on employment, improved sanitation, together with improvements in water supply, can be a major contributor to improved health and productivity. Proposals to modernize all aspects of sanitation through capital intensive technologies on the grounds that it is essential to "modernize" should be treated with caution. It certainly is necessary to upgrade services in most urban areas in the developing countries but this need not mean massive applications of sophisticated capital equipment for sewage treatment plants, pre-stressed piping, mechanized refuse trucks with compactors, and the rest. On the contrary, street sweeping and solid waste collection and disposal can be undertaken through highly labor-intensive techniques if they are managed properly. Less obviously, perhaps, even sewage collection and disposal can continue to be relatively labor-intensive and/or low in capital cost in some situations. For example, better-managed nightsoil collection, with the reuse of excrement for agriculture, may be a reasonable solution when public resources are very severely constrained. Environmental sanitation often is considered exclusively a public sector activity but it is mentioned in this section because there are many situations in which solid waste handling, and even sewage, can be dealt with more efficiently in the immediate future in the private sector. (An example of a cooperative for solid waste handling is cited in Section 2) later.)

Because of the variety of types of project that might be undertaken, the only generalization that can be made about the time likely to be required for beneficial impacts on the poor to be felt is that it may range from "almost immediately" to several years. The provision of new credit for small and/or labor-intensive enterprises may swell employment very quickly when that credit is used for working capital. On the other hand, the introduction of improved construction techniques may take a year or more.

The variety of project opportunities available suggests that many target groups among the urban poor are likely to be able to benefit in terms of increased employment and productivity if projects are well conceived. However, projects of this type may have little or no impact on those who are relatively unemployable because they are especially deficient in skills and/or motivation -- perhaps as a result of inherent

personal limitations or because they have been at a subsistence level for so long that they have lost hope of being able to improve their condition. Problems of these types may require special support measures that cannot easily be provided through assistance to private enterprises alone.

The following examples of projects involving individual enterprises in the private sector serve to illustrate just a few of the types of action that may be appropriate.

a) A Worker-Managed Enterprise in Chile[8]

Worker self-managed enterprises are emerging in Peru and Chile, as well as elsewhere in Latin America, as a significant alternative form of industrial organization -- one which integrates labor, ownership, and control in an unprecedented manner. Worker organizations in Chile have been attempting to obtain state industries being offered for sale to the public and 15 to 25 enterprises were projected to be transferred to the worker self-manager sector. Internal structures are similar to the Yugoslavian system, with numerous workers' committees at various levels of the firm, and greater emphasis has been placed upon social education than was originally the case in Peru, as there has been a recognized need for a sense of the greater social good -- for greater employment opportunities, among other things.

Within this context, a factory in a Chilean city has been taken over by its workers after a court ruled that its former owner owed them $1,200,000 in back pay and the workers put this sum down as a downpayment with the government. A manager was hired and has become part of the cooperative structure, and workers' councils have been established. Two hundred of the 1,500 workers must be dropped in order to streamline production, but the workers have been planning investment in a subsidiary firm in order to absorb their displaced colleagues. Such social sensitivity was also demonstrated in another nearby factory where 16 workers volunteered to give up their jobs during a modernization process, and in return were given the old equipment so they could set up their own company.

One important lesson to be learned from the Peruvian and Chilean experiences to date is that precautions must be taken so that the benefits derived by worker-manager enterprises are distributed beyond the original group. Solutions may range from forms of social education to the concept of social property with some of the profits reinvested in the development of new enterprises.

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[8]This example and the two following it are extracted from material prepared for PADCO, Inc. by Developing World Industry and Technology (DEWIT), Inc., Washington, D.C. on the basis of a series of field studies undertaken by DEWIT.

b) Incorporation of a Worker-Controlled Commercial Enterprise with an Urban Social Center (Dominican Republic)

An urban social center in the Caribbean has incorporated an income-generating commercial enterprise to be owned and managed by its workers. Objectives include revenue for the Center, employment generation and worker control.

Employment is projected at 100, and no profits are expected until the fourth year. Employees acquire shares in the firm in an own-as-you-earn program. During the initial five years, workers will earn 4 percent of the shares each year in lieu of annual bonuses, with matching shares being transferred from the Center to its workers. Thus, after five years, the workers will own 40 percent of the equity and the Social Center will own 40 percent. The other 20 percent will be acquired by a company elsewhere in the Caribbean in contracted exchange for service rendered, i.e., for expertise in production, marketing, purchasing, training, etc. These shares can eventually be repurchased by the Center. The enterprise will also undergo institutional change to allow wider participation in decision-making.

The number of workers increased during the first year from 30 to 60 according to plan, and worker involvement in ownership and management proceeded as expected, except for some conflicts between the need for efficiency and worker incorporation into decision-making. The shares distributed to the workers were offered to those who cooperated the most and had the best attendance records, and had nothing to do with productivity. Training programs ranging from management and marketing to worker participation have begun, a local managing director has been hired, and good managerial assistance has been acquired through a consulting firm.

c) A Community Corporate Enterprise (Brazil)

Community-based, small and medium industry with a corporate ownership structure is being established in Northeast Brazil. The starting point of this program was a series of pre-investment feasibility studies conducted by outside technical personnel. They identify existing resources, markets, skills, and capital and then approach communities and present industrial possibilities at local meetings. If there is general interest in exploiting available resources for industrial activity, they help find people in the area who have some entrepreneurial experience and who are willing to manage the enterprises. They then give them additional training and help them organize the enterprise and offer shares or subscriptions to the community at large. Subsequently, this leverage can be used to attain additional funding from private and development banks, with the community gaining full financial control as it pays off these loans. The managerial functions can be carried on under the scrutiny of a

board of directors of community people, while the managerial base can be broadened through training. Technical expertise is also provided and local technical capabilities are developed.

While a significant number of new industries have been established and their demonstration effect stimulated further industrial growth, the specific industries were not successful according to one important program criteria: establishing a broad ownership base. In some cases, some lower-middle class and lower class people held shares, but eventually most of the firms were controlled by an elite which came to own 25-30 percent of the stock. In addition, there was, and is, no protection for the small stockholder in terms of assuring dividend payments or a market for the sale of his shares. Good management was also a problem, and this has demonstrated the need for a much greater emphasis upon community organization, involvement, and leadership identification.

A ceramic plant was one of the more successful projects in terms of production, management and employment, although not in democratizing ownership. For ten years, no stockholder (out of the total 150) owned more than 5 percent of the firm, but a state bank held 40 percent and eventually sold out to the managing group. Initial capitalization was $90,000 and total investment has grown to $2 million with a change in product lines and a major expansion of plant and equipment. Where 50 people were working with simple technology ten years ago, 450 are now employed. Worker training programs in orientation to industrial life have led to lower turnover rates and higher productivity.

On the other hand, neither stock nor management training courses have been offered to the workers. In this sense, and given the narrowly-based ownership and managerial patterns in the wider community, this project and program cannot properly be termed community-based. The original top-down approach meant a lack of true community monitoring of projects. The basic methodology and organizational structures, however, do open up possibilities for gradual worker participation in ownership (through new stock issues) and in management functions after an enterprise is on its feet and protection is provided for the small stockholder. True community involvement (which was a goal of the program) could be achieved through contributions from <u>all</u> community members (as was the case recently in a textile mill in Neuflize, France), and/or through a limited application of the concept of social property, with a substantial part of the profits directed toward a community fund for investment in new commercial or social enterprises.

d) Technical Assistance for Small- and Medium-Scale Enterprises (Nigeria)[9]

The University of Ife in the Western State of Nigeria has established an Industrial Research Unit (IRU). There has been a growing awareness among the staff there that almost all the Nigerian government initiatives in industrial promotion have concentrated on large industries and on attracting even larger foreign enterprises. Although small- and medium-scale industries are owned almost entirely by Nigerians, they have enjoyed little government attention. They have received very little bank credit, no legislative protection and no managerial assistance. Government thinking has seemed prejudiced toward large-scale industry for the stimulation of economic growth and employment. The IRU was established to counteract this trend.

In Nigeria, as in many developing countries, statistics on small- and medium-scale industries were practically non-existent. Over 45,000 businesses have now been surveyed, ranging in size from one to fifty employees, and a data bank on small industries has been established. The major bottlenecks in the development of small and medium indigenous enterprises are management, skills and technology. Often finance is perceived by entrepreneurs to be the primary limiting factor. The IRU feels, however, that banks will be more willing to lend as enterprises acquire improved management and organization. Accordingly, an industrial extension service has been established, and several training centers have been established to improve the skills of managers and small businesses.

e) Technical Assistance for Small Enterprises (Philippines)[10]

There have been similar advances in technical assistance for small business in the Philippines. The University of the Philippines Institute for Small Scale Industries, the National Manpower Youth Council and the Development Bank of the Philippines have established an Entrepreneurship Development Program. The program is designed to give managers of small-scale enterprises the technical skills necessary to be able to successfully use industrial credit. This is part of a nationwide effort to promote small-scale industries and employment, especially in centers outside of Manila.

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[9] Georgia Institute of Technology. Small Industry Development Network, Third Quarter, 1974, Vol. 1, No. 1, p.4.

[10] Georgia Institute of Technology. Small Industry Development Network, Fourth Quarter, 1974, Vol. 1, No. 2, p. 6.

The program brings established entrepreneurs into six-week courses on business management. It also makes direct assistance projects available to help viable small businesses with financial and technical management as well as with advice on exporting.

f) Demonstration Centers (Kenya)

Publicly funded centers have been established in Kenya to demonstrate the use of second-hand equipment for repair and maintenance and various light manufacture of cheap consumer goods (jute processing and tin can manufacturing).

g) Assistance to Small Enterprises as Subcontractors

Development corporations have been established to assist small enterprises as subcontractors to larger enterprises manufacturing for the domestic market (automotive parts, consumer electronics, clothing, sport goods, etc.) or cooperatives linked to external markets (wood products and other components elements). Some programs include efforts to upgrade repair shops into parts manufacturing and sub-assembly units.

h) Industrial Estates for Small-Scale and Artisan Enterprises

In some cases industrial estates have been created for small artisan shops oriented to export markets, including technical support services, market research, marketing administrative support and product design centers. One such estate is in Sialkot Estate in Pakistan, with export development in sports goods and medical instruments.

Production in labor-intensive enterprises often should be geared to full-time, part-time and seasonal employment, allowing for the absorption of both the unemployed and underemployed, as well as mothers and school-age children (in the latter case to encourage at least part-time attendance at school as an improvement over a situation where school-age children are fully occupied earning income for the household and denied formal schooling entirely).

2. Support for Cooperatives

Support for cooperatives may be a particularly useful form of project support for achieving the fourth objective mentioned at the beginning of this chapter -- the establishment of a mechanism for sustaining momentum for self-improvement -- as well as the other three. The cooperative can be an effective form of organization in all of the sectors that have been mentioned.

As in the case of individual enterprises, the variety of types of project that might be supported is so great that the time required for benefits to be felt will vary greatly.

As will be seen from the examples cited below, the range of types of activity that can be supported is such that many target groups can benefit from projects based on cooperative structures. The exceptions are similar to the groups for which projects focused on private enterprises are likely to be of limited value, together with those who have no property rights, those that are externally oriented and those who are only in transit in their present residential areas and/or jobs. Households and individuals in these last three categories may well lack the commitment to a locality or work group that seems to provide part of the base needed for effective cooperative organization.

The types of assistance needed are likely to include all of those indicated for assistance to individual enterprises, often with a special emphasis on the purchasing of materials and the marketing of products to take full advantage of the cooperative form of organization. In addition, special attention is likely to have to be given to technical assistance and training in management and finance, including an inculcation of the rights and responsibilities associated with cooperation membership.

The following examples are indicative of just a few of the types of project that might be considered:[11]

a) <u>A Federation of Community Worker-Self-Managed Enterprises</u>

A private development institution in Latin America has evolved as the result of the failure of a National Training Association and is now helping to establish a number of worker-managed enterprises. The earlier Association failed in the sense that although its training focused on developing workers' skills, only 2 percent of its graduates were able to be placed. The new private institution perceived the key issue to be the powerlessness of the worker to influence decisions crucial to his livelihood and well-being. As a result, its objectives have gone beyond training and job creation to forming new economic organizations in which the workers gain control of the decision-making process in their own enterprise.

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[11] The six examples presented here are from the materials prepared by DEWIT, Inc. that were cited earlier.

In order to avoid the failures of other cooperative enterprises, a four-stage process has been initiated through which worker groups gain new attitudes and skills necessary to manage productive enterprises. Twenty community workshops -- ranging from garmentmakers to shoemakers -- in the barrios of three major cities are expected to evolve over the next five years toward autonomous management and confederation.

The planned first stage involves technical and cultural education which attempts to increase worker self-confidence; courses are conducted in mobile classrooms in the barrios. Potential enterprise associates must come from the same barrio, be unemployed, and have completed technical training. Market and production feasibility studies are then conducted and (about 20) graduate trainees are assisted in forming a community enterprise. For one year the workshops are not expected to be profit-making and are subsidized against their future profits. During this second stage worker skills are consolidated in the job setting and a sense of identity is developed with the enterprise. Daily operations are supervised by a group-elected associate.

Worker participation in management is achieved in Stage III when the enterprise reaches the "break-even" point and the associates have command of technical skills. A committee and subcommittees have responsibility for the administration of each workshop, with rotation on subcommittees in order to maximize the experience of associates in diverse functional areas. After wages and operating costs are deducted, 50 percent of surplus revenue will go to associates in proportion to hours worked, 20 percent to common funds for education and other social services, 10 percent towards amortization of the initial capitalization and interest payment, and 20 percent into a fund for the creation of new enterprises. Representatives of the original workshops meet monthly as part of a Workers' Assembly. When these enterprises pay back 40 to 50 percent of the original investment, they have the option to break free of the parent institution and join a federation of enterprises or become completely autonomous, in which case payment for total initial capitalization costs is due and at least one new workshop must be capitalized.

This project goes beyond even worker self-management and community involvement, introducing the concept of social property..

b) A Wood-Working Cooperative of Small Workshops (Honduras)

A wood-working cooperative made up of over 100 small shops has been initiated in Tegucigalpa. Its main goal is to improve the economic, social and cultural situations of

its members. To do so stimulates production and productivity through the acquisition of raw materials, tools, machinery and equipment and assists in the marketing process, as well as in enlarging existing markets and identifying new ones. It is expected that the organized urban group will challenge the local power structure by becoming a major political force.

The success of the cooperative to date can be attributed to the organizational efforts which have extended over a long period of time and which, along with courses on cooperativism, have instilled a deep understanding of cooperativism among the membership. In addition, the coop has been meeting the real, self-defined needs of the member shops. Technical advice in furniture design and equipment selection has been forthcoming from an outside consulting group which has also guaranteed credit from three local banks. Export markets are only now developing, but the local market has expanded rapidly with the government placing a number of orders. The government has also responded to the political potential of the organization by rerouting the supply of the country's best lumber away from export markets and toward local industry.

Membership has increased seven-fold in the three years and total employment in the shops has increased four-fold to 850 workers; employment is projected to almost double again by 1977. Vertical integration with the lumber and leather industries -- an important component of this project -- has increased the rate of job creation indirectly, as well. Planned spin-offs from this industrial development include investment in a training school, an adult literacy program and a local health clinic.

The project has not been without its difficulties -- in particular, cash flow problems and market constraints -- but these have resulted in a temporary rather than basic set back and the industry is now developing only a year behind the original schedule. As export orders increase, the cooperative is expected to expand rapidly once again.

c) <u>A Community Food Preservation Enterprise</u> (Belize)

This small, cooperatively-owned food processing enterprise is operated and managed by women in an urban center on the Caribbean coast of Latin America. An active organization of eight churches and other local groups is using this enterprise development as one means of organizing the country's women. Previous work has been in the areas of vocational training, nutrition, home management and education. Due to the women's interest in food preservation, it was decided that the establishment of a small canning center would provide a focal point for their activities, particularly leadership and cooperative training and education in nutrition. A secondary

objective was to begin to reorient the economy away from imported foodstuffs and toward locally produced and processed goods.

A large-scale commercial venture was judged infeasible because of insufficient vegetable supplies and a lack of in-country technical expertise. On the other hand, a small canning facility made sense, as there were sufficient supplies and it could provide a market for, and rationalize the production of, presently unplanned fruit and vegetable crops. The enterprise is now functioning with teams of six women from three urban slums and two nearby rural areas working one day a week each at $3.00 per day. They preserve jams, jellies and vegetables which are sold to local hotels, supermarkets and government outlets, and receive technical and cooperative training. One day a week, families in the community can use the facilities for their own food preservation. These 30 women will form the base of the group -- projected at 2,000 members -- which should be managing a viable cooperative after two years.

The schedule has been upset by a variety of factors, including a supply shortage (due to drought), lack of transportation, the high cost of imported jars and an overemphasis on quality at the expense of volume production. All these problems are presently being righted with the purchase of a truck, the use of tin cans and technical training and assistance in improved commercial organization and efficiency.

This project is viewed in the Caribbean as a model in terms of both import substitution and female participation in economic development. It also integrates community organization, urban employment, the upgrading of skills and nutrition levels, agricultural production, and an important linkage between the rural and urban societies.

d) A Community Self-Help Housing Project Linked to Production Enterprises (Central America)

A housing cooperative project which has both grown out of and, in turn, reinforced and furthered, urban community organization is located in a Central American barrio. The success of this project can be attributed in part to a long land-title struggle which united and motivated the community. Out of that experience grew a barrio assembly which meets weekly with mandatory attendance for both men and women and rotating leadership which has broken the traditional leadership pattern.

The assembly is not only unique in its cohesion, but also in its function. Support for the housing cooperative, as well as other economic and social enterprises, represents a non-traditional approach to cooperative development. Tied to the

assembly, the co-op has more political force in obtaining land and urban services. With social and technical assistance, it already has built a warehouse for the storage of materials (also to be used as a community center) and a model house. For construction purposes, the community is organized into block groups. Each family casts its own walls and roof and makes individual modifications, while the group unites to put the house together. Eighty of the 200 houses are being constructed the first year.

This project has also been successful in terms of furthering community organization. The barrio has united to form a consumer credit cooperative as well as a secondary school, and now is planning to organize cottage industries for the construction of building materials, among other things. It is being treated as a model for production cooperatives elsewhere in the same country. Other barrio housing cooperatives have formed Cooperative Federations. The educational and unifying process of cooperative and housing development has led to the organization of production units -- first for building blocks, then for window frames and doors, and finally for the provision of other products and services obtainable only in distant markets. The key to success in these endeavors has been the leadership of local labor union members whose technical experience is also being utilized in community training courses.

These projects demonstrate that the importance of self-help housing schemes goes beyond the provision of new homes and jobs. The creation and linking of cohesive communities mean strong political-economic units capable of pressuring for other urban services and of forming their own economic enterprises. Where prior community identity and motivation do not exist, social promotional work in the barrio for at least a year appears to be necessary to the beginning of a new housing scheme.

e) An Integrated Boat-Building/Fishing Project (Tanzania)

This is an integrated project in the strongest sense and has important implications for coastal cities with poor, struggling fishing communities. It ties together the revitalization of two declining industries -- boat-making and fishing with the formation of new production cooperatives. Industrial revival and technological improvement will mean not only an increase in local employment and income, but also, in this case, the restructuring of an industry through new ownership patterns, and higher levels of community health and nutrition.

Tanzania, in an attempt to increase the catch of its poor fishermen faced with international competition, has successfully experimented with the conversion of traditional boats with simple tools and converted industrial engines. This approach had the advantages of using local resources, introducing a technology understandable to the craftsmen, and enlarging the catch area for fishermen who use the boats; the use of imported boats would have furthered dependency rather than self-reliance.

A boat builders' cooperative is being formed and a simple store and workshop will be constructed at the boat building site. Some of the craftsmen will instruct apprentices in the trade. The first boats will be sold to two fishing communities, which will use them on a cooperative basis. This will greatly increase their catch, while breaking the hold of the traditional elite on boat ownership. A number of fishing-related industries are expected to develop, including carpentry and blacksmithery masonry-construction, sail and rope manufacture, and net repair.

f) Waste Paper Collectors' and Processors' Cooperative (Colombia and India)

A private development corporation in Latin America has organized urban hard-core unemployed, living off trash, into a self-managed, profit-sharing enterprise, and now carries out the social function of trash collection and recycling. The objective was to provide employment and substantially raise incomes of this marginal group, while simultaneously alleviating an urban health problem and paper shortage.

Fifteen trash pickers were transformed into trash processors through the organizational and training efforts of the development corporation. Waste paper was purchased from over 360 affiliated trash collectors, and then hand-baled and processed -- using simple, labor-intensive techniques -- before resale. Incomes rose from U.S.$0.04 per day to $4.00 per day, and employment quickly increased to 60 workers. Employment was recently reduced -- partly due to the introduction of an electric baler and several retirements -- but the completion of a new plant with additional equipment is expected to result in a substantial increase in the number of jobs. At the same time, the use of the first electric baler increased income per worker by well over 50 percent.

The enterprise is presently managed almost entirely by the corporation and plans for an eventual managerial take-over by the cooperative itself depend upon the raising of the workers' educational level. A similar scheme in South India has more chance of success, since there are fewer labor difficulties and a greater sense of community ownership. In this case, 10 men collect waste paper from surrounding factories

and offices, 25 (soon 40) uneducated and unskilled women sort the paper into nine varieties, and the men hand-press and then sell the paper to nearby mills.

3. Projects Designed to Increase the Productivity of Individuals Through Training or Other Assistance Outside (Though Not Necessarily Independent of) Specific Enterprises

Projects undertaken to generate an increased demand for employees constitute one type of action that can be taken. As noted earlier, there must be a real demand if any employment-oriented project is to have sustained success.

Provided that demand exists, other types of project may focus on the supply side -- that is, on increasing the productivity of individuals directly so that they can take advantage of existing or new demand. Such projects (in contrast to worker training in an enterprise) often are undertaken outside individual enterprises: a) because their intention is to prepare individuals to respond to a variety of types of job opportunities; b) because there is no formal training available in the enterprises for which individuals presently work; or c) because the individuals involved are not yet skilled enough to obtain jobs in any enterprise.

It may be useful to consider such productivity-oriented projects in two broad categories:

a) Projects intended to increase worker productivity generally.

b) Projects intended to increase productivity for a specific skill or a specific range of skills.

Projects of the first type include those which incorporate such things as water supply, sanitation, nutrition, personal health care and literacy. Projects of the second type are designed to develop a specific set of skills; they often need to have projects of the first type undertaken with them if they are to be fully successful.

Projects of the first type often will be basic ingredients of household or community improvement programs. A word of caution is in order on projects of the second type. There have been many cases in which worker (or potential worker) training undertaken outside a particular enterprise has failed -- either because the skills imparted were not really of high enough quality to be utilized by any serious enterprise or because there was no real demand for the skills provided. Some artisan training projects have suffered from the second problem. As a general rule (to which there are, of course, some exceptions) it seems preferable to undertake

technical training within enterprises so that the skills developed can be tailored to real needs. When for some reason this is not possible, there should at least be an opportunity for potential employers of trainees to influence training programs to help to insure that they will result in the development of employable skills.

Training, by definition, is likely to be a relatively slow-yielding activity, especially when it is undertaken outside ongoing enterprises. It can, however, provide an opportunity to reach well down the income scale and assist previously unemployable people to become employable.

In some cases, community center projects have been designed to increase local income and employment through the development of basic skills such as carpentry, masonry, plumbing, welding and sewing and through support for home industries which can be organized into cooperatives. Some training centers carry out market research and project identification work, as well as acting as production centers and marketing agents, achieving financial self-sufficiency through commissions earned on their marketing services.

Projects designed to increase productivity outside specific enterprises are likely to be most beneficial for the unemployed. Properly designed, they should be able to reach a wide variety of types of unemployed individuals, including women with continuing family responsibilities who can undertake only part-time employment. They are also among the types of support that should be able to reach those who are "externally-oriented" or "in-transit" and without property rights or secure squatting status.

In Guyana a community "resource center" in an urban slum in the Caribbean has evolved into a training, production and marketing center for the unemployed.[12] The Center began with the provision of pre- and post-natal care and developed into a local meeting place, thus establishing strong roots and identity within the community. It became an urban grassroots mechanism for the stimulation of community action.

The self-help/training project utilized employment-oriented action programs as an instrument for awakening productive community participation. Its principal objectives are to develop local skills and talents and to help organize home industries to produce income and employment where none presently exists. It also aims to nurture self-reliance through self-employment. Twelve-week courses are offered in carpentry, masonry, plumbing, welding, sewing and candy-making

[12]This example also is from the materials prepared by DEWIT, Inc. that were cited earlier.

to a total of 500 students throughout the year. Those who complete the courses are encouraged to set up home workshops which will be organized into cooperatives, while those unable to work at home continue to use Center facilities. The Center also conducts market research and product identification and provides marketing services. It is through the retention of 20 percent of the sales revenues of all products manufactured on its premises, or marketed through its efforts, that the Center plans to become self-sufficient within two years.

So far, enterprises producing soft toys, steel gates and iron window bars, and homemade candy have been established. They have been individual production units, however, and have not as yet developed into communal units as had been hoped. The project is presently being evaluated for the degree to which it has instilled self-reliance in the community.

4. Direct Governmental Hiring of Labor

The relative importance of individual sectors in employment and productivity-oriented projects based on direct governmental hiring of labor will vary from place to place. Where traditionally-governmental or recently-nationalized industry is significant, there will be opportunities in manufacturing. Even where this is not a sector in which there is major governmental activity, there are likely to be opportunities in construction, public transportation, environmental sanitation and administration.

In construction it is likely to be possible to reach well down the income scale. There may also be excellent opportunities for governments to influence both employment generation and product quality through experiments with more labor-intensive building technologies (in some cases, encouraging a return to sound traditional techniques[13]) through building research and through demonstration projects. The scale of governmental building operations often is such that governments can also encourage standardization and efficiency in construction-related industries such as brick-making, joinery, hardware and furniture-making. The nature of the employment impact of construction will depend partly upon the particular subsectors involved. In housing, for example, if there is a steady demand for housing space, there will be an opportunity to generate relatively stable employment. In subsectors such as road construction, public buildings and utilities, levels of activity may fluctuate markedly; if this is the case it will be important to try to schedule individual projects to avoid major localized peaks and drops in the demand for labor.

[13] See, for example: Bertaud, Alain. "Tradition Serving Progress", in Human Settlements, April 1972.

In the mass transportation sector, there are opportunities for generating employment at a wide variety of skill levels in production (e.g., body-building), operations, maintenance and management. This sector also provides a useful training ground for the development of skills that will help to increase labor mobility.

In sanitation, as suggested earlier, there may be opportunities to use traditional labor-intensive technologies for street cleaning, drainage maintenance, garbage and the collection and disposal of human wastes. In addition to the employment advantages of this, it may also help to avoid the maintenance problems often associated with the adoption of sophisticated capital-intensive technologies.

In administration there are many opportunities to employ maintenance and security staff, messengers, and low-skilled support staff of various kinds. Support staff used purposely to back up the very limited number of skilled administrators usually available can increase the productivity of the latter greatly, especially where such things as communications and transportation are underdeveloped. A caution is in order, however, since excessive numbers of "support" staff can easily become counter-productive.

Direct governmental employment in sectors such as those suggested can impact virtually all target groups except those whose productivity is so inherently low that they need remedial or special support. It is important that it be used constructively and aggressively, however, to increase productivity -- not just as a cushioning device which maintains a permanent state of subsistence for the otherwise unemployable.

D. Institutional Aspects

Underdeveloped financial markets and institutions can have an adverse effect on the kinds of technologies adopted by enterprises. Where interest rates are pegged artificially low and the market is denied the function of credit allocation, lenders are free to adopt other credit rationing criteria. Commonly, they choose to lend to enterprises with the greatest degree of fixed capital investment. Loans for working capital to smaller, more labor-intensive enterprises are considered too risky. The low interest rates which are predominant in organized financial markets also encourage capital-intensive investments.

Appropriate financial mechanisms may encourage middle- and upper-income entrepreneurs to undertake productive investments which are more labor intensive. The lending process can also be geared more closely to the direct capital needs of low-income people themselves.

Credit often is seen as a primary means of improving the productivity and incomes of both the rural and urban poor in developing countries. Nevertheless, credit alone is not a panacea for development. Experience with credit directed toward low-income urban residents (and much more extensive experience with credit for the rural poor) has shown that successful financing programs depend on a range of complementary factors. These factors include the existence of real opportunities for economic gain through the adoption of credit, the recognition of such opportunities among potential credit users, the availability of technical assistance and other complementary services, sound credit policies and well-managed financial institutions.

1. Credit Programs for Enterprises

The types of credit programs necessary to service smaller-scale urban lending may require separate institutions or at least separate departments of existing agencies. Where large and small borrowers are serviced under the same programs, a disproportionate share tends to go to large borrowers. Risks and administrative costs are greater with small lending and require higher rates of interest. Credit agents can be subject to social and political pressures to direct credit to larger borrowers.

The terms and conditions of lending must be flexible. Loans must be tailored to meet the specific needs both in amounts and repayment terms of individual borrowers.

Low-income credit recipients are usually uneducated and frequently illiterate. There is a temptation to use borrowed working capital for current consumption purposes. They are often suspicious of each other and of middle-class government organizers. Credit programs and government development schemes are not new; many have failed in the past, often due to unscrupulous or inefficient management. For all of these reasons, credit programs for low-income groups require a large component of education and technical assistance to assure ongoing success.

The largest constraint on small-scale credit programs is the need to achieve financial viability. The costs of small-scale operations and the technical assistance components of lending programs make this difficult. The problems of defaults compound this difficulty.

To insure the viability of credit institutions, most of the reasonable costs of credit must be passed on to the borrower. Interest rates should cover the opportunity cost of capital, the costs of administering credit and the costs of risks and defaults. The total of these items can require lending rates as high as 20 percent in real terms, but this is usually considerably below the costs of credit in informal financial markets.

Governments may feel that the social objectives of loans to small producers warrant subsidies. Subsidy resources have been used in several instances to finance credit administration and technical assistance programs. They can be especially effective during the initial growth periods of new institutions. However, several factors suggest a need for caution in the use of subsidies. Lower-than-market interest rates can lead to high capital output ratios in new investment and limit the expansion of employment among the urban poor. Subsidies can also lead to the selection of marginal investment projects which are not socially profitable and which would not otherwise be selected. Subsidized interest rates frequently lead to corruption and politicization of the institutions involved, with funds being diverted away from their original purposes. They can lead also to the rapid decapitalization of financial institutions, especially when combined with high levels of inflation.

Inflation can be a major concern. Lending in an inflationary economy represents a large degree of subsidization to borrowers unless interest rates include expected inflation rates or principal balances of loans are indexed to price level changes. Indexing can be an effective means for maintaining the real value of capital in financial institutions, but it can also cause economic imbalances if applied to investments in only one sector.

In many countries purely governmental credit systems may be especially prone to the use of uneconomic interest rates, high rates of default and decapitalization. There often is a deeply-rooted view that government money is "free" money. To encourage the creation of economically sound credit mechanisms it often will be desirable to utilize the management capacity of experienced private financial institutions as fully as possible. For example, governmental support can be focused on guaranteeing private lending for specified target groups. The branch offices of commercial banks can be used as collection and management agencies for government lending and be paid a fee for this -- yielding the advantages of: 1) experienced management; 2) the image of a private-sector operation that is serious about collection; 3) convenience for the borrower; 4) proximity to the borrower to facilitate face-to-face contact if defaults or other problems appear to be imminent. Private banks can be given

tax concessions or other incentives to encourage them to lend to low-income groups. These are just a few of the many ways in which the skill and experience of private financing entities might be used productively to help to achieve governmental objectives for increasing low-income groups' access to credit.

2. Savings Mobilization

Credit institutions are often dependent, at least in part, on the mobilization of private savings for development lending. It is especially difficult, however, to encourage low-income people to save freely. Although some examples of successful savings mobilization with high interest incentives can be cited in Japan and Taiwan, some of the more successful savings schemes -- notably in Latin American countries such as Brazil and Mexico -- involve the compulsory purchase of savings participations by loan recipients. One device that is worth considering as part of such an approach is to require the establishment of a savings account from which the lender can withdraw loan repayments regularly, with the balance continuing to yield interest to the borrower.

Forced savings systems may be most effective where they are tied to a comprehensive and nationwide indexing system in which currency value, wages and savings all reflect price levels directly. In Brazil, for example, the cruzerio has been revalued regularly since 1966, and official wage levels have reflected inflation. Savings have been protected through monetary correction plus interest of the order of 7 or 8 percent annually.

Additional research and experimentation is warranted to develop innovative techniques to encourage the mobilization of savings.

3. An Example

A project undertaken in northeastern Brazil provides an important example of the kind of institutional support that can be provided to small-scale enterprises and low-income community groups.[14] In early 1973 a group of concerned Brazilian business and government leaders approached ACCION International/AITEC to assist in the formation of UNO (Uniao Nordestina de Assistencia a Pequenas Organizacoes), a private non-profit corporation with headquarters in Recife. From UNO's first crucial stages of development, AITEC has made a substantial investment of capital and personnel, and its continuing program of assistance has three specific objectives:

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[14] This example is extracted from material prepared by ACCION International/AITEC, Cambridge, Massachusetts in September 1975.

a) To guarantee the technical quality and efficiency of operations;

b) To facilitate the transfer of international technology to and from UNO;

c) To assist UNO in achieving financial self-sufficiency and managerial maturity.

The Executive Board of UNO is composed of nine members, representing the banking, industrial, public administration and development communities. UNO's full time staff of 17 is complemented by a VITA-sponsored volunteer talent bank of local professionals and technicians.

In the broadest sense, UNO serves as a catalyst for channelling new resources into problem-solving at the community level. These range from credit, capital and technical assistance to basic orientation and motivation of the client population. Specifically, it is attempting to design, develop, operate and evaluate a delivery system for extending bank credit and on-going technical assistance to entrepreneurs and community groups which have had little or no access to formal credit previously. The program works in close coordination with the banking community, with various technical and financial institutions, and with social development agencies to provide a service, initially, to marginal communities in the greater Recife area.

The objectives of the Recife project are:

a) To extend credit and technical assistance to formerly unassisted small business and community groups.

b) To demonstrate the reliability of small groups as credit recipients, their capacity to pay for technical assistance, and the profitability of such endeavors to the banking community, using the UNO mechanism.

c) To establish innovative systems for involving socially-oriented agencies in the use of credit and technical assistance for their target clientele.

d) To demonstrate the viability of generating employment by promoting labor intensive activities through the extension of credit and accompanying assistance.

e) To design, implement, and evaluate a model of supervised credit which will be applicable to other areas of Brazil as well as to other Latin American countries.

The project's components include: a) a system for client identification; b) a loan guarantee fund; c) credit; d) technical assistance; and e) explicit evaluation.

a) The System of Client Identification

In most financial institutions, the potential borrower must take the initiative in establishing contact and arranging his loan request. Because one of the goals of the UNO program is to introduce new groups to the use of credit, an extensive system of promotion has been established in which UNO field workers visit communities to establish direct contact with potential borrowers and encourage their participation.

b) The Loan Guaranty Fund

To alleviate the lack of financial guarantees which plague many small businessmen in Recife, UNO has created a Special Endowment Fund. Through special funds provided by various banks and other sources, a system of credit guaranties has been established, covering 20 percent of the total loan portfolio, and 100 percent of each individual loan.

c) Credit

Six Brazilian banks, including the Banco do Brasil, are now extending credit through the UNO mechanism. Loans are normally given only to clients with no access to normal commercial credit. Repayment periods range from 18-24 months, with some lines of credit available for up to 48 months. In Brazil, the credit system is complex, and interest rates and amortization periods can vary substantially, depending on which line of credit is used. As a result, one of UNO's functions is to orient the borrower to the line of credit which is most favorable for a specific purpose. A parallel function is to convince banks to accept small borrowers in their most favorable credit programs.

d) Technical Assistance

Evidence from prior experience in Brazil and elsewhere has shown that technical assistance before and after credit is approved is essential. The UNO program provides extensive assistance both before and after a loan has been granted. Before credit is extended, assistance is provided to conduct feasibility studies, to develop financial projections, and to prepare the loan request itself. Once the loan has been approved, the main types of assistance include financial planning, stock control, production planning, accounting marketing, and general administration including the process of local registration.

e) Evaluation

A rigorous monitoring and evaluation system is an integral component of the UNO program. Two principal types of evaluation are being made. Through an information gathering and processing system, an internal evaluation is being conducted to measure how efficiently each program component operates. An external evaluation is attempting to identify the social and economic impact of the program on participants and their communities.

Since the program was officially initiated in September 1973, a number of significant milestones have been reached. In December 1973 the Board of the Sao Paulo Association of Banks formally endorsed the UNO program. Six months later the level of global financial support reached 52 percent of total operating costs. By September 1974 the first year's results had more than exceeded expectations. In October 1974 the National Banking Congress officially endorsed the UNO program and the level of participating banks in the Guaranty Fund rose from four to eleven. In November 1974 the Rockefeller Foundation and the Universidad de Bahia approached AITEC to assist in development of a similar program in a second northeastern city during 1975. In March 1975 the AITEC/Brazil Board of Directors was formed in preparation for the expansion of the UNO model to other areas and official expansion of the UNO model to the city of Salvador, Bahia was launched in May 1975. As of June 1975, after seven quarters, the results continued to be excellent.

E. Complementary Actions That May Be Necessary

At least two broad types of complementary action in other sectors may be desirable in conjunction with projects focused on employment and productivity.

First, it may be desirable to use complementary projects in water supply, sanitation, health, nutrition, education and transportation to reinforce the productivity gains achieved through the support of enterprises and through worker training. The potential contribution of improved water supply, sanitation, health services and nutrition, although difficult to quantify, is fairly clear. Also well-recognized is the potential contribution of basic literacy and adult education projects in providing a foundation for the technical training components of productivity-oriented projects. Perhaps not so obvious, but nevertheless important, is the complementary contributions to productivity that may be achieved through improvements in transportation. This was alluded to earlier. Reductions in passenger transportation time and/or costs may reduce worker fatigue and expenditures; they may also increase managerial efficiency. Reductions in goods transportation time may

reduce "down time" for workers, managers and equipment. Direct reductions in transportation costs achieved through greater efficiencies in transportation and/or land use also may increase the productivity of workers and equipment. Reductions in transportation time may, in addition, help to reduce losses of output that arise from pilferage or spoilage in transit and in storage.

Second, in addition to the use of education services to provide a foundation for technical training, projects in the education sector in basic literacy, family budgeting, saving and the use of credit systems may be desirable to help low-income households to take full advantage of their augmented incomes.

F. Other Likely Impacts

The types of benefits and disbenefits that may result from employment and productivity-oriented projects in addition to their impact on the consumption and assets of low-income groups are several.

On the positive side, such projects may result in increased supplies of essential goods and services not only for low-income groups but also for middle- and upper-income groups. They may yield increased profits for middle- and upper-income entrepreneurs in businesses employing workers whose productivity has been increased, at least to the extent that this is not offset by increased competition from previously low-income entrepreneurs supported by employment-oriented projects. Public revenues may be increased as a result of higher property values associated with increased demands for urban space. There may also be increased urban savings and investment, at least to the extent that the augmented incomes of households and enterprises are not preempted for essential consumption.

On the negative side, in addition to the additional public costs of project support, there may be some increased evasion of business taxes if small enterprises prove more difficult to tax than larger ones. There may be at least temporary inflationary effects for some essential commodities as a result of greater equity in income distribution. There may be an undesirably increased dependence on external markets as a result of more "outward looking" growth policies. There may be decreased profits for some middle-income and upper-income entrepreneurs as a result of increased competitiveness in their industries.

Last, but by no means least, increases in employment opportunities in urban areas may result in increased rates of rural-urban migration and consequently increased loads on urban management and services. Additional in-migration may also result in increased unemployment and underemployment following initial increases in employment rates; it may not

be appropriate to regard this entirely negatively, however, for it may reflect the existence of a new low-income group whose members, though statistically underemployed, are nevertheless better off than they were before they migrated. The possibility of increased in-migration nevertheless serves as a reminder of the importance of undertaking urban employment and productivity programs on a regional, or even nationwide, basis and the importance of undertaking urban and rural support projects simultaneously.

Chapter V

PROJECTS IN WATER SUPPLY AND SANITATION

A. Role of the Sector in Development and Its Importance for the Urban Poor

As urban concentrations grow, the amounts of water required and waste generated by households and industry grow, usually at rates faster than growth in urban population. The resources and managerial capacities needed to deal with this reality are enormous; they have been sadly lacking in most cities of the developing world. Consequently, the water and sanitation systems of most urban centers are severely overloaded; in most major cities they were designed for much smaller populations than they are now forced to serve.

The most urgent issue associated with current deficiencies in utilities is the issue of survival. Within the last ten years several major metropolises have been on the brink of disaster because of water shortages. The next two years will see other cities, including at least one that already has a population of over 4 million, in a similar state. There are likely to be deaths and considerable illness from diseases contracted from the polluted ponds, streams and wells that will be the only water sources available. There may be additional deaths and injuries from the consequent riots and disturbances that are almost inevitable.

The World Health Organization estimated in 1970 that about 25 percent of urban households in the developing countries had individual or courtyard water connections, 26 percent were served by public standpipes and 49 percent had no water service at all from a piped system. A capital investment of about $9 billion would have been necessary to upgrade water standards to a minimum level (40 percent individual; 60 percent public standpipe) during the period from 1971 to 1980. The enormity of this gap can be understood when compared to the fact that IBRD/IDA and IDG helped to finance projects in the sector costing U.S.$1.5 billion during the period 1961-1970.[1]

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[1] International Bank for Reconstruction and Development, Water Supply and Sewerage, Sector Working Paper. (Washington,D.C.: International Bank for Reconstruction and Development, 1971) pp.6-7.

Adequate supplies of potable water are a universal "felt need" in urban centers. However, because the linkages between sanitary waste removal and public health are not always felt keenly by individuals struggling to subsist, the demand for sewerage and drainage facilities has not been as strong. Sewerage construction has consequently lagged behind the construction of water systems. For example, the sewerage treatment equipment of one major Asian city is capable of dealing with only 8 percent of the biological waste load generated daily; at present, it is in operation at half capacity and therefore is dealing with only 4 percent of that load.

1. Contribution to Worker and Land Productivity of Improved Systems

It is difficult to determine the precise relationship between environmental sanitation and disease. Multiple environmental factors reducing disease cannot easily be evaluated independently. It is clear, however, that populations with lower levels of environmental sanitation have higher rates of morbidity and mortality. A number of studies have shown that the incidence of typhoid, cholera and diarrheal disease is significantly less where safe municipal water supplies are available. Often in the poorest communities all that the residents can hope for at present is that at least minimal quantities of water will be available for survival; they may never have had the "luxury" of water of decent quality.

The incidence of disease has also been demonstrated to be less with the installation of sanitary excreta disposal facilities. The construction of privies in Costa Rica helped reduce the death rate from diarrhea and enteritis by 50 percent. In some cases where water and sanitation have been upgraded together the impact has been significant. In one case in the Philippines, improved water and toilet facilities reduced cholera incidence by 70 percent.[2]

Because of differences in cultural habits, educational levels and physical environments, identical water supply projects in different cities will not yield equal health benefits. The costs of systems will also vary. Resources for water and sanitation projects are limited; it will often be necessary to consider trade-offs between health levels and investment expenditures. Very often complementary actions in health training, system maintenance training and related fields can increase the health benefits from modest capital expenditures in water and sanitation considerably.

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[2] International Bank for Reconstruction and Development, Health Sector Policy Paper. (Washington, D.C.: International Bank for Reconstruction and Development, 1975), pp. 19-21.

If the decrease in incidence of disease from specific improvements is difficult to ascertain, the assessment of the economic value of improvement in health is even more difficult. One crude method is to determine the additional wages which healthier workers could earn, with estimates corrected to reflect high levels of unemployment among the most likely beneficiaries of health improvements.

It should be borne in mind that a major part of the problem is not just allocating existing resources but also increasing productive resources, including productive human resources. The achievement of at least minimal levels of health, for which adequate water supply and sanitation are essential, is likely to be a key part of any strategy for such resource augmentation.

At least minimal water supply, sewerage, refuse disposal, drainage and flood protection are essential also to achieve viability in many of the modern manufacturing, trade, service, construction, transportation and other industries whose growth is important in spearheading urban economic development. Minimal public services can make land, capital equipment and labor more productive. Although small establishments in the traditional sectors are able to persevere without adequate utilities, at least a rudimentary level of service is essential for establishments in the modern sector. In most cases, quite modest improvements in service systems could increase productivity in the traditional sectors substantially also.

The location and pricing of water and sanitation services (together with roads, transport, energy and tele-communications) can greatly influence the locational options available for all types of urban activity. One has only to observe the way in which households and enterprises cling to the meager water and sewerage lines that are available in cities in most of the developing world to realize the extent to which these utility lines are, together with energy lines and transport routes, literally "lifelines", and to appreciate the extent to which they influence private-sector locational decisions.

In addition to their impact on health, productivity, land use and environmental quality, improvements in water supply and sanitation are likely also to increase land values, in some cases dramatically, thus increasing the value of assets controlled by the poor, where there is low-income property ownership, as well as the assets of middle and upper-income groups (which will be noted later under the heading of "other likely impacts").

2. Possible Savings from Improved Systems

The improvement of health conditions through water and sanitation projects can have important benefits for both household and public budgets. Fewer funds will be necessary for vaccination

programs, hospital and health center facilities, physicians and staff and medicines. In many cases, the impact of health services can increase even without increases in budget levels because of the reduced incidence of disease. In many cities public and/or private funds are expended for grossly inadequate services for emptying pail latrines, pumping out cess pools and clearing surface drains for sullage water. A sewer system would save these expenditures and provide a sanitary environment.

Individuals often spend large amounts of time and money simply procuring water. Women and girls, in particular, who could be employed more productively, may spend as much as two hours each day waiting at a public fountain for the intermittent flows they depend upon and carrying water to their dwellings. More convenient and dependable water supplies would reduce the time necessary for this and make labor available for other activities. Where there is a demand for their labor they could be using their time to augment household incomes. Finding casual employment often depends on being "on the spot" at the moment when a temporary job becomes available. Even where there is no market demand for their services their water-gathering time could be spent in household affairs that would make family life that much better and, in all probability, help to increase household productivity.

Improved water supplies can reduce fire losses. Improved water, sanitation and drainage can reduce the risks of erosion and environmental degradation. Losses due to water pollution from inadequate sewage treatment and disposal have been documented in many cities as have cases of groundwater contamination due to improper solid and human waste disposal -- contamination which increases the cost of water treatment where groundwater sources are used.

The older central areas of some major cities of the developing world run a real risk of being literally inundated in their own sewage. A more subtle but pernicious form of environmental degradation occurs through the waste and erosion associated with the extension of roads and settlements into vast tracts of medium and low density development encouraged by the provision of water and sanitation services to middle and upper income groups. Globally, there are probably hundreds of thousands of acres of urban land made unfit for decent human use by deficiencies in utility systems.

A surprising amount of water in developing world cities is lost in the distribution system. This loss is due in part to physical leakage through deficient or improperly maintained equipment. For example, an estimated 24 million gallons per day are lost in one Asian city of 4 million inhabitants. Illegal and unmetered connections are also responsible for a large economic loss to water agencies. Both types of losses inhibit the ability of water agencies to maintain and expand systems properly.

Inadequacies in water and sanitation systems breed further wastage. In many cities in the LDC's there is a tremendous wastage of materials (as well as electrical energy) for private ground reservoirs, pumps and roof tanks made necessary by inadequate pressure in the public water supply systems. The nutrient content of human and other wastes are lost as fertilizer because of inadequate sewerage systems. Some of these losses are due to inefficiencies in the management, which is one of the principal barriers to rapid improvement.

3. Water and Sanitation and the Urban Poor

Those who are the least equipped to deal with the risks resulting from poor water and sanitation are those most severely affected by deficits in public services. The most vulnerable poor living in crowded and unsanitary conditions are the most exposed to the risk of disease. They have the lowest incomes and savings to pay for treatment. They must frequently live in low-lying marginal areas subject to flooding. They have the least resources to rebuild damaged homes. The relatively well-off minority, often as little as 20 percent of an urban population or less, is served adequately, sometimes sumptuously, through public systems, while the vast majority must struggle with minimal public services.

The problem of inequity has at least two important aspects -- the physical availability of services and their cost. Conditions in a major Asian metropolis that is not atypical serve to illustrate the problem of physical availability. Only 30 percent of all households have piped water connections. Only 20 percent have sewer connections. Approximately 25 percent of the urban population lives at very high densities (400-1,000 persons per acre in one- to four-storey structures) in areas without proper drainage.

In that city, and in many others, current policies are systematically biased in favor of the affluent minority and a very small middle class -- together constituting somewhere between 10 and 20 percent of the urban population. Water and sanitation systems are extended expensively to serve large plots they have purchased speculatively but do not occupy. Taxes and low interest borrowing are thus used to subsidize low density living for the few. The land use patterns that are created breed equally inefficient and inequitable urban transport systems as well as energy waste. The poor are left in densely inhabited areas with minimal services or none, exposed to both biological and physical danger.

The 80 percent majority that are dependent on community taps (if they are so fortunate), pit latrines and the like are not only vastly worse off in the levels of service available but they also pay much higher unit prices for the poor services they do receive. A wealthy family may use 120-150 gallons of water per person per day, including water for gardening, a swimming pool, car washing, and the other necessities of affluence, yet it may pay only $0.15

to $0.20 per thousand gallons for that water. A poor family that has to pay for water from a communal tap or from vendors may pay as much as $2.00 per thousand gallons. Poor households in a similar situation in a Caribbean city pay as much as $20.00 per thousand gallons at community taps and from ambulant vendors. Because of these high prices a poor family may be forced to consume as little as two gallons of (frequently contaminated) water per person per day

Well-conceived water and sanitation projects can have an important impact on the redistribution of consumption benefits. This redistributive impact can be increased if progressive taxation or cross subsidization is used to finance added benefits for the poor. In addition, more equitable land use patterns can be encouraged through the well-planned extension of water and sewerage facilities for use by low-income families.

Sewerage and water programs can also generate employment in construction and maintenance. In many cases, labor-intensive construction and maintenance techniques should be given higher priority. Engineering consultants from the MDCs sometimes are among the culprits responsible for the use of the unnecessarily complex and capital-intensive technologies being used. They seem reluctant not to use the sophisticated systems they know so well and they sometimes mistakenly consider simpler ones to be "substandard".

The implementation of community water and sanitation projects can involve important informal education in facility use and maintenance, health care and other areas of direct benefit to the urban poor.

Improvements in the financing of utilities and training in family budgeting can be used to enable the poor to afford improved public services and other necessities. (For example, charges for water and sewerage connections and in-house installations often should be spread over a period of time (say 3-5 years) to make it possible for poor families to pay for adequate services. One device for doing this is to incorporate utility connection charges in housing mortgages.)

B. Policy Implications

Projects designed to achieve better distribution of safe potable water and sanitation to low-income groups where total resources are severely constrained are likely to require marked departures from previous practices. They are likely to meet substantial opposition from middle- and upper-income groups. Their chances of successful implementation are likely to be enhanced if they are supported by well-publicized basic policies which express an all-sector concern to improve the distribution of urban services as quickly as possible. This type of broad policy support is likely to be necessary also for the changes in water

and sanitation pricing that are likely to be part of any serious redistributive strategy.

It may be necessary to modify existing import regulations and tariffs and minimum wage legislation to rectify policies which in the past have made capital artificially cheap and encouraged the use of capital-intensive technologies in water supply and sanitation as well as in other sectors.

Very often the overall water resource situation will be such that in order for water supply and sanitation projects focused on the urban poor to have sustained benefits it will be important to establish basic water resource conservation policies to protect and enhance sources. This may involve such things as the regulation of overgrazing and other destructive agricultural practices, reafforestation and the regulation of agricultural draw-offs from groundwater sources serving urban areas. The share of urban areas in total water use usually will be very small but in a few cases it may be necessary to establish rural-urban water allocation policies to ensure adequate long-term supplies for urban areas.

C. Projects With Potentially High Impact

In practically every city of the developing world there is a great deal of scope for improving the operation of public services within existing capacities. Improvements in management, financing and use of existing facilities can often be a much more cost-effective means of expanding services than large-scale additions to systems. Accordingly, in each of the following sections, specific measures and project types will first be considered to optimize the use of existing capacities. Projects involving major system additions will then be presented. Many of the project types or elements of projects listed can be undertaken individually or as parts of more comprehensive water supply and sanitation projects.

1. Water Supply

a) Optimization of Existing Systems

i) Reduction of Losses

Repairs and maintenance of existing systems can lead to substantial savings. Meters can be placed on the supplies of large users. Overflow valves can be required on private reservoirs and tanks. Inspectors can find and eliminate illegal connections, damaged, missing and leaking faucets and valves. Financial losses can be reduced through better accounting, budgeting and collections. Many of these reforms may be politically difficult, but the possible savings can greatly reduce or postpone capital needs.

In one Asian city of 4.2 million inhabitants it is estimated that 40 percent of the existing water supply is lost. Of this total loss of 41.5 million gallons per day, 25 mgd. is lost from the bulk supply between pumping and bulk urban distribution stations. The remainder, about 16.5 mgd., is lost in the city's distribution system. In addition to these losses, it is estimated that large amounts of water are wasted by users due to lack of metering and low unit prices to upper income consumers. Most water rates are a flat 6 percent rate of the rental value of the property.

In that particular city, a program to eliminate losses cannot be completed quickly. A survey has been undertaken to identify the location and size of all mains and valves and to identify as many of the leaks as possible. An increase in prices, currently among the lowest in the world ($0.15-0.20 per 1,000 gallons) has also been proposed which should encourage elimination of user waste where metered. Metering might be necessary for most users. Some losses (15-20 percent) are considered unavoidable in any water system, but it is expected that between 30 and 35 mgd. could eventually be saved with the elimination of loss and waste. The capital cost of producing and distributing this much water with new capacity would be between $30 million and $35 million, but the cost of repairs would be less than $1 million. The cost of metering would be about $30 million. Since the introduction of metering in a previously unmetered system usually will take a considerable time to achieve, initial improvements in the regulation of water use may have to be focused on a restructuring of pricing based on property values and types of land use, together with a more vigorous policing of use.

ii) Rationing, Reallocation and Pricing Changes

These can also increase the water available for consumption by the urban poor. Water can be rationed to prevent wasteful consumption by upper-income groups. It can be more directly allocated to outlets in poorer neighborhoods, especially during periods of critical shortage. Pricing systems can be reformed to establish more equitable unit costs. User charges should be adjusted to assure that affluent consumers (who typically use large quantities of water for non-essential purposes) pay the full cost of extending infrastructure to low density residential areas. For example, in one large Asian city user charges are extremely regressive. Wealthier households pay $0.15-$0.20 per 1,000 gallons while the poor often pay in excess of $2.00 for the same amount. The cost of producing and distributing the water is roughly $0.65 per 1,000 gallons. A correction of this regressive cross subsidization alone could encourage conservation and improve the consumption possibilities of the urban poor. In Yemen, for example, initial modest levels of consumption are charged for at a low rate and

successively higher levels of consumption are subject to progressively higher rates so that large consumers are, in effect, subsidizing the smallest consumers. Obviously, such reforms often pose a political as well as an administrative challenge.

Some consumer education may be necessary to optimize the impact of these and other measures. The use and maintenance of facilities, the sanitary storage and transport of water, and the value of conservation are important subject areas for education.

iii) Differentiation of Water Quality

This may be considered for different uses to optimize the use of existing treatment and distribution capacity. Considerable savings in the use of high-quality water can be achieved by establishing different classes of consumption. Industrial users, lawn and garden watering and close-in irrigation can use lower quality water than households. However, such an approach requires two separate distribution systems with consequently high public capital costs or private users of lower-grade water have to find and develop their own sources.

iv) Reduced Industrial Water Consumption

In some cases there are major opportunities for reducing industrial water demand -- an important consideration in situations in which industrial consumption may be of the order of 20 percent of total water consumption. In an installation some years ago in a semi-desert environment in the United States that forced the adoption of a water-conserving technology, a steel plant was designed to use only 1,400 gallons of fresh make-up water per ton of steel produced, as compared to conventional plants using 65,000 gallons per ton on a once-through basis -- a reduction of 98 percent.[3]

b) Additions to Systems

i) Water Source Development

New sources such as wells or pipelines from rivers may have to be developed in order to increase capacity. In some areas tube wells can be considered for low-income neighborhoods. This may require close regulation of use and consumer education to insure proper maintenance.

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[3] H.I. Riegel, "Waste Disposal at the Fontana Steel Plant", in Sewage and Industrial Wastes, Vol.24, 1952, p.1121.

ii) Additions to Existing Treatment Capacity

Additions to existing treatment capacity may also be necessary in order to increase the available capacity. Here, as elsewhere, there may be opportunities for considerable reductions in capital and maintenance costs relative to conventional treatment systems. In a scheme developed for China some years ago, for example, the treatment system used consisted simply of an initial intake, a simple device for adding alum to achieve flocculation and a sediment settling tank with a bamboo grid at the water surface to reduce agitation of the sediment by the wind.

iii) Expansion of Distribution Systems

One Asian city with a serious water supply problem has developed a ten-year program to expand its water supply. Estimates for 1973 showed a per capita consumption of 34.5 gallons per day and a total consumption of 138 million gallons per day. Total supply amounted to 162 mgd. Sixty percent of consumption was used by households, but domestic water consumption varied from 10 gallons per day among the lowest income households to 100 gallons per day by upper income groups. The 1985 water demand has been assessed at 390 mgd. for a population of 6.9 million. If this supply were achieved, it would represent an improvement in water supplied per capita to 56.5 gallons per day. Considerably less than this would actually be consumed unless current losses in the system were also reduced.

The cost of expanding the system has been estimated at about $213 million, representing a cost of roughly $1.07 million for each additional mgd. of capacity. This includes roughly equal costs for developing new sources and expanding the distribution network. It is expected that the distribution of water will also improve among income groups. By 1985 approximately 80 percent of households are expected to have individual water connections, compared with a 1973 level of 33 percent.

Some small improvements can be made to existing systems to increase output without large capital outlays. The distribution system can be extended from existing mains to low income neighborhoods as part of squatter upgrading projects (where existing slum areas are being improved) or sites and services projects for new low-income settlement. Additional community water taps can sometimes be added to existing mains with relatively little effort. Water supplies can be stabilized by installing balancing reservoirs. In addition, pressure in the system can be increased by greater pumping from existing sources. However, net benefits from increased pumping will be reduced if existing losses from the system are not first eliminated.

In planning major new water mains there will likely be political pressures to put them in low density high-income areas to the detriment of the urban poor. This serves as a reminder of the importance of achieving changes in basic policies as a basis for project design and implementation.

iv) The Re-use of Waste Water

The re-use of waste water can be accomplished in some cases by transferring waste water from urban areas (after primary or more complete treatment) to agricultural areas, where it is used for irrigation. Part of the steady flow of urban waste water could then percolate through the soil undergoing final purification and increasing groundwater reserves in the region. The replenished underground sources can then be used to supply both urban and agricultural areas.

A very large-scale water regeneration program of this type has been proposed recently for Karachi, the largest urban center in Pakistan. This program would conserve scarce water resources, help to conserve the metropolitan region's soils and reduce flooding dramatically. Together with agricultural improvements and a proper husbandry of groundcover it would result in major environmental enhancement. The scheme proposes to augment ground water storage to something of the order of 3 million acre feet. It should be able to provide a stable source of water for the region at acceptable standards through the year 2000 (when the urban population may be of the order of 15 million) and beyond.[4]

2. Sewerage

a) Optimization of Existing Systems

i) Improvement of Traditional Systems

High proportions of the populations of most cities in the LDC's, even the larger ones, have no access to a waterborne piped sewerage system. They are forced to take advantage of available open spaces, streams or river beds or use simple (essentially village) pit latrines, night soil collection systems or communal cess pools. The use of urban open spaces clearly has to be discouraged where densities are high. The use of simple units such as pit latrines, however, may have to be considered acceptable, even at quite high densities, where capital resources are very scarce. In such situations the task is to make the necessarily simple system as economic and hygienic as possible.

[4]Karachi Development Authority, Master Plan Department. Karachi Development Plan, 1974-1985. Karachi, Pakistan: 1974, pp.123-131.

Latrines are often in poor states of repair. They should be inspected and repaired if necessary to assure they are not accessible to flies or other animals. It should also be ascertained whether they represent a threat to groundwater, especially if they are close to surface wells. Night soil collections can first be improved by making them on a more regular basis and using more sanitary containers which minimize exposure and danger of spillage. Specialized trucks and other equipment can be used. Likewise, the collection of wastes from cess pools can be improved. In both cases, collected wastes can be used in agriculture. While the dangers of such systems can be minimized, contamination nevertheless remains a much more likely possibility than with piped systems.

In one developing country with extremely scarce resources, the capital city (population: 600,000) has no sanitary sewerage system. It has been estimated that the cost of a minimum collection and treatment system for the most densely populated downtown areas alone would be in excess of $25 million. This cost is too high to be considered feasible in the foreseeable future. It is estimated that by 1986 there will be about 80,000 cess pools in the urban area which should be cleaned out at least once every two years (about 40,000 per year). The current cost of such service is between $20 and $30 which is beyond the means of most home occupants, causing a serious public health problem.

A program has been designed using 80 to 90 workers, five small trucks, two special trucks, a disinfection installation and a treatment plant for the sewage. Workers would empty the cess pools manually with small carts and hand pumps in the poorest, most densely populated neighborhoods and transport the sewage to large tank trucks which would transport it to treatment plants. The special trucks would be used for cess pools which are accessible for trucks. The initial capital investment cost of the system would be about $730,000; annual costs would amount to $147,250. This would be a unit capital cost of about $9.00 and a unit annual operating cost of $3.68. It is expected that the annual costs can be financed by the households involved if discriminatory pricing and cross-subsidization are used. The amortization cost of capital equipment would amount to about $1.00 which would not represent a large additional expense if it must be borne by home occupants, especially considering the current high cost of cess pool cleaning.

As part of the improvement of traditional systems and to control individual or "sweeper" dumping into river beds and other vacant areas, community education in use and maintenance of facilities should be emphasized.

ii) Upgrading and Maintenance of Existing Networks and Sewage Treatment Plants

Greater efficiency often can be achieved by simple repairs such as replacing manhole covers and repairing trunk sewers. Incremental additions to the capacity of treatment plans may enable more optimal utilization of existing collection capacity. Obviously, upgrading of the condition and use of the existing sewerage network (for example, by controlling the disposal of street sweepings, grit and other solids into open manholes) may make it possible to use existing treatment plants much more effectively.

In some cases, imaginative low-cost modifications of existing conventional treatment plants can increase their capacities substantially. In a major city referred to earlier, where existing conventional treatment plants are operating at half their capacity because of improper loadings and inadequate maintenance a proposal was made recently that would increase their original design capacity by something of the order of 50 percent. The inputs required are a very small capital investment coupled with local labor inputs and improved management. The scheme calls for bypassing one element in the treatment process and accepting treatment standards somewhat below the original design standards but nevertheless perfectly acceptable under local conditions. The recuperation of the original capacity and its augmentation by approximately 50 percent could be achieved at a fraction of the cost of adding new plant capacity to achieve a similar result.

iii) Redistribution of Treated Wastes for Agricultural Use

Partially treated liquid effluent may be re-used in agriculture. The treatment required will depend on how and in what quantities it is to be discharged. Sewage sludge may be useful as agricultural fertilizer or soil conditioner.

b) Additions to Systems

i) Traditional Systems

In areas which are not too densely populated new pit latrines can be considered. This may not be possible where large amounts of waste disposal would risk contamination of underground water, surface water or surface soil.

In some cases open surface sewers may be a "best possible" solution. The risks of contamination can be minimized by

separating them as far as possible from homes, covering them at least partially, and assuring their outfall to safe open water bodies or to existing trunk sewers. Where they must be close to residential or other major activity areas, it may be possible to organize housing and other land uses so that only small numbers of people are responsible for the maintenance of the sewers immediately serving them; if this can be done there may be a direct sense of responsibility and relatively good maintenance. Even in the poorest areas standards of hygiene and maintenance in private or semi-private (in contrast to public) space often are quite high.

ii) Communal Cess Pools and Septic Tanks

Communal cess pools and septic tanks are other intermediate methods which may be appropriate in certain situations. Where populations are dense and latrines cannot be built, cess pools may be the best solution. This may be especially true for densely populated staging areas where residents and landlords are unable or unwilling to make substantial investments. As with individual night-soil collection systems, cess pools must be periodically drained of waste, and it may be possible to process that waste for use in agriculture.

iii) Conventional Sanitary Sewerage

Conventional sanitary sewer connections are still preferable in a number of situations, especially for the more stable poor who are becoming permanently established in urban areas. Standards may be reduced through the use of less expensive fixtures without compromising on sanitation. Where individual installations are not feasible, as in the case of many squatter upgrading programs, community facilities may be constructed reasonably inexpensively from a limited number of sewers in the project area. These can be combined with water outlets in bathhouses. Community and individual sewerage connections are important elements of most sites and services projects. Communal sewerage units must, however, be used very selectively and only where local cultural patterns and maintenance practices make them acceptable.

Incremental additions can be made to existing waterborne systems to use those systems more fully and make them more responsive to the needs of the poor. Additional collection points often can be added to existing sewerage lines at little expense.

One major developing world city which is expecting a population of 6.9 million by 1985 currently has only 20 percent of its households connected to the sewerage system. A project has been formulated which will expand the system to about 800,000 households by that date. The project would cost about $213 million, including $95 million for new treatment plants, $22 million for trunk sewers and $95 million for the collection network. This represents a relatively modest cost of $266 per household connection, but even this is high relative to local incomes. Because of projected costs, stabilization ponding is now being considered as an alternative for at least part of the urban area.[5]

It is important to combine such efforts with community education and maintenance programs. Supervision and training in the use of toilets will be necessary especially for recently arrived in-migrants from more primitive areas. Attitudes toward defecation, privacy and bathing are among the most ingrained of most people. A considerable effort will be necessary to convince adults to change their habits and to maintain new facilities in a sanitary condition.

iv) Stabilization Ponding

One of the simplest and most cost-effective systems of sewage treatment is stabilization ponding. It requires a water-borne sewage system but it is applicable on a variety of scales. It has been used in a number of countries in the past but it deserves even greater attention than it has received.

Waste stabilization ponds have been referred to by a variety of names -- including oxidation ponds, redox ponds, maturation ponds, sewage lagoons, anaerobic lagoons, and facultative lagoons. "Stabilization pond" is now regarded as the most appropriate term. It covers both aerobic and anaerobic stabilization and the technique is usable for the treatment of both sewage and certain industrial wastes.

A stabilization pond is so simple that is consists of little more than an unlined tank formed in the ground, with very simple inlet and outlet chambers. Ponds can be of several types. Aerobic ponds are shallow (about 0.3 metres in depth) designed to maximize the growth of algae through photosynthetic action. They have been of interest where the harvesting of the algae is important but they have not been used widely in waste treatment. Anaerobic ponds are designed for higher organic loadings and usually are 2.5 to 3.7 metres in depth. An anaerobic pond functions as an unheated and unstirred open digester; its effluent usually

[5] See subsection iv), below.

will have a high BOD and require further treatment. Facultative ponds are relatively shallow (of the order of 0.9 to 1.5 metres) and their function is predominantly aerobic in sunlight and for part of the night. For the remainder of the night the bottom layers of such ponds are generally anaerobic. Facultative ponds are becoming accepted increasingly as the type most appropriate for general application.

In addition to their simplicity and efficiency in treating wastes, stabilization ponds are productive and resource-conserving in the sense that they generate a series of useful by-products. The effluent can be used for irrigation. The pond itself can be used for pisciculture and the raising of ducks or other water fowl. Algae can be harvested for animal fodder.

A disadvantage of early stabilization ponds for urban applications was that they were installed in such a way as to require relatively large amounts of land to achieve adequate surface areas. More recently, however, ponds serving large populations have been constructed in a series of smaller units close to the neighborhood populations they serve. Even where land prices are relatively high this makes the technology more applicable than it was thought to be in the past. Where land prices are extremely high a somewhat more complicated application of stabilization ponding principles can be used; this variation is generally referred to as aeration ditching and requires the mechanical agitation of wastes, with concomitantly higher capital and operating costs.

The costs of a simple stabilization pond are remarkably low -- a fraction of the cost of conventional forms of urban sewage treatment. In the 1970's in India, for example, where stabilization ponding has been used extensively, capital costs were of the order of $0.50 to $1.70 per capita (excluding land costs, which will vary from place to place), with operating costs of the order of $.15 per capita per year.[6]

v) Specialized Treatment

In order to relieve the burden on conventional treatment facilities, additional specialized treatment capacities may be considered. This may be especially useful for specific industrial wastes.

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[6]For an excellent review of the use of stabilization ponds, see: Arceivala, Prof. S.J., J.S.S. Lakshminarayana, S.R. Alagarsamy and C.A. Sastry. Waste Stabilization Ponds: Design, Construction and Operation in India. Nagpur, India: Central Public Health Engineering Research Institute, 1970.

vi) New Non-Water-Borne Technologies

The most promising new technology is the Clivus Multrum which can reduce toilet and kitchen wastes to a humus which can be used for fertilizer. It uses no water, has no effluent and depends on natural organic decomposition. Its present cost is somewhat prohibitive (about $950 in the U.S.A.). A simplified version may soon be developed using prefabricated concrete which might be applicable for certain urban situations. The absence of system infrastructure and treatment facilities has the clear advantage of low investment costs. The fertilizer produced by the system is rich in nitrates, phosphates and potash, much of which is leached out by conventional water-borne systems. Its market value would not be insignificant for poor urban families.

3. Drainage

a) Optimization of Existing Systems

The most vulnerable of the urban poor, especially those living in low-lying, flood-prone areas, suffer the most from the poor state of maintenance of most drainage systems in the developing world. In addition to physical vulnerability, health conditions have been observed to be notably worse among the urban poor during seasons of heavy flooding.

Many existing drainage systems were designed to service much smaller urbanized areas. However, as increased amounts of land are covered with pavement and housing, less rain water is absorbed by the soil. Frequently it is necessary to expand existing systems to cope with larger amounts of flood water. The problems of drainage, however, are affected by problems in other sectors which should also be looked at. Sometimes water, gas or sewer lines may be laid across storm drainage channels so as to partially block the flow. During storm flows, debris carried by high water may be caught on such obstructions, block the flow and result in additional flooding. Where solid waste systems are inadequate, large amounts of human waste in storm drains, particularly during floods, pose a serious health problem. Short-term actions can be taken to regulate street sweeping and the dumping of sewage into storm drains. In the longer run, actions will have to be taken to improve both refuse collection and sewerage.

Poorly planned urbanization and improper agricultural methods can cause erosion which clogs storm sewers during floods. Where this is a problem, natural drainage channels are likely to have to be stabilized as an immediate measure to control erosion. Sustained improvements in the regulation of land use and the protection of ground cover are likely to be necessary long-term measures in such situations, as noted later.

Several actions can be taken to alleviate the most immediate problems of drainage systems. Drains can be cleared of mud, debris and other obstructions, channels and pipes can be repaired and manhole covers can be replaced. This may involve the establishment of regular clearance schedules before seasonal rains to reduce flood damage. Private maintenance of local drains can be encouraged. In some cases, local surface drains can be constructed relatively quickly to discharge into existing main drains to utilize existing capacity fully.

b) Additions to Systems

i) Additions to the Drainage Network

To control flooding it is frequently necessary to install new collector drains and main drainage channels and conduits. This can be done together with the stabilization of natural drainage channels to optimize the effectiveness of the new additions.

ii) River Management and Flood Protection

In many cities the most vulnerable of the urban poor live on river banks and flood plains which are extremely prone to flooding. It is often necessary to construct protective levees and collector drains to make these areas habitable, or move the population to areas not subject to flooding. In some cases, poldering and pumping may be necessary to drain low-lying and flood-prone areas.

iii) Erosion Control

A variety of long-term programs should be considered to control erosion damage. Urbanization can be regulated in erosion-prone areas. Check dams can be installed in areas above cities to slow runoffs and to build up groundwater levels. In addition, harmful agricultural practices such as overgrazing may require organizational changes and staff training (including a rethinking of the territorial responsibilities of municipalities) as well as considerable public education.

In one port city of 600,000 inhabitants about $170,000 is spent annually to maintain the storm drainage systems. Much of this expenditure is made necessary because of uncontrolled erosion from hills above the city and from the lack of adequate garbage collection. In addition, the system does not have the capacity to drain the city properly. It was designed to serve a much smaller urbanized area. During heavy rains serious flooding is caused by the compounding of all of these factors. An estimated $40,000 in damages is caused by each major rainfall.

A project costing $18,000,000 has been proposed to amplify the capacity of the storm drainage system and build 500 small retention dams in the ravines above the city to reduce flooding and erosion. An additional $800,000 would be necessary to remove approximately 25,000 cubic metres of debris from existing storm drains and open drainage ditches. It is estimated that $200,000 will be necessary to open channels on the seashore near system discharge points to permit storm water to flow freely.

The total of $19,000,000 will have a minimum impact if erosion is allowed to continue from the hills above the city and if the solid waste collection system is not improved. This underlines the importance of coordinated action in several sectors. The seriousness of the problem is further compounded by expected future growth. The population is expected to almost double in the next ten years; most of this growth will be among extremely low-income families living in newly urbanized areas, many of which are prone to flooding. An additional $10 to $12 million may be necessary to provide proper drainage.

4. Solid Wastes

a) Optimization

Traditional collection methods can be regulated and upgraded. This may include improvements to hand carts, the organization of the manual recovery of re-usable wastes and the organization and regulation of dumping. In some cases where conventional truck collection, incineration and sanitary land fill are already in use, they can be improved and regulated more efficiently.

b) Additions to Systems

i) Conventional Systems

Most cities in the LDC's must expand their conventional recovery, treatment and disposal systems substantially to cope with growing quantities of solid wastes. Such programs are likely to benefit the urban poor directly. Low-income households are the must vulnerable victims of disease, rodent infestation and other problems resulting from poor solid waste removal systems.

One large Asian city is faced with a typical solid waste problem. Approximately 1.2 pounds of refuse are generated per head per day.[7] This produced a total of about

[7] Rates of generation in the LDCs are generally much lower than in the MDCs (where seven or eight pounds per capita per day may be generated) because there is a necessarily more careful use of almost everything.

2,000 tons of garbage per day in 1973. The figure may be as high as 4,000 tons per day by 1985. A refuse collection program utilizing heavy-duty 20-cubic yard compacting vehicles, two 20-ton-per-hour composting plants, eight bulldozers, 2,000 refuse bins, and the development of disposal and land full sites is under consideration there.[8] The development of such a large-scale program will require considerable staff training and user education.

ii) Resource Conserving Recovery and Re-Use Systems

Resource conserving recovery and re-use systems may be appropriate in some developing countries. Informal systems of recovery already exist in most cases. The economic feasibility of using such systems, or more labor-intensive ones, in the developing areas is likely to vary greatly with the design of development. Scavengers extract every salable item -- old machine parts, used household utensils, scrap paper, metal and the rest. Animals (and often, tragically, poverty-stricken adults and children) scavenge everything that is edible.

5. Potential Impacts on the Poor

The potential impact of improvements in water supply and sanitation on health, productivity, environmental quality, land use and land values was noted earlier. Projects can be of a great variety of types and capable of benefiting virutally all types of target groups.

The direct benefits of the optimization of existing systems will, by definition, accrue chiefly to existing or incoming households in areas already served. But improvements in the health and productivity of those households together with improvements in environmental quality and higher land values in the serviced areas may benefit households in nearby areas also. All of the varieties of urban poverty group referred to in Chapter II are potential beneficiaries, even those without property rights or access to credit and even those that are externally oriented or in transit. The impact of improvements on health and productivity may well be sufficient to trigger upward shifts from one category to another (for example, from a situation of stable or stagnating subsistence to gradually but consistently improved levels of income and consumption). In general, in the absence of subsidies, optimization of the simplest traditional systems will reach further down the income scale.

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[8]The advisability of compacting wastes which contain a smaller proportion of cardboard and tin cans than do wastes in U.S. and European cities has yet to be evaluated, as does the economic feasibility of composting.

The benefits of additions to systems, similarly, may impact virtually all types of poverty groups -- in both newly serviced areas and nearby areas. As in the case of optimization, traditional technologies will be capable of reaching lower income groups but some simple modern systems such as stabilization ponding and the imaginative water-treatment technique proposed for China can be so low in cost that they too can benefit households well down in the income distribution. For households that are externally-oriented or in transit, systems that involve low investment in fixed capital are likely to be the most appropriate unless there are other reasons for upgrading transit areas.

D. Institutional Aspects

Water supply and sanitation is one of the areas of urban service in which area-wide integration of resource management, supply, distribution, system maintenance and pricing is particularly important. The functioning of water supply and sewerage obviously are interdependent. Less obviously, but just as importantly, so are the functioning of drainage and solid waste disposal, at least when drains are used as dumping grounds. Each of these component systems can be weakened by deficits or malfunctions in one or more of the others.

In spite of these strong intra-sectoral functional links it is not uncommon to find water source development being undertaken by one agency, bulk water supply by another and water distribution by a third. Very often, one agency is responsible for initial system development but another handles (or is handed) operations and maintenance. Solid waste disposal typically is considered unimportant enough to be relegated entirely to the local (e.g., municipal) level.

Where water supply, sewerage, drainage and solid waste systems are managed separately and where system development, operations and pricing are fragmented it is very unlikely that adequate services will be delivered or that any of the services will be financially sound.

In most situations the establishment of a single area-wide entity to be responsible for bulk water supply, water distribution, sewerage, drainage and solid wastes will be very desirable (often essential) as a foundation for the sustained effectiveness of any project, whether that project is focused on the poor or elsewhere. Moreover, it will be desirable in most cases to have that entity responsible for planning, development, operations, maintenance and the pricing of services if all of the services are to be properly complementary and financially sound. It may be necessary to approach such integration gradually, but to neglect it is likely to be detrimental to all of the services involved.

E. Complementary Actions Which May Be Necessary

1. Optimization and/or Expansion of Complementary Utility Systems

As noted earlier, an expansion of water supply is likely to require optimization and/or expansion of both sewerage and drainage systems; if an expanded sewerage system is to be fully effective, similarly, it is likely to acquire additional water supply.

2. Expansion of Equipment Manufacturing Capacity

Nationwide requirements for improvements in urban water supply and sanitation are likely to be of a scale which will require substantial additions to system components. With simple technologies, in particular, there are likely to be many opportunities for adding to, or creating, domestic capacity for producing components rather than importing them.

3. Development of Agricultural Programs

The utilization of urban waste water and solid wastes on a large scale will call for substantial innovations in agricultural practices in many cases. Because of this, it will be important to improve agricultural practices simultaneously with improvements in urban water supply and sanitation.

4. Development of the Fishing Industry

Large-scale improvements in urban water supply and sanitation may result in increased fishing potential of two types -- increased potential resulting from improvements in the quality of rivers and other natural water bodies into which urban wastes are discharged; and the creation of stabilization ponds which, in the aggregate, will constitute a considerable potential for the development of fresh water pisciculture.

5. Changes in Land Use Patterns

An important reason for water wastage and environmental pollution in many low-income areas presently is that public spaces are "nobody's responsibility" even though private spaces are maintained excellently. It may be very desirable to establish somewhat new patterns of residential land use, in which relatively small numbers of households are clustered physically around water supply and sanitation installations in such a way that it is in their own interests to operate and maintain these facilities properly. Where such groupings exist already, even rudimentary traditional systems for water supply and sanitation often are well maintained.

6. Regulation of Land Use

Regulation of agricultural land use to avoid overgrazing and other damaging agricultural practices that would reduce the benefits achieved from the new availability of urban waste water and solid wastes is likely to have to be established. New urban land use regulations are likely to have to be established to achieve the full advantage of new water supply and sanitation systems as instruments for guiding urban growth. Urban land use is likely to have to be regulated to avoid the improper use of sanitary land fill areas. Both urban and nearby non-urban land uses are likely to have to be regulated to control run-off and erosion.

7. Selective Industrial Support Programs

Where there are opportunities to reduce industrial water consumption and reutilize solid wastes efficiently, it may be necessary to provide credit support, tax reliefs or other incentives to encourage industries to initiate the technologies needed for this.

F. Other Likely Impacts

Projects in water supply and sanitation are likely to have a considerable variety of impacts which extend well beyond the urban poverty groups for which those projects are designed. Some of these impacts are likely to be positive (benefits), others negative (disbenefits).

1. Benefits

a) Increased Public Revenues

Public revenues are likely to be increased in a variety of ways as a result of improvements in water supply and sanitation. First, aggregate revenues are likely to be increased as a result of increased user charges for water supply and sanitation -- including the increases arising from changes in pricing systems which result in higher prices to middle and upper income groups. Second, there may be increases in property tax yields because of the higher land values resulting from improved environments and new areas brought into development. Third, there may be increases in personal and corporate taxes resulting from higher productivity.

b) Reductions in Public Expenditures

Because improvements in water supply and sanitation are likely to result in substantial improvements in health conditions throughout an urban area, the per capita costs of providing a specified level of health services are likely to decrease. The public, as

well as private, costs of rectifying flood damage and erosion damage are likely to decrease as a result of improvements in drainage.

c) Environmental Enhancement

Local environments are likely to be enhanced (sometimes dramatically) as a result of general improvement in sanitation, increases in the availability of groundwater, the creation of new water impoundment areas and agricultural development close to or within the urban area.

d) Increased Property Values

The value of property owned by middle and upper income groups, as well as low-income groups, is likely to be increased as a result of the general environmental upgrading associated with improvements in water and sanitation.

e) Facilitation of Guidance of Land Use

Water supply, sewerage and drainage networks, together with transportation systems can be used as major instruments to guide land use in the directions sought by government.

f) Increases in the Supply of Buildable Land

The acreage of buildable land in an urban area may be increased by both reclamation associated with sanitary land fill and erosion control.

g) Reductions in Per Capita Demand for Water

Technologies introduced to reduce industrial water consumption in order to provide a greater supply for low-income households may result in overall reductions in per capita consumption.

h) Decreases in Some Commodity Prices

This may occur in industries that are large water users where costs are reduced or productivity increased as a result of improved water supply and sanitation.

i) Increases in Agricultural Output

Substantial increases in agricultural production close to an urban area may be achieved through a reutilization of waste water and solid wastes.[9]

[9] In Karachi, Pakistan, for example, it has been estimated that the regeneration of urban waste water and improved groundwater management could bring an additional 41,000 acres of land that is now semi-desert into agricultural use in the immediate vicinity of the urban area in a ten-year period as the first stage of an improved water management program.

j) Increased Fish Production

In Asia, in particular, it is not uncommon to cultivate fish in large fresh water ponds, even within the boundaries of a built-up urban area. There and elsewhere improvements in the quality of the water bodies into which wastes are discharged and the development of stabilization ponds which are capable of supporting fish life may together increase the output of the local fishing industry considerably.

k) Improved Areawide Health

Because of reductions in the incidence of communicable diseases, improvements in the health of low-income households are likely to result also in improvements in health for middle- and upper-income groups.

l) Improved Attitudes to Government

The dramatic results that can be achieved through improvements in water supply and sanitation may provide concrete evidence of governmental concern for the poor which will improve attitudes to government generally.

2. Disbenefits

a) Increased Public Costs

On the negative side, both total and per capita public capital and operating costs for water supply and sanitation are likely to be associated with service improvements of the types proposed.

b) Increased User Charges

It is both feasible and desirable to make urban water supply and sanitation systems financially viable without across-the-board subsidies. It is likely to be necessary to increase charges to upper- and middle-income groups in order to achieve this.

c) Increased Need for Local Production and/or Imports

Substantial improvements in water supply and sanitation are likely to require the use of local and/or imported materials and equipment that would otherwise be available for other purposes. In the case of imported items there may also be a significant adverse affect on national balance-of-payments positions.

d) Increases in Some Commodity Prices

For some industries which are large water and sanitation service users, production costs and prices may increase slightly as a result of increased user charges.

e) Localized Environmental Deterioration

Middle- and upper-income groups typically use large quantities of water for gardens and other private environemtnal improvements. In the short run, in particular, if a government is serious about redistributing existing supplies there is likely to be localized environmental deterioration as a result of reduced water consumption by such households.

f) Reductions in Usable Land Area

Large-scale new water impoundments may reduce considerably the acreage of land available for agriculture.

g) Reductions in Buildable Urban Land

Increased draw-offs of groundwater in urban areas in response to urgent needs may reduce local load bearing capacities; the economic justifiability of this will depend on conditions in specific localities.

h) Increased Salinity

Because waste water is likely to contain relatively high percentages of dissolved solids, there may be some reductions in usable agricultural acreage as a result of large-scale waste water regeneration. In assessing the desirability of projects such reductions should be accounted for alongside additional acreage that is expected to be brought into production.

i) Increased Pollution

In contrast to the general decreases in pollution that are likely to be associated with improvements in water supply and sanitation, there may have to be some localized increases in soil and groundwater pollution as a result of expanding traditional sewerage systems in low-income areas where these are the only economically feasible systems in the near future.

j) Political Reaction

As suggested earlier, middle- and upper-income households and entrepreneurs experiencing higher user charges as a result of improved overall systems and modified pricing structures are likely to mobilize political opposition to such changes. The importance of such a reaction obviously will depend on local (and possibly provincial or national) conditions. In some cases the possibility of such a reaction will be serious enough to preclude some of the improvements in water supply and sanitation that are highly desirable from an equity point of view.

Chapter VI

PROJECTS IN URBAN HEALTH SERVICES

A. The Role of Health in Development and Its Importance for the Urban Poor

Since World War II, considerable progress has been achieved in the field of health in the developing countries. Average life expectancy at birth has increased from 32 years to 49 years.[1] The incidence of serious epidemics has been reduced significantly. Nevertheless, large differences in levels of health still exist between developed and developing nations. Average life expectancy in the most developed countries is about 70 years, reflecting, in particular, lower infant mortality rates than in the developing countries. Equally distressing are differences in levels of health within countries, both between rural and urban areas and between the urban poor and more affluent urban groups.

Infectious and parasitic diseases, together with malnutrition, constitute the major health problems of developing countries. The World Bank report cited above suggests that fecally-related diseases, airborne diseases and malnutrition account for a majority of the deaths among the poorest people in developing countries, particularly among children below the age of five.[2]

Diseases transmitted by human feces probably are the most widespread diseases in developing countries. Among the most common are intestinal parasitic and infectious diarrheal diseases, together with poliomyelitis, typhoid and cholera. The World Bank report notes that the category "bacillary dysentery and amoebiasis, enteritis, and other diarrheal diseases" was the leading identified cause of death in Paraguay (1971), Guatemala (1970) and El Salvador (1971). In Pakistan (1972), the category "all forms of dysentery" was the most frequently noted communicable disease. A death rate of 3,446 per 100,000 infants as a result of accute diarrheal diseases was reported in a study in the Punjab, India. In Iran, Venezuela and the Arab Republic of Egypt, the monthly

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[1]The World Bank. Health. Sector Policy Paper. Washington, D.C.: World Bank. March 1975. p. 6.

[2]World Bank. Op. cit. p. 11.

incidence of diarrhea among children of pre-school age has been estimated to be between 40 percent and 50 percent.[3]

Airborne diseases spread by the airborne respiratory secretions of infected persons include tuberculosis, pneumonia, diphtheria, bronchitis, whooping cough, meningitis, influenza, measles, small pox and chicken pox. According to governmental figures they accounted for 24 percent of reported deaths in Bolivia in 1971, 29 percent in Guatemala in 1970 and 19 percent in Chile in 1972.[4]

Widespread malnutrition, characteristic of poor areas, contributes to the incidence and severity of health problems. It poses a major threat to children and in some locations in Latin America is a primary cause of death of children under five years of age.[5] Malnutrition also creates serious health problems by contributing to premature births and abnormally low weight at birth. It is a major factor in the incidence of infectious diseases because it impairs normal responses to disease and reduces immunity.

The poor socio-economic conditions under which low-income urban groups exist in the developing areas probably are more important as determinants of levels of health than are health services.

> "Secular increases in health standards in Western Europe and North America were brought about much more by rising living standards and improving socio-economic conditions than by medical care *per se*. For example, the incidence of cholera and typhoid fell in Britain and the United States long before effective methods of treatment were available... In the United States, tuberculosis deaths went down from 200 per 100,000 population in 1900 to 3 per 100,000 in 1967. Yet sanitoria and collapse therapy for treatment of tuberculosis were not widely available until the 1930s -- when the death rate was already down to about 70. Chemotherapy became available only in the 1950s when the rate was below 30."[6]

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[3]World Bank, *Op. cit.* p. 10.

[4]Ibid. p. 11.

[5]Ibid. p. 17.

[6]Ibid. pp. 14-15.

Typically associated with low incomes are high residential densities, which facilitate the spread of communicable diseases, malnutrition and poor water supply and sanitation. Unless these conditions are rectified, curative and other health services, even if undertaken on a large scale, are unlikely to have sustained success.

> "Sophisticated health approaches are inappropriate unless backed up by outreach and preventive services... A medical school program for hospital care of premature infants in Colombia achieved survival rates comparable to those in North America, but 70 percent of the infants discharged from the premature nursery were dead within three months."[7]

Investments in health for the urban poor should be seen as productive investments. The economic costs of ill health include reductions in the availability of labor, reductions in the productivity of employed workers and capital goods, wastage of current resources, particularly nutrients, and, in some cases, unnecessarily slow development of natural resource potential and tourism. Workers suffering from parasitic diseases and malnutrition may simply be incapable of doing a "full day's work". The slum dweller accused of being "lazy" may be achieving about as much as he can; few of his middle income critics could achieve as much on a handful of rice a day in a temperature of 100 degrees Farenheit. The concentration and learning potential of children, similarly, is reduced by poor health.

Better preventive health services can help to reduce the need for expensive periodic curative treatment. Moreover, good health should be considered a basic social goal because of its importance to the realization of the full potential of an individual in all aspects of life.

Although the rural poor often have much more limited access to health services than do urban dwellers, the health conditions of the urban poor are in many ways more alarming. The low-income urban household faces deficits in health services under much more crowded living conditions and is in a situation where the consequences of deficiencies in water and sanitation are much more severe than they are in the lower-density rural areas. In the lowest-income countries of Africa

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[7] World Bank. Op. cit. pp. 22-23.

and Asia, major epidemics still pose a serious threat to urban populations. Calcutta is a central source of cholera for other areas in Asia. Karachi "exports" malaria not only to the rest of Pakistan, but also to other parts of the world.

B. Policy Implications

1. The Relative Emphasis to be Placed on Health Services and Other Measures

Expenditures on improved health services for the urban poor should be integral parts of overall expenditure programs. Presumably, resource conservation, efficiency, equity and humanitarian considerations all will be of concern in trying to achieve at least a satisfactory expenditure pattern. Employment generation, housing, education and other sectors will be competing with health for funding. Within the sectors most directly relevant for health itself -- water supply, sanitation, nutrition, health services and housing -- there will be a need to establish priorities as rationally as possible. From a health point of view, expenditures in other sectors sometimes will be more cost-effective than expenditures on health services. In comparing immunization and sanitation measures against cholera, for example, it has been found that vaccination gives only about 50 percent protection from cholera for four to six months, at a per capita cost of about fifteen cents. Under what have been described as "admittedly favorable" conditions in the Philippines, simple latrines were built at a cost of about one dollar per latrine, excluding self-help labor -- a per capita cost of about fifteen cents. Such latrines, if properly maintained, cut cholera rates by about 60 percent. Even when maintenance and replacement costs are taken into consideration, latrine construction was, in that case, more cost effective than immunization. It was estimated that if the costs of latrines were three times that of immunization, the latrine program would be cheaper after the sixth year.[8]

2. Preventive Versus Curative Health Services

The point was made earlier that curative services are unlikely to have lasting results if preventive measures are not adequate -- especially in the face of rapid rates of low-income urban growth. For a given level of expenditure, the coverage of preventive services can be much greater than that of curative services. Moreover, preventive services

[8] World Bank. Op. cit. p. 31.

make it possible to avoid a great deal of the human suffering that results from the contraction of disease followed by subsequent cure. The case for preventive services for the poor seems overwhelming. It is important to establish a clear policy position to ensure adequate funding and the availability of the professional and semi-professional skills necessary for an adequate preventive program.

3. Training and the Retention of Medical Personnel

Policies need to be established clearly for the training and utilization of the personnel needed for effective health projects. It is likely to be necessary to train large numbers of paramedical personnel to make it possible to deliver preventive and simple remedial services on an adequately large scale, together with a relatively small number of fully trained general practitioners and specialists. It will be important to establish salary levels and medical employment policies that will encourage trained personnel at all levels to remain and work in the areas of greatest need. Many developing countries are losing skilled medical personnel, in particular, to other countries offering higher salaries and/or better working conditions. In many cases it may be wise to accept traditional "medical" practitioners as potential contributors to improved health services and supplement their skills with additional modern training. It may be appropriate also to establish clear policies for the mobilization of military personnel, the educated unemployed and others with appropriate skills to provide paramedical services.

4. Relative Priorities for Rural and Urban Health Services

The need for dramatic improvements in urban health and, in particular, the health of the urban poor, is clear. But it must be remembered that many developing countries have 80 percent or more of their populations in rural areas and those rural populations also have very severe health problems. In some regions those problems are of crisis proportions (for example, where malaria, bilharzia and river blindness still are prevalent). It is therefore important to establish basic strategies and resource allocations for rural and urban health services that reflect national priorities for productivity, equity and the relief of suffering.

5. Public and Private Responsibility for Health Services

In most countries, health services are delivered by both the public and private sectors. The quality of services each sector is able to deliver and the populations they are able to serve usually are quite different. The best of private services generally are available only to middle and upper-income groups. Low-grade private services often are available to at least part of the low-income population but their efficacy varies greatly. Public services, on the other hand, usually are available in principle to all, but their lack of quality (with notable exceptions) usually means that lower-middle and low-income groups are the only clients. In some cities, resources are so limited and health administration so poor that even public services are not only too limited in scale but also economically out of reach of many low-income households (for example, where patients in public hospitals are expected to pay for all of their medicines). In some of those same cities and in others, health facilities exist but there are not sufficient funds for proper staffing and the services they deliver to the poor may be no better than those available in the part of the private sector that already serves low-income groups.

A basic argument for the public provision of health services is that the private market cannot be expected to generate a mix of services or price those services in a way that is desirable from a social point of view. For example, services which restrict the spread of communicable disease yield benefits to an entire community. The individuals afflicted initially should not be expected to pay for the total cost of those services. Moreover, some of the measures necessary to restrict the spread of a disease (for example, malaria control measures) have no specific client other than the community at large against whom charges can be levied.

The relative abilities of the public and private sectors to deliver services to low-income groups will vary greatly from place to place. In each case it is important to apply the same types of productivity, equity and humanitarian criteria that should shape other aspects of health policy to determine the extent to which the private sector is to be encouraged to provide services for the poor.

C. Projects With Potentially High Impact

The expansion of conventional general curative services -- at least in a selective and restrained way -- is likely to be an important part of overall programs designed to improve health services. However, projects associated with this will not be discussed here because they are not specifically for low-income households. It should be noted, however, that in the expansion of such services for the community at large, it often will be desirable to take measures to insure that general curative services are made more readily available to low income groups -- for example, through discriminatory pricing of those services with cross subsidies. Specialized curative services that are particularly relevant for low income groups will be discussed below.

1. Expansion and Upgrading of Preventive Services

Immediate, as well as long-term, benefits for the urban poor are likely to be achievable through improvements in preventive services and those services will, in general, be extendable to all income levels among the poor.

The basic components of preventive-service projects are likely to include regular health surveillance, regular dissemination of information on desirable health measures and the health services available, inoculation and vaccination, instruction in personal hygiene, nutrition, mother and child care and family planning. For the staffing of such services, considerable reliance can be placed on paramedical personnel and training programs should be established to generate an adequate supply of such personnel. Services can be delivered through both clinics and mobile units that visit low-income areas regularly. Because of the scales of service needed in many urban areas, paramedical staff can be trained and used efficiently in a variety of relatively specialized areas of preventive medicine -- for example, inoculation and vaccination, personal hygiene, nutrition, mother and child care and family planning. Specialization in these fields at the paramedical level may help to simplify and shorten training periods.

China provides one of the most dramatic instances of the effective development of preventive services.[9] During the 1930s and 1940s in China the leading causes of death were

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[9] The material on the Chinese experience is drawn from an article by Victor M. Sidel and Ruth Sidel. "The Delivery of Medical Care in China", Scientific American, Vol 230, No. 4, April 1974. pp. 19-27.

infectious diseases, parasitic diseases and malnutrition. Today, at least in the large cities such as Shanghai, the leading causes of death are similar to those in the developed nations of the west -- cancer, stroke and heart disease. In 1949 the population of China was estimated to be 540 million, about 15 percent of which was urban. In all of China there were then approximately 40,000 western style physicians and perhaps 90,000 beds in western style hospitals -- a gross ratio of one physician to 13,000 potential patients and one bed to every six thousand patients. Most of these resources were concentrated in a few cities and even in those cities most of the population depended on practitioners of traditional Chinese medicine for whatever care they received. In 1949 China introduced a dual program to confront this problem. One part of the program was focused on mass movements aimed primarily at improving public health and sanitation and enlistment of the practitioners of traditional medicine in overall health services. The second part of the program focused on the training of large numbers of new health workers, with special concern for "middle level" health workers and the establishment of "centers of excellence". These centers were urban training facilities that were expected to pioneer new medical techniques and provide a flow of skilled personnel to areas of special need. In the training component of the program, students who had reached the intermediate level of the secondary school system were sent to "middle medical schools" for a three-year course which prepared them to work as "assistant doctors". The middle medical schools also trained nurses, midwives, technicians and pharmacists. There was expansion also in the existing program of "higher" medical education. The period of study at the higher medical schools was five or six years, with students recruited from those who had completed the senior level of secondary school. The most advanced form of medical training was provided at the China Medical College in Peking where there was an eight-year curriculum aimed at the development of teachers and research personnel.

Even though this was an ambitious and relatively successful program (by 1965 it had produced more than 100,000 new physicians and some 170,000 assistant doctors), it was not sufficient to cope with the growth in urban population (which by 1965 had reached approximately 125,000,000) or redress the imbalances between rural and urban areas. In 1965 an additional thrust was initiated to achieve greater equity in health services for the rural population.

At the same time, improvements in services were continued in urban centers, following a pattern of decentralization similar to that utilized for rural areas. In Peking proper, the urban core of a metropolitan region which includes a large rural population, each of the nine urban districts has an average population of 400,000. The city's municipal medical services include four specialized research hospitals and twenty-three

general hospitals (with ten of the general hospitals having more than 500 beds). Each of the nine districts is subdivided into "neighborhoods". One such neighborhood (Feng Sheng) has a population of 53,000. There is one municipal hospital in the West District, to which Feng Sheng belongs, where Feng Sheng neighborhood patients are sent if care at one of the specialized hospitals is not required. Within the Feng Sheng neighborhood itself, the only hospital-like facility is exclusively for out-patient care. The staff of ninety in that facility includes seven western trained physicians and twenty practitioners of traditional medicine, thirty-one nurses and technicians, eighteen administrative and other personnel and fourteen trainees. The public health department is responsible for supervising the urban equivalent of rural "production-team aid stations". A production-team aid station is staffed by "barefoot doctors", midwives and health aides. A "barefoot doctor" is responsible for treating "light diseases" -- minor injuries, gastro-intestinal illnesses, colds and bronchitis; he also administers immunization against diptheria, tetanus whooping cough, measles, small pox, poliomyelitis, encephalitis and meningococcal meningitis. (In a rural area he also supervises the collection, treatment and storage of human excreta for use as fertilizer.) Actual work may be overseen by health aides but the responsibility is the barefoot doctor's, as are continuing campaigns against pests such as flies, fleas, cockroaches and snails. (In a rural area, the barefoot doctor divides his time about equally between farm work and service at the health station.) In Feng Sheng the public health department supervises twenty-five health stations operated by "lane committees". (There are 132 lanes.) Each of the twenty-five lane committees therefore represents the residents of five or six lanes, or some 400 families. Each lane committee health station is staffed morning and afternoon by local housewives who have the title Red Medical Worker. A Red Medical Worker learns how to take a medical history and how to conduct simple physical examinations, including such routines as measuring blood pressure; she is instructed in the uses of a number of drugs, both western and traditional, and she is likely to have learned the techniques of acupuncture and intramuscular and subcutaneous injection. A physician from the neighborhood medical facility provides support services for a health station. At the health station, much of the emphasis is on preventive medicine, in particular immunization against infectious diseases.

Although China is far from solving its medical problems, the progress that has been made is impressive. The effectiveness of the urban effort in birth control, for example, is provided by the records of one Lane Committee health station in the city of Hang Chow. Data for 1971 from a sample of 369 married couples with wives of child-bearing age indicated that 24 percent of the women and 3 percent of the men had been permanently sterilized; another 27 percent of the women and 19

percent of the men regularly used contraceptives; the crude annual birth rate for the population served by the Lane Committee health station was a remarkably low 8 per 1,000. Birth statistics for Shanghai in 1972 are also impressive; the reported rate for the city proper was 6.4 per 1,000 and for the entire independent municipality 10.6 per 1,000. (In 1972 the lowest rate in any of the fifty states in the United States was 12.6 per 1,000 in Maryland.) The 1972 crude death rate for Shanghai was reported as being 5.6 per 1,000. If the birth and death rates are correct, the city's natural growth rate is less than a tenth of one percent -- one of the lowest natural growth rates in any urban area in the world. Regular exercise is given an important place in urban preventive medicine also; accepted by traditional Chinese medicine as something more than simple bodybuilding, it is used as part of both physiological and psychological therapy.

2. Expansion of Simple Curative Services

Expanded curative services to reach the urban poor may be provided through "specialized" facilities or in conjunction with preventive services. Appropriately trained staff can treat minor injuries, gastro-intentinal problems, colds, bronchitis and similar ailments that do not require highly specialized hospital facilities. Staff members can acquire the skills necessary for this relatively rapidly. An essential feature of a system incorporating "specialized" facilities of this kind is a referral process by which rudimentary curative centers can refer patients to more sophisticated health centers.

3. Expansion of Specialized Curative Services That Are Especially Relevant for the Poor

In addition to the limited expansion of general curative services for the community-at-large, there are many urban areas in which it will be necessary to give a fairly high priority to the expansion of specialized curative services to deal with illnesses to which low-income households are particularly prone -- tuberculosis, venereal disease, cholera, small pox, typhoid, leprosy, pneumonia, diphtheria, meningitis and tetnus, among others. Treatments for some of these illnesses, such as cholera, have been simplified greatly in recent years, but a number of the curative services that will be important are likely to require relatively capital-intensive technologies and the services of skilled medical professionals.

4. Environmental Measures

In addition to the upgrading of water supply and general environmental sanitation, cities in some parts of the developing world will require special environmental measures to combat vector-borne diseases such as malaria, sleeping sickness, bilharzia and river blindness. Some of these are prevalent chiefly in rural areas but some of them are still major problems in urban centers such as Karachi (where malaria is still prevalent) and Guayaquil. Current efforts to control malaria in Karachi, for example, include improvements in drainage and the aerial spraying of DDT.

5. Potential Impacts

Health projects of the types described can be designed to reach all of the varieties of poverty group discussed earlier. However, for either preventive or curative services to reach the lowest-income households on a sustained basis, education and the proper dissemination of information are likely to be essential project components. Flows of information must be in two directions -- with the poor properly informed of the services available and procedures for taking advantage of those services and with service agencies regularly and properly informed of the health of their target populations. These points will be discussed further in the next section, which deals with the institutional aspects of health projects.

D. Institutional Aspects

1. Organization and Staffing

In many cases it will be necessary to make a number of organizational changes in the administration of health services in order to achieve a much greater emphasis for preventive services and greatly extended coverage. Moreover, it usually will not be sufficient to increase the supply of services; at the same time, it is essential to ensure that low-income groups take advantage of expanded services. To help to achieve this, it often will be necessary to bring services closer to the user. The measures by which this might be achieved include the decentralization of health administration, wide geographic dispersal of health service centers and the provision of mobile services which make regular visits to low-income areas. To help to get services closer to the user in a cultural sense as well as a geographical sense, it often will be useful to take advantage of the existance of traditional practitioners of medicine -- herbalists, naturopaths, etc. who already have the confidence of low-income groups.

The organizational changes undertaken should help to identify health problems in their early stages; they should also be directed towards motivating all household members to take appropriate preventive measures themselves and seek treatment early after the onset of a problem.

To achieve an appropriate reorientation and extended coverage it will be necessary to expand greatly the staff responsible for the delivery of preventive services, in particular. This may mean the training of large numbers of paramedical personnel.

The community health worker should be stationed in (and, preferably, reside in) the area he serves. He should be integrated into the local social structure so that he can identify disease without waiting for contacts to be initiated. Wherever possible he should make periodic house visits. He may be able to enlist the support of local political, social or religious organizations to maintain a continual surveillance of health conditions. One study suggests the desirability of there being community involvement in selecting basic health workers who, in many cases, would also have other sources of employment. That study suggests that the health worker:

> "... would receive brief training in treating some of the most common diseases. Training in clinical skills would be very limited; complicated cases would have to be referred to health centers, district hospitals or possibly traditional healers. The limitation on the curative skills of the health worker would be desirable to insure adequate time for environmental and preventive work. The worker would be taught the fundamentals of maternal and child care, of delivery, and of monitoring the growth of young children, particularly for nutritional problems. The worker would organize mother craft sessions for feeding malnourished children and the nutrition education of mothers, provide immunizations, and be responsible for encouraging family planning."
>
> "The worker would also be responsible for organizing community efforts in environmental health, water supply and sanitation."[10]

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[10] World Bank. Op. cit. pp. 43-44.

Under a system emphasizing the role of basic health workers of this type, it should be possible to achieve an appropriate level of demand for services as well as an adequate supply. The activities of basic health workers could be supervised by a series of more specialized professionals who, at each level in the hierarchy, are capable of delivering more sophisticated services. To use such a staffing strategy effectively it is likely to be necessary to establish procedures and drugs that are as simple to use and as inexpensive as possible. One of the criteria for choosing procedures or drugs could be that they would generally improve health conditions even if they were not administered optimally.

2. Financing

As suggested earlier, it is neither feasible nor appropriate to fund expanded health services entirely through user charges. A large part of the funding will have to come from levies on the community at large. To make whatever funds are available more effective in achieving extended coverage it may be necessary to discourage directly the construction of new facilities for sophisticated curative services. It usually will be desirable also to subject all existing and proposed health services to thorough cost-effectiveness analyses. The World Bank study suggests that too much is spent on in-patient services compared with out-patient services in many situations presently. Through innovations in treatment it may also be possible to reduce the length of stay of in-patients. There may be opportunities for achieving reductions in the wastage of drugs, improvements in the maintenance of buildings and improvements in the maintenance and operation of equipment.

On the subject of pricing, the World Bank study suggests that:

> "The system of pricing government health services is particularly important, not only for mobilizing funds but also for resource allocation in the health sector. It is important to devise methods for discouraging malingerers and those inclined to use sophisticated medical facilities irrespective of need. A policy of full-cost pricing of health services would create substantial financial incentives for people to avoid hospitals (particularly in-patient services), and to rely instead on less expensive visits to out-patient facilities and local health posts. Such a scheme would also mobilize some funds for the government to finance activities for which it cannot charge users. It is tempting to introduce

different charges for the rich and the poor, if at all administratively feasible, but care should be taken that this does not encourage the expansion of higher revenue-earning services for the rich rather than services for the poor."[11]

3. Participant Mobilization

If improvements in health services are to have a sustained beneficial impact, they must be understood and supported by the members of low-income households. Communal environmental sanitation, personal hygiene, alertness to the onset of a health problem and the seeking of early treatment must become a part of daily household routine. This is likely to require, among other things, promotion of health services and sound household health practices in work places, gathering places such as markets, community service centers and schools. Substantial use should be made of mass media for health promotion. Local community leaders, together with traditional healers, should be engaged as fully as possible in regular health surveillance and the dissemination of information on health.

E. Complementary Actions That May Be Necessary

Perhaps the most important single type of complementary action to reinforce improvements in health services is the achievement of increased employment and productivity. In many situations in the developing countries, the "health" problem is very largely an income problem. As noted earlier, improvements in health in the developed countries often were associated with general improvements in socio-economic conditions and preceded improvements in health service technology.

A second obviously necessary type of complementary action is the upgrading of water supply and environmental sanitation -- which, for some purposes, will be more cost-effective than improvements in health services themselves.

A somewhat less obvious but, nevertheless, important type of action will be the improvement of communications and transportation for the poor to provide better access to upgraded health services. In many low-income areas at present deficits in communications and/or transportation result in delays in gaining access to appropriate services that are very damaging, or even fatal. Things that are taken for granted

[11] World Bank. Op. cit. p. 42.

in the developed world -- for example, making a telephone call for an ambulance -- are simply impossible. The provision of public telephones in community service centers, the expansion of ambulance services and the upgrading of general transportation all are likely to be important.

The structuring of overall land use obviously should make proper provisions for the location of local as well as area-wide health facilities and every effort should be made to achieve densities which will help to reduce the incidence of airborne diseases. Very often, however, high densities will be inevitable in the near future in the low-income areas and this serves to re-emphasize the importance of adequate environmental sanitation.

Because malnutrition is such a basic cause of many health problems and increases the severity of many illnesses, improvements in agriculture and food distribution will be important complementary measures to increase the supply of essential food stuffs for the poor.

F. Other Likely Impacts

Because health affects so many aspects of life, the impact of health projects for the poor are likely to extend well beyond low-income groups. Improvements in the health of low-income households are likely to result in greatly reduced health hazards for all other members of the community. The increases in productivity associated with improvements in health are likely to result in higher total urban output; they are likely to result also in higher profits and incomes for the middle and upper income groups who employ low-income workers. Public revenues are likely to be increased indirectly, through the impact of improved health on corporate profits and land values.

Apart from the increased public expenditures necessary to improve services, there are likely to be very few disbenefits. Perhaps the most marked will be a decreased availability of public health services for middle and upper income households, but such households often will be able to substitute private services for public services and, as noted earlier, may in any case be relying chiefly on private services already.

Chapter VII

PROJECTS IN URBAN EDUCATION

A. The Role of Education in Development and Its Importance for the Urban Poor

Much has been done in recent years to expand educational systems in the developing countries. During the ten years from 1960 to 1970 school enrollment at all levels in the developing world (excluding the People's Republic of China) increased dramatically from about 140 million students to 250 million, an increase of about 80 percent.[1] It is now common for governments to spend 20 percent or more of public budgets, often up to 5 percent of GNP, to finance educational programs. In view of the enormous development priorities of other sectors, however, economists and education planners have begun to question the high levels of resources committed to education. Many governments are seeking ways to reduce the costs of education and broaden its impacts.

The most critical issue in education is the massive scale of the problem in many of the world's poorest countries and the lack of adequate resources to deal with it. UNESCO has estimated that the number of adult illiterates will increase in absolute terms in the developing countries during the next decade to about 865 million.[2] Thus, the first challenge of educational systems will be to increase their coverage relative to their costs.

Even in countries where primary school enrollment and literacy are relatively widespread, education programs are often characterized by a serious lack of relevance to current economic and social needs. In many cases educated graduates from primary and secondary schools are unable to find productive employment. The problem of semi-educated unemployed youths has reached striking proportions in some countries which otherwise appear to be achieving considerable success in education.

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[1] International Bank for Reconstruction and Development. Education Sector Working Paper, (Washington, D.C.: I.B.R.D., 1975), p.13.

[2] Ibid., p. 30

One of the most notable examples of such a country is Sri Lanka.[3] In statistical terms the growth of the educational system has been impressive. By 1970 education expenditures accounted for about 5 percent of GNP. Nevertheless, the system was failing to respond to a number of major national development needs. The education system had become a narrow-ended funnel for channeling graduates into a relatively limited amount of formal sector employment. Large numbers of dropouts and primary and secondary school leavers had not been provided with educational backgrounds suitable for employment as farmers or manual workers.

The system was channelling young people into the labor market on the basis of their abilities to achieve in various levels of schooling. Learning skills useful for national development was secondary as students competed for "good jobs". The negative effects on national productivity and growth as well as on social equity are clear. Many potentially productive young people remained without useful skills; those who achieved "good jobs" viewed them as an entitlement of their situation rather than an opportunity for productive employment.

The poor were far less likely to pass through the system. Large percentages of poor children could not afford education or could not compete with more culturally advantaged affluent students. Poorer dropouts and many primary and secondary school leavers were not prepared for employment outside the modern sector. They could only swell the ranks of the urban unemployed and the politically discontented. The system thus tended to perpetuate inequalities in income and the duality of the economy and employment structure.

A similar situation has been observed in Kenya where the unemployment of youth is also a serious problem.[4] Overall progress in education has been considerable, with primary enrollment rising by 60 percent between 1963 and 1970. This quantitative success, while impressive, overshadows structural and qualitative weaknesses. Only 14 percent of primary school leavers are able to enter government secondary schools. Nevertheless, primary education is almost exclusively oriented toward selection for secondary school. Students are prepared mentally for non-rural modern-sector employment in an economy which has failed to produce enough urban jobs. This tendency has been exacerbated by manpower planners who were concerned, until recently, with producing skilled Africans for the high-level jobs occupied by expatriates.

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[3] International Labour Organization. Matching Employment Opportunities and Expectations, A Programme of Action for Ceylon, (Geneva: Imprimeries Populaires, 1972), pp. 113-147.

[4] International Labour Organization. Employment Incomes and Equity, A Strategy for Increasing Productive Employment in Kenya, (Geneva: Imprimeries Populaires, 1972), pp. 233-252.

In recent years there have been numerous efforts to rectify the inequalities in education. Many of these efforts have understandably focused on the differences between rural and urban areas because of the magnitude of existing inequities. They tend, however, to underemphasize the inequalities in education that exist within urban areas. For example, an appraisal of squatter settlements in Lusaka, Zambia, showed that there was only one school in all of the city's squatter settlements. Fifty percent of the capital city's population was virtually unserviced. In the squatter areas, primary school enrollment was only 36 percent against 90 percent in the rest of the capital.[5] Similar conditions have been noted in many other cities in the developing world.

B. Policy Implications

The educational systems in many developing countries often do not achieve their qualitative or quantitative objectives. Existing resources important to the success of educational programs are being utilized inefficiently. The potential resources which exist throughout many countries remain untapped because of traditional approaches to curricula and to the administration and financing of education. The development of high-impact projects in urban education clearly has many implications for changes in policies in each of these areas.

The lack of meaninful curricula is a basic problem in the educational systems of most developing countries. Rote learning limits the development of students' creativity and imagination. As noted above, broad curriculum reform is a necessary complement to programs specifically for the urban poor. This usually requires new materials and changes in teachers' attitudes and methods.

Curricula in primary schools are heavily weighted to favor students entering secondary schools; examinations based solely on achievement become a critical and often unfair judge of a child's future. It is therefore important to consider changes which will produce a broader, more usable education for those who will have to work outside of the modern sector.

In many developing countries, responsibility for the administration of educational programs is often dispersed throughout many ministries with little if any coordination. In local communities this lack of coordination among service providers is

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[5] I.B.R.D., Op. cit., p. 33.

often exacerbated by the shortage of middle level managers, the inordinate growth of political influence and power among teachers, and the almost complete lack of effective parental participation in the education process. The resulting confusion among politicians, educators and parents about educational policies and objectives frequently results in chaos. Changes in administrative policy should be considered which provide decentralized local community mechanisms for linking institutions, administrators, teachers and parents as active agents in designing and implementing educational programs which are relevant to local needs.

The financing of education throughout the developing world is frequently regressive and calls for institutional, as well as policy, changes which will be discussed later.

2. Rural Education

Improved rural efforts in education may have some impact on urban areas. In the past, rural school leavers have migrated in large numbers in search of urban employment. The presence of better schools and teachers in urban areas has itself been cited as an important cause of rural-urban migration. It is now hoped that rural vocational preparation which is more relevant to the needs of the rural poor will help to limit this tendency. However, the almost universal aspiration for higher level education and status makes the ultimate effects of these efforts on rural-urban migration difficult to assess.

Many current efforts in education are being directed toward the improvement of rural systems. A number of countries are experimenting with ways to expand rural education and to make it more relevant to the needs of farmers' children. Experiments are being undertaken with non-formal vocational training, adult literacy and mass media delivery systems.

3. The Need to Rectify Imbalances in Labor Markets

There is some tendency to blame education systems for too many of the problems of developing countries. While it is true that unemployment, ill health and urban migration can be attributed at least in part to deficiencies in education, these problems often originate also in basic structural imbalances. Effective change must therefore include complementary reforms in a number of other sectors.

Urban elites pursue higher levels of education because of large potential private gains. Raising the productivity and remuneration of lower level employment could remove some of the private incentives for excessive education. This is a very important consideration which is basic, not only to the success of education strategies for the poor, but also to the success of the types of industrial and commercial development outlines in Chapter IV. The policy implications of these two chapters are closely interrelated.

C. Projects in Urban Education with Potentially High Impact

Policy measures of the kinds listed above can have beneficial impacts on the urban poor. They can also affect large numbers of the rural poor and even middle- and upper-income groups. The discussion here will be limited primarily to types of education project which are directly related to the development efforts of the urban poor.

1. Non-Formal Education Programs in Nutrition, Health, Sanitation, Family Planning and Household Management

The importance of incorporating educational components in health programs was referred to in Chapter IV. Non-formal education is potentially a very important component of health and family planning programs in developing countries. People need basic information about the care and feeding of children, the delivery of babies, the preparation of food, disease prevention and treatment, the protection of water and the disposal of human and other wastes. Community education campaigns concerned with mass vaccination, environmental sanitation, rat extermination, and other related programs can help to develop new attitudes about health and encourage individuals to improve health standards. Informal education in household management and budgeting can help both new and established urban householders to use their meager incomes as strategically as possible.

Many health programs do not take full advantage of the potential of non-formal education. It can be an especially important component of health service delivery programs for pre-natal and lactating mothers and for recent in-migrants who need orientation to urban health and sanitation requirements.

The most recent endeavors in large-scale health education have involved health "promoters" who make family visits, especially to counsel expecting and new mothers on child care and nutrition. Radio and other media have also been used effectively.

Urban health centers have been important focal points of community health education. One center in Chetla, in Calcutta, organized mass campaigns in smallpox vaccination, cholera prevention, environmental sanitation and family planning. It also provided consultation on malnutrition and education services to school children. This pattern of community involvement through education linked with the provision of health services is becoming increasingly common.

Birth control is an intensely emotional subject in most countries; as such it is dependent on clear communications. Old attitudes must often be changed; contraception techniques must be learned. This requires a well-planned, non-formal education component in family planning programs. Family planning education is likely to be especially difficult where government agencies are not available as sponsors, although most countries have at least some form of voluntary organization active in family planning. Family planning information is often most profitably presented in groups when peer group reactions can be important in changing cultural attitudes. Personal contact by para-professionals (often linked to health education) has also proven quite effective. Indian experience has shown that clinics are relatively ineffective in the dissemination of family planning information because of the lack of communication with the poorest elements of the population.

Women who have recently given birth are frequently the most receptive to family planning information. In some cultures it is especially important to reach men also because of the dominance of men in decisions concerning family size. Family planning messages often can be directed usefully toward community leaders whose acceptance will tend to legitimize programs.

2. Vocational Education

The lack of adequate vocational education is a serious problem for a number of urban poverty groups. More economically secure and potentially mobile youths who have received some academic education must frequently be supported for long periods by relatives while they search for "suitable" employment. They would be better served by more relevant, employment-related formal education. They may also profit from more structured pre-vocational training.

The less educated, more vulnerable residents of squatter settlements who must seek any available marginal employment need programs to upgrade their skills and enable them to find more permanent and productive jobs. The most disadvantaged of the urban poor are easily discouraged with lengthy study schedules. Classroom situations have proven to be generally inappropriate for teaching the kinds of basic skills needed by

these groups. On-the-job training and work/study schedules are more appropriate. Such programs can combine vocational training with literacy and other basic education. Successful programs tend to provide counseling and supportive services to maintain interest and participation.

One of the most frequent criticisms of vocational education is that it rarely reaches the poorest segments of the urban poor. Too often it is oriented primarily to the modern sector. Too little training is provided for employment in small-scale manufacturing, commerce and services. At least three factors probably account for much of this bias. First, the higher wages available in the modern sector support a market for modern-sector training even though that market is based partly on unrealistic expectations because of the limited number of jobs available in the modern sector. Second, much of the most effective training that is provided by enterprises for their own employees is provided by enterprises that are already relatively well-established and they tend to be larger-scale modern enterprises. Third, the kinds of training needed for smaller-scale enterprises, including those in the "informal" sectors still are not well defined.

Past experience with training suggests that purely governmental programs oriented to small-scale entrepreneurs and workers are likely to be effective in only a few cases. At the same time, however, it is unlikely larger-scale enterprises who do conduct successful training for their own workers will be interested in providing training for others outside their enterprises unless they have some special incentive for doing so. The possibility of attacking this problem on at least three fronts should be explored: 1) Governmental training through "consortia" of small enterprises formed specifically for training, or through existing cooperatives, so that potential employers have a role in shaping the training programs; 2) Governmental training in which the services of skilled staff from existing larger enterprises are used to help achieve appropriate content and quality in training; those services could be paid for by hiring the individuals to give evening and weekend classes outside their responsibilities to the firms they work for or by paying their firms a fee for their services; and 3) Paying larger-scale enterprises which already have their own training programs to provide training for small enterprises that are potential (or even existing) subcontractors to the larger firms.

Vocational training projects are likely to be of value for existing and potential employees in all of the types of poverty groups identified in Chapter II, including those households that regard their present residential locations as only temporary.

3. Literacy Programs

Literacy programs have been developed in a number of countries to supplement the efforts of formal schooling systems. The traditional definition of literacy has been amended somewhat to permit the use of new approaches. Traditional literacy -- having essential skills in reading, writing and arithmetic -- has been replaced with the concepts of "functional literacy" -- having the reading and writing skills necessary to function within a person's culture -- and "work-oriented literacy" -- having the necessary skills for acquiring basic work-related information.

Wide-ranging literacy is clearly essential for effective social change of many kinds. However, individual motivation is necessary for the success of social programs. Wide participation and continuance in literacy programs can best be assured when individual motivation is recognized. A number of work-oriented literacy programs have met with failure because they have failed to recognize this.

The urbanization process provides a useful opportunity for literacy programs. New in-migrants often are more highly motivated for learning; literacy programs can be useful elements of vocational training or training designed to orient new households to the urban area. Classes can be located in factories and other job sites as well as in community and religious buildings. Some significant attempts have also used radio, television, newspapers and other media both to promote literacy classes and as a medium of instruction.

Projects in literacy are likely to be of benefit to virtually all types of poverty group, including those that are not yet consolidating themselves in a particular locality but are instead "in transit" or "externally oriented".

4. Education in Civic Participation

Education in civic participation can include a wide range of types of non-formal education designed to bring the urban poor directly into productive community participation. Individuals can be educated to participate in the political process. They can be provided with information on community programs.

In staging areas newly established households can be provided with civic information along with information on basic health care and employment opportunities. More permanent and mobile urban residents need information on a wide range of possible community improvement opportunities. Education can be provided in cooperative techniques, self-help housing construction, family budgeting and the use of financial institutions, consumer information, public safety information and other necessary information for urban life.

Substantial education components are necessary to assure full community participation in the housing, finance and other projects discussed in these Guidelines.

There are many media channels available for community education. These include household visits, community and religious meetings, advertisements in public places and mass media.

A program for the dissemination of information relevant for households in newly-forming low-income settlements is being developed now by Pakistan T.V. in conjunction with the first metroville (basic urban settlement) project in Karachi. Televised literacy courses are to be offered for adults, together with programs dealing with subjects such as employment opportunities, public health services, personal hygiene, communal hygiene and sanitation, precautions against infectious diseases, procedures for acquiring residential plots and house construction.

Projects in education in civic participation can be useful for most potential target groups but their effectiveness will depend partly upon the territorial orientation of households. They are likely to be most effective for those that are "consolidating", less so for those that are "in transit" or "externally oriented". Their specific content should be tailored as fully as possible to the needs of specific groups -- with individual programs for those that have no property rights and those that are tenants or owners, individual programs for those that have access to formal credit mechanisms and those that do not, and so on. The feasibility of finely-differentiated programs will depend, of course, on the resources available in individual cases.

D. Institutional Aspects

For many developing countries the paramount event of the last 20 years has been the achievement of political independence. The expectations created by such transcendent events are still seeking expression and fulfillment today in the long-term processes of recasting basic policies and programs.

The rapid and dramatic post-independence changes which were expected to take place in raising standards of living for national populations were in large measure overestimated. The realities of "catching up" and achieving rapid change and development are only now being understood in many developing nations. Problems of equitable distribution of new assets and power which often were overlooked in the drive toward development are now coming clearly into focus. The momentum for modernization which was the primary focus of national leadership has often precluded the development of models and programs which reflect socio-economic realities.

This has been particularly true in the field of education where modern, capital-intensive economic development policies have not only provided limited jobs for a relatively small portion of the national labor force, but also have frequently required the education and training of small elite working classes for such jobs.

Furthermore, even as these problems are identified, others appear. Limited financing often makes it difficult to provide staff in sufficient numbers or of sufficient quality to meet real needs. Non-formal education programs which seek to create richer varieties of learning opportunities in addition to those available in existing graded education systems are frequently fragmented and administered by a variety of agencies and organizations without proper coordination, as noted earlier.

In order to deal with the dilemma posed by these problems, the following institutional changes should be considered: a) administrative reform; b) changes in the financing of education; c) a higher priority for the upgrading of programs and services relative to expenditures on physical facilities; and d) greater community participation.

a) Administrative Reforms

There are a number of possibilities for changes in the structure of educational systems. The length and number of cycles in the formal educational system can be varied to serve different needs for schooling. For example, secondary education can be divided into two cycles, the first of which would assure a minimum of prevocational learning for students not continuing to higher levels.

Even some of the countries which spend large percentages of their public budget on education have less than satisfactory results. In Peru, for example, teachers have traditionally had a disproportionate amount of political power to support wage demands. Because education still represents the best hope for escape from poverty of the majority of the population, there is little popular support for reducing educational expenditures in spite of a history of poor performance and strikes by teachers. One of the changes needed in such cases is administrative reform designed to decentralize the control of educational systems and increase the power of parents and local communities. At the same time, there must be an effort to help teachers become active agents in a reformed educational process.

b) Changes in the Financing of Education

The financing of education is of major importance in relation to equity. As noted earlier, subsidies often are used to benefit upper- and middle-class urban groups more than to increase the participation of less privileged groups. In countries where secondary and university education is subsidized, the regressive impact of education is accentuated.

The argument for subsidizing education is twofold. First, education produces certain external gains for society which are beyond private gains. Second, education can be used as an instrument to achieve a better distribution of future income. The first of these arguments has some merit, but private returns from education in developing countries (in the form of future incomes) are usually far beyond social gains. The second argument, while plausible, is not always demonstrated in practice.

Because the private gains from education are high and because they tend to accrue to higher income groups, there is some basis for increasing the fees paid by middle- and upper-income recipients of educational benefits. This is especially true of more costly and less distributive secondary and university systems. Resources could thus be made available for a wider expansion of basic education services.

c) Program and Service Emphasis

Education in the developing countries is frequently perceived in terms of physical facilities. Consequently, the needs of low-income groups for even the most minimal educational services are often postponed or put off until monies are available and budgeted to construct such facilities.

Educational planners, operating with extremely limited resources, should reevaluate the role of standard physical facilities in education. While the construction of such facilities may be a legitimate long-term goal, many of the educational needs of low-income people can be met through effective staffing and programming in "borrowed" facilities.

The limited resources which are normally available, when oriented toward increasing program and staffing quality, can dramatically increase the quality and coverage of educational services, both formal and non-formal.

Closer links between formal, non-formal and informal educational programs and services should also be developed. The use of non-formal and informal delivery systems at all levels -- pre-school through lower and upper secondary levels -- may prove more cost effective. Greater utilization of

non-professional educators such as the military, business leadership, and the educated unemployed should be considered in education program design and implementation.

d) Greater Community Participation

Fuller utilization and involvement of community leadership as well as members of low-income communities should be considered to provide assistance for relevant areas such as teaching job skills, health, household finances and budgeting, etc. Increased usage of relevant members of the community can greatly increase acceptance of programs and expand the potential impact of the limited resources available.

E. Complementary Actions

1. Provision of Essential Infrastructure

National and local education facilities and programs will require continuous and properly scheduled provision of essential infrastructure such as power, water supply and sanitation, and transportation.

2. Work and Education Systems Coordination

Greater coordination will be required between work and educational scheduling to facilitate upgrading for adults and children who must work to support their families to obtain at least part-time educations. Points of intervention and intervention strategies should be flexible and adapted to local situations. Factories, shops, schools, markets, etc., might provide suitable locations for such programs.

3. Redefinition of Job and Skill Requirements

National and local programs of job analysis and redefinition should be undertaken in both the public and private sectors in order to redefine legitimate roles for the urban poor with limited skills and education. Apart from providing new employment opportunities for low-income people, such programs would free skilled workers and professionals to concentrate on those functions appropriate to their levels of training and education.

4. Support of Relevant Industries

Economic assistance both direct and indirect should be given to the school supply industries at all levels. Particular emphasis might be given to the development of small-scale cottage industries run by low-income residents.

5. Health and Nutrition Programs

Health and nutrition programs should be integrated into educational projects in order to facilitate full participation and maximum educational benefit for the target population. Major contributions to standard education programs might be made through school breakfast and lunch programs and health examinations, as well as through increased education of parents in the matters of diet, food handling and rudimentary home economics. An unquantified but often large part of investment in primary education, in particular, is wasted because so many children are undernourished and persistently weakened with minor dysentery and other illnesses that they simply cannot concentrate on or benefit fully from the services provided.

6. Land Use Planning and Management

Appropriate sites should be provided throughout low-income communities for basic education facilities as well as for future expansion and upgrading. Particular emphasis should be placed on community participation in the selection process and in the process of site clearance and the relocation of families, should any be required.

7. Provision of Transportation

Projects to provide low-income groups with effective and efficient access to educational programs and facilities should be developed. Such projects should cover all age groups and the fullest possible spectrum of educational programs, formal, non-formal and informal.

F. Other Likely Impacts

Formal and non-formal education projects for the urban poor will have impacts which extend well beyond the urban poverty groups for whom the projects are designed. Some of these projects are likely to have positive impacts, others negative impacts.

1. Benefits

a) Improved Productivity and Incomes

Successful education projects for the urban poor can markedly increase both their human and fiscal capital assets by increasing their ability to achieve functionality in an urban environment.

b) Lower Unit Costs for Urban Services

Effective education projects can result in a more effective utilization and maintenance of existing and new urban services, thereby reducing unit costs of such services.

c) Improved Health and Welfare

Improved health, child care and family planning are likely to result from high-impact education projects. Furthermore, increases in the levels of health and welfare of low-income groups can significantly reduce health hazards for other members of the urban population.

d) Higher Public Revenues

Increased public revenues are likely to result from the increases in productivity which are possible through education projects benefiting the urban poor.

e) Higher Profits for Middle- and Upper-Income Entrepreneurs

Employment opportunities which can be made available to low-income persons having at least the minimum levels of skills and education necessary to function in the urban economy can result in increased profits for middle- and upper-income entrepreneurs as a result of increased consumption.

f) Reduced Balance of Payments Problems

Increases in the use of labor-intensive technologies which can result through the upgrading of the skills of the low-income labor force can significantly reduce national balance-of-payment problems.

g) Improved Citizen Participation

The participation of low-income groups in the urban decision-making processes and programs which affect their lives can be markedly enhanced by properly designed programs in non-formal education of the types suggested, literacy programs and vocational training, as well as programs concerned explicitly with civic participation.

2. Disbenefits

a) Reduced Resources for Conventional Education

A focusing of education resources on the urban poor will require a relative diminution of efforts aimed at other groups

and conventional programs; this may, among other things, generate negative political reactions from middle- and upper-income groups.

b) Greater Political Mobilization of the Poor

Increases in the general levels of education and skills of the urban poor and greater participation in urban decision-making processes may be objected to by those groups who have normally controlled such processes. While the overall results of a realignment of power, etc., may be considered beneficial over the long term, immediate reaction by segments of a community may be quite negative. Resistance may well develop from those groups who must pay the costs of increases in educational opportunities which weaken their own political dominance.

Chapter VIII

PROJECTS IN HOUSING

A. The Role of Housing in Development and Its Importance for the Urban Poor

In addition to its obvious importance as shelter, housing fulfills important social, educational and economic functions. It provides a physical base for family activities and, particularly in the case of recent in-migrants to the city, a personal "territory" from which the family can gradually extend its involvement in urban affairs. Very often it is also a vital expression of social status.

Experience in both the developing and the "developed" areas has indicated that it is important to consider not only the physical house in housing projects, but also the entire household environment -- including the location of housing areas relative to job opportunities, the availability of water and sanitation, the transportation services available, the health and education services available within each residential area and a variety of other services and facilities to which households should have access. Invariably, therefore, analyses of "housing" projects must be intersectoral if they are to be sound.

If a major aim is to help to fulfill the needs of households (rather than merely to build "housing") it will usually be essential to consider alternative approaches to "housing". If the overwhelming needs of low-income families in a particular area are employment, safe drinking water, at least minimal sanitation and access to adequate health and education services, then an appropriate "housing" program may involve no physical house structure at all, but focus instead on the provisions of well-serviced plots in locations close to job opportunities and accessible to health and education centers. Too often in the past, households' real needs have been neglected because of a mistaken assumption that physical house structures are the most essential part of any "housing" program.

Clearly, housing programs affect the interests of many other groups in addition to the households they serve immediately. The process of housing construction and financing has many important economic and social effects which should be considered. The

housing sector has many "backward linkages" which make it important to the rest of the economy. In many developing countries industries supplying construction materials need the demand for housing to reach economic scales of operation. A large part of the construction industry, which is a key contributor to capital formation in all sectors, often is maintained by the requirements for housing. Residential construction technologies in the developing areas usually are relatively labor-intensive, and the housing sector is a major generator of employment, including unskilled and semi-skilled employment that is so important to the need of the urban poor.

Housing investment and related institution-building activities can also have important implications for a country's savings and investment potential. Housing can provide an incentive for attracting otherwise unavailable savings to financial intermediary institutions. The resulting institutionalized liquidity can facilitate the provision of long- and short-term credit and reasonable terms for house construction and purchase, with important implications for future as well as present growth.

Conventional homebuilding and financing techniques have enabled large percentages of middle-income families, particularly in Latin America, to finance their own housing without making demands on scarce government resources. It would not be realistic to suppose that government will address the needs of the poorest citizens if the needs of higher income, more influential households are not met. The success of middle-income housing programs can help to prevent the "raiding" of lower-income development. Conventional housing projects can also be extremely important generators of employment. Nevertheless, it is now widely understood that conventional techniques are not sufficient to meet the overwhelming shelter needs of the urban poor.

B. Policy Implications[1]

1. Public Housing

Many governments have begun costly subsidy programs, often involving slum clearance and some relocation from existing squatter areas, but these programs usually fail to have a significant impact relative to the magnitude of the problem. Subsidy resources are limited; other important development priorities compete for public funding. The percentage of beneficiaries among the total of the urban poor tends to be low. Often "relocation" housing does not even benefit the squatters being removed; instead, the beneficiaries turn out to be middle-income families and groups with political strength. The result can be a net decrease of the housing stock and an exacerbation of urban problems. Subsidized housing projects and pronouncements of major construction program goals

[1]See also: Office of Housing, United States Agency for International Development. Preparing a National Housing Policy. Washington, D.C.: U.S. Agency for International Development, November, 1974. 42 p.

by governments can even dissuade poor families from investing in their own housing.

Public housing programs therefore are frequently more effective when developed, phased and coordinated as part of a comprehensive housing policy and program which is directed at total housing needs and which allocates available resources (public and private) appropriately to each problem area.

In such a context, housing policy might emphasize the use of public funds not only to increase directly the stock available to low-income groups who have limited or no possibility of obtaining adequate housing by other means, but also to stimulate and focus other housing resources (private, self-help, etc.) on specific urban areas and target groups in order to maximize the total impact of the resources available.

2. The Need to Preserve the Existing Housing Stock

In most cases it will be important that public housing programs be directed toward increasing the total housing stock available by emphasizing projects and programs which minimize the dislocation and relocation of existing households.

Existing squatter settlements, however poor their standards, provide shelter at rents that can be afforded. They act as reception centers for new unskilled migrants. The provide a wide variety of employment in commerce and cottage industries, and they often provide shelter close to concentrations of employment. The proximity of squatter areas to sources of employment is especially important for the urban poor who can least afford the cost of public transportation from outlying areas. Squatter settlements provide residents with essential social support when they are unemployed and at other times of crisis. Finally, they often encourage and reward small-scale private investment in housing.

Clearly, because of pressing needs, limited resources and the many positive functions of squatter settlements, efforts should be made to avoid their massive clearance. A policy of protecting and upgrading the existing squatter housing stock is much more realistic for most countries. Likewise, limited resources are better spent in planning the orderly formation of new low-income areas and the development of basic infrastructure and services than clearing away existing ones.

3. Improved Technology

Improved housing technology is often regarded as the key to solving the housing problem. Experience has shown, however, that no simple solution to the housing problems of the urban poor will be found in more elaborate design and engineering. The real

benefits of improvements in technology will flow to people further up the income scale.

Therefore, policies aimed at low-income communities might best be aimed at upgrading the technical skills of the target population and the more effective use of existing traditional local materials to incrementally upgrade housing conditions.

These policies should be coordinated with efforts in technological development focused on other income groups to help to ensure that the needs of middle-income groups are met sufficiently to avoid their "invading" the low-income housing market.

4. The Role of the Private Sector

Some conventional thinking holds that only the public sector will build low-income housing. However, most governments have neither the resources nor the administrative capacity for such a massive undertaking. In most countries the private sector will have to shoulder the greater share of the home building task. The legal, financial and physical environment should stimulate the constructive participation of the private sector and, at the same time, protect low-income households from exploitation. As part of this effort, support should be provided for the small-scale part of the housing sector which is already contracting for low-income shelter -- the small contractor building 20 houses a year and the small cooperative, for example -- as well as larger contracting groups.

C. Projects with Potentially High Impact

1. Projects Providing Basic Services and Facilities in Staging Areas

Projects can be formulated to provide basic services to low-income residents of "staging areas". Members of this group are often young, single and recently arrived in urban areas. In some instances they may be individuals or households at various stages of economic and social "stagnation" who need an injection of public support to help them regain confidence and hope so that they can move on to locations more appropriate for permanent residence. In any case, they are likely to control few capital assets; they are likely to be tenants or have no secure tenure. Frequently, they are or can be oriented to other areas within the urban area and sometimes outside the urban center itself. Their current levels of consumption are low; they usually suffer from basic service deficiencies.

Projects directed at members of this group should provide the minimal services essential to survival in the urban setting

while concurrently increasing the quality of human capital to facilitate future improvements in consumption. The aim should be to invest as little as possible in the physical territory involved and as much as possible in people -- to help them to help themselves to become mobile.

Projects can be developed to upgrade water and sanitation facilities in staging areas and provide essential support services. Residents of these areas frequently are in need of assistance in orienting (or re-orienting) themselves to the urban environment. Such assistance may include employment information services, adult literacy and vocational training, basic health and nutrition services, and community centers.

Experience with such projects sometimes has taken the form of the creation of "transit camps" in which households or individuals are supposed to stay in the location involved for a relatively short time (say, less than two years) before moving on to a suitable permanent location. Such camps are to be found in Bombay, for example, where they have been built to house families temporarily, pending the rehabilitation or clearance and reconstruction of existing slums.

The principle of such projects is sound. In practice, however, areas intended for temporary support can easily become permanent locations. Sometimes because they are too convenient to major job opportunities, because the facilities and services they provide are too attractive relative to other opportunities, because the promised permanent locations are not developed quickly enough, or simply because no rent is charged and services are free. To avoid this distortion of their purposes, they should be far enough from job opportunities to induce households to move as soon as they can manage to and the standards of facilities and services should be kept purposely low enough to permit survival and "take-off" but not sufficient to compete with those available in locations that are more appropriate for permanent settlement. Alternatively, staging areas can be administered firmly so that households are forced to move out when an acceptable alternative is available or charges can be levied for space and services to encourage shifting, but these measures usually are difficult to sustain.

As the name implies, projects of this type are appropriate for two of the types of poverty group identified in Chapter II -- those that are externally oriented and those that are "in transit".

2. Slum Upgrading Projects

Slum upgrading projects are being considered increasingly as an alternative to relocation and replacement. Relatively secure locally-oriented squatters who have basic service deficiencies can be provided with community water and sanitation. Environmental and general services deficits can be improved in a number

of ways. Land tenure can be legalized and loans provided to encourage home upgrading. Incentives can also be given to landlords to improve existing rental shelter. Roads, parks and community facilities can be improved and/or augmented . Health and education services of the type discussed in earlier chapters can be improved (or provided for the first time where none were available, as is so often the case). Information on job opportunities can be provided. Credit can be made available. Technical assistance programs can be established to help small-scale entrepreneurs and households. All of these project elements can and should be designed to take advantage of the social and organizational base that typically exists in an established slum. That base should be used as a foundation for mobilizing the capacities of slum dwellers to help them help themselves. They are likely to already have developed informal mechanisms for helping one another to survive, even without any public assistance. They should be encouraged to take the lead in deciding what can be done with whatever public assistance can be made available.

The object of the physical elements of a squatter upgrading project should be, among other things, to prevent as much as possible a decrease in the housing stock and to upgrade existing shelter. Some housing will have to be removed to provide for roads, infrastructure and community facilities; the most substandard units may have to be replaced. Care should be taken to minimize such removal. This is important because existing slum areas usually are already near sources of employment which may not be available in replacement areas. Where removal is inevitable, however, slum upgrading often can be carried out together with new low-income settlement projects so "spillover" plots can be provided to relocated squatters.

During the early stages of slum upgrading, several basic criteria must be established: a) the minimum size, materials and facilities standards for housing to be preserved must be identified; b) there should be standards for plot size, accessibility, and tenure; standards for project infrastructure will have to be established (roads, storm drainage, street lighting, electric supply, refuse collection, water supply and sanitation); finally the levels of public facilities must be established (schools, health and family planning services, recreation and markets); and c) limits should be placed on the number of houses in a project area to be removed, the levels of off-site infrastructure improvements permissible, and the levels of replacement and improvement loans allowable.

Fundamental to the success of a slum improvement program is the need to understand the social and economic characteristics of the residents of the area. Surveys of household and housing characteristics should be conducted to enable the planning of neighborhood physical standards and to fit the proposed program to the economic and social realities of the individuals concerned.

Major slum upgrading work is being undertaken in several countries presently, including Indonesia, through the Kampung Improvement Program, with a first project in Jakarta, and Karachi, where a central city area with a slum population of approximately 500,000 is to be upgraded with World Bank support.

Projects of this type are capable of reaching well down the income scale and are relevant for existing low-income urban groups of the types discussed in Chapter II except those that are externally oriented or in transit.

3. New Low-Income Settlement

To respond to the high rates of low-income urban growth confronted by most developing countries it is vital to establish strategies for supporting new low-income urban settlement. Although slum upgrading projects deserve high priority, they alone cannot be an effective response to the joint problems of improving existing deficit conditions and dealing with rapid new growth.

In response to the need for new low-income settlement, projects which combine support for housing with the generation of employment and supporting services and facilities are being recognized increasingly as promising means of response. The importance of combining other project elements with support for housing has been recognized, in particular, because of massive failures in projects which have focused exclusively on the housing component.

The project components which now seem to be particularly important are: support for the generation of new employment, together with support for existing employment (including joint use of residential space as commercial or manufacturing space); preventive health services; programs in functional literacy, elementary education and technical training; water supply and sanitation; effective low-cost transportation links with job opportunities in the project area; provision of property rights for households; access to credit; and technical assistance for small-scale enterprises and house-building. It is usually important also that projects be undertaken in a situation in which an existing or upgraded local government can be responsible for the sustained provision of services.

In such projects it is possible to provide for a wide variety of shelter standards -- ranging from open plots with communal water and sanitation through "utility wall" plots (see the Karachi case, below) to fully serviced plots for individual houses and relatively low-cost flats or apartments.

Although all of the project components suggested above are desirable, it will not always be possible to include all of them in an individual project. The elements that are most important

will depend on local needs and capacities and the political support that can be generated (including policy support for low-income settlement at the national government level).

Projects focusing on the provision of land, water supply and sanitation in the past have been called "sites and services" projects. The name "sites and services" probably should be discarded now, since its focus on land and services gives it a more narrow connotation than is desirable.

In spite of the difficulties associated with relatively complex projects of the type suggested -- in particular, the inter-agency and inter-governmental management and organizational difficulties involved -- such projects hold out great promise for improving the condition of the urban poor. They also hold out great promise of being economically as well as socially viable -- provided the standards established in them are realistically low and provided they are administered properly, with maximum participation from the poor themselves. Indeed, they may be a necessary minimal type of action for the urban poverty confronting the developing world. More fragmented projects are likely to fail even more dramatically than they have in the past as the wave of urban growth and in-migration swells.

Low-income settlement projects of the type suggested can reach a wide variety of poverty groups -- ranging from those that are less mobile and suffering from basic service deficiencies to the more mobile and prosperous of the urban poor who are primarily seeking improved environments and tenure. They are appropriate for most poverty groups other than those whose incomes are so desperately low that they cannot afford even minimal payments for services, together with those that are externally oriented or in transit.

One of the most comprehensive new low-income programs undertaken so far to alleviate the problem of urban expansion and the urban poor is in Karachi. The population of the Metropolitan Region there is now around 4 million and during the 1960's was growing at 6 percent per annum. It is expected to reach approximately 7 million by 1985. At least a quarter of that population is struggling to survive in densely populated squatter areas and overcrowded central slums.

The Development Plan for the Karachi Metropolitan Region for the period 1974-1985 has proposed the twin policies of slum improvement and "Metroville" development. "Metroville" is the name that has been given to the integrated development of urban land for new low-income settlement. Each Metroville project will be designed to accommodate a population of the order of 50,000 persons in housing ranging from open plot development to higher standard dwellings. It is estimated that Karachi will need at least four such projects per year to keep abreast of urban growth during the

next ten years. The long range objective of the Metroville Program is to provide for economically integrated low-income settlement with employment opportunities, water supply, sanitation, health services, education services, housing, power, transportation, communications, recreation facilities, religious and cultural facilities and other essential urban services and facilities incorporated in each project. In the first project about 40 percent of the job opportunities needed will be within the project area, which is also close to major industrial and commercial employment concentrations. New low-income housing finance and new building techniques are to be developed to support the program. Stabilization ponding is to be used for sewage treatment wherever possible to keep both capital and operating costs low and the effluent is to be used for intensive agriculture where soil and other local conditions permit this. Together with innovations in the use of mass media there are to be innovations in urban management and finance, including substantial involvement of residents in area management and maintenance. Mass media, including the services of Pakistan T.V., are to be used to support activities in several sectors as well as to publicize the program itself.

Three basic types of shelter have been proposed. First, small open plots of 80 to 120 sq. yds. of minimally developed roads will be offered. Residents will be provided with dirt roads, community water taps, storm water drainage and sewerage. Self-help home construction will then be encouraged. Second, similar-sized plots will be provided with individual water, additional utilities and a utility wall with basic fittings. Finally, a small proportion of multiple and single family standard units will be provided.

A number of local and national institutions will be encouraged to participate in the Metroville Program. These include institutions dealing in housing finance, small industries development, public works, education, health, welfare, labor affairs, social security and mass communications.

The house plot prices proposed for the Metroville range from PRs.12.0 (about US$1.22) per square yard for an 80 square yard open plot to PRs.36.0 (US$3.67) per square yard for a 240 or 400 square yard bungalow plot. The prices of commercial plots are, of course, higher than this. The renting of space by owner households to others is to be provided for and there is provision for the commercialization of parts of residential spaces in selected locations, subject to the payment of an extra plot fee. The program will be largely self-financing.

4. Multi-Occupancy Structures

In a few specific cases, projects can be justified which place a primary emphasis on publicly-provided communal structures. This may be in relatively advanced LDC's where there

are high population densities and limited land availability near sources of employment. Successful cases of large-scale multi-family structure programs appear to be limited to more advanced developing countries which have especially high population densities near sources of employment, relatively productive and educated low-income households, low construction costs and substantial administrative capacities. The most successful cases of such public housing programs -- for example, Singapore and Hong Kong -- have tailored housing standards to meet limited individual and public budgets. Housing densities had to be high to reflect the rental and repayment capacities of low-income households. The high densities also required high levels of expertise in housing management.

In some cases, communal structures may be appropriate as dormitories for single workers. Such high density dwellings may be especially feasible near industrial estates employing large numbers of young semi-skilled workers. But even for these rather special-purpose units the question of whether they can be provided most effectively by the public or private sector should be evaluated carefully. In Karachi, for example, "deras" are provided for single male migrants through the private sector. They fulfill an important social need but it often will be more effective to provide land and supporting infrastructure for them, as for normal family housing, than to attempt to construct such facilities publicly.[2]

The conditions required for successful "public housing" programs are not present in most developing countries. Low income levels preclude conventional construction or high-rise solutions from being universally applicable without large subsidies. Local capacities for housing management and the collection of payments are also serious constraints.

D. Institutional Aspects

1. Organization and Management for Housing

Many existing housing institutions are not organized to deal effectively with massive new undertakings in low-income shelter. Housing functions often are divided among several entities including national government, state and local government, government agencies providing housing for civil servants, and a number of private entities. Many existing housing institutions have traditionally dealt with small-scale, middle-class-

[2]See: Drs. T. & C. Van Pinxteren. The Dera, A Housing Facility for the Male Migrant. Joint Research Project IV For Urban Development and Slum Improvement - Karachi University, Government of Pakistan, Free University Amsterdam, Government of the Netherlands. Karachi: JRP IV (mimeo) (no date - 1975).

oriented projects. Experienced personnel are limited. The nature and scope of the new institutions required may represent an abrupt departure from the past.

The functions of existing housing institutions should be studied and rationalized where necessary. Where upgrading and minimum housing schemes have not previously been implemented, substantial administrative reform may be necessary.

While the specific administrative structures which are appropriate to the problem may vary considerably throughout developing countries, their basic function is community development, in the broadest sense of the word. The organization and management formats selected must seek to integrate the functions of land development, housing development and financing, and construction into a delivery system oriented to mobilizing the people for their own development while using these three functions to support their efforts. As such, administrative mechanisms must be able to integrate all the above functions as part of an operational system which facilitates the efforts of the target population to improve their own situation as individuals, as members of low-income households, and as members of low-income communities.

2. Housing Finance

Virtually all of the urban poor are currently financing their housing, however "substandard", in some way. Often that financing is from personal savings. Housing is built and improved in stages as money can be saved. Some individuals borrow from friends, relatives or employers. Some sell other property to finance housing. Some homeowners receive downpayments or "key" money deposits from tenants to finance new housing. Such multi-family occupancy is a principal way of financing improved housing in many countries. In some cases traditional loan societies ("Kye" in Korea, "bisi committees" in Pakistan) receive quotas from members who eventually become eligible for loans. Many must borrow at high rates of interest from informal-sector money lenders and pawnbrokers. In any case, where financing is available, it tends to be limited, costly, and available for short terms only.

Institutionalized long-term housing finance is still a relatively new concept in most developing countries. Since the early 1960's, however, significant progress has been made in housing finance with the establishment of savings and loan operations in most countries of Latin America. By 1973, $1,391 million had been loaned through the new Latin American housing finance systems to finance 240,000 homes.[3] This achievement has been overshadowed by a much larger mushrooming of squatter households in Latin American urban areas during the same period. Indeed, most of the beneficiaries of the new housing finance systems have been middle-class families. The urban poor still seldom benefit from institutionalized housing finance.

Efforts have been made to lower the targets of housing finance programs to benefit lower-income households. The following are the principal stumbling blocks which such attempts have encountered:

a) Need for Guaranty

Financial institutions, to remain viable, need a guaranty of repayment. Most developing country savings and loan systems have mortgage guaranty systems which require a high degree of solvency from borrowers to avoid risk in lending.

b) Costs of Administration

The processing of a large number of small loans is relatively expensive. Institutions prefer the lower administrative costs of large loans.

c) Management

The management of housing finance institutions is usually middle-class and naturally conservative. They feel little compelling concern to lower loan requirements to benefit lower-income households.

d) Limited Savings and Capital

The capital available for housing finance tends to be extremely limited. There is tremendous competition with other more profitable and shorter term investments. Institutions tend to ration loans to the lowest risk customers. Mortgage institutions are largely dependent for their capital on middle-class savings. These groups expect a majority of the housing loans in return. The savings of lower-income urban households are limited and are more difficult to institutionalize.

e) Mortgageable Tenure

Because of the complex laws and regulations governing land tenure, it is difficult for poor families to obtain mortgageable tenure to their land at reasonable cost. They can often offer no real guaranty for housing loans.

f) Housing Standards

Housing finance institutions prefer to lend for conventional housing which they feel is desirable collateral. Sites and services and other minimal housing solutions do not offer an equal guaranty.

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[3]National League of Insured Savings Associations, "Selected Savings and Loan Statistics for Third Quarter, 1973", mimeographed.

For all the reasons listed above, there have been few examples of extending the benefits of housing finance to the urban poor majority. Where housing finance is successfully made available to lower-income households, programs usually include complementary elements which reduce the risks outlined above.

A promising and relatively new method of mobilizing capital for investment in housing and related facilities and services is to establish a nationwide forced savings program, the funds of which can be used for housing at all levels, including low-income settlement. This technique, used already in a number of Latin American countries, typically involves a levy on all salaries and wages. The funds thus mobilized yield interest to the involuntary contributor and should be protected against inflation. In Brazil, for example, a levy of 7 percent of all wages and salaries has been made and the fund thus obtained (over U.S.$1 billion in the early 1970's) must be repaid with monetary correction plus annual interest of the order of 7 or 8 percent. The possibility of using such funding, not only for housing at a variety of income levels, but also for basic health and education services, investment in support of the generation of employment in low-income areas, and the other elements of low-income projects that were discussed earlier should be considered. The maintenance of a program of this type for financing basic urban settlement clearly requires policy support at the national level. That is very appropriate since the problems associated with urbanization and the opportunities it offers clearly are national as well as local problems and opportunities.

3. Participant Mobilization

The goals of most minimum shelter programs could not be met without some effort to mobilize low-income participants in constructive action. Effective community organization is also necessary to provide for the maintenance of new infrastructure and community facilities. Numerous examples of self-help housing programs can be cited. They vary from partial self-help projects where participants produce some building materials and provide some unskilled labor input to complete self-help projects where participants work together to construct houses and community infrastructure. Several guidelines have been elaborated for the formulation of self-help housing projects.[4] These include the selection of eligible families who have a sincere interest in and capacity for self-help and the organization of group meetings to educate families in self-help techniques and establish work schedules. Work can be carried out in groups or each family can construct its own house. In both cases, a foreman can be

[4] See: United Nations, Manual on Self-Help Housing, (New York: United Nations Press, 1964).

provided to supervise the work and train the participants. It may be necessary to start a mutual savings association to finance materials, land and administrative costs.

Aided self-help has resulted in the construction of large numbers of units at significantly lower than contractor-built costs. However, strict adherence to specific guidelines by project organizers can give rise to a number of serious problems. Complicated administrative and technical procedures have been imposed on projects from the outside without regard for existing indigenous capacities for "progressive development". Aided self-help, as it has been practiced in the past, is probably not extendable to the large majority of the urban poor who need shelter. Administrative costs are considerable. It is frequently difficult to maintain morale and keep participants on the job. Delays of materials deliveries and other administrative problems can seriously damage group cohesion.

Self-help programs have been shown to have a wider impact where they rely more on indigenous organization and individual self-improvement. Experience in Peru and other countries has shown that where a minimum of credit is provided with security of tenure, self-help can be spontaneous and effective on a large scale. The process of squatter home and shanty construction itself, like small-scale commerce and industry, is one of the more dynamic activities of the informal sector and a primary source of employment. The fact that squatters have consistently built their own homes, frequently against substantial legal and financial obstacles, attests to their often-overlooked initiative. One of the challenges facing housing planners is to encourage this initiative and to channel the energies and savings of subsistence urban dwellers into the most productive efforts possible. Such efforts, when successful, will help to optimize the employment of underutilized labor.[5]

E. Complementary Actions That May Be Necessary

1. Increases in Employment and Productivity

As in so many other sectors, perhaps the most important complementary actions to be taken are the creation of jobs and the achievement of higher productivity to raise the incomes of the poor so that they can afford better housing. The measures suggested for this have been described in Chapter IV; as noted there, the housing sector itself provides many opportunities for both job creation and increases in productivity

[5] For a useful elaboration of these principles, see Turner, John F.C. and Fichter, Robert (Eds.), Freedom to Build, (New York: The MacMillan Company, 1972), Chapter 6, pp. 122-127.

through the informal education and training an initially unskilled laborer often can obtain by becoming a construction worker.

2. Land Development Programs

The problem of finding reasonably priced land for the urban poor is acute. Phenomenal rates of increases in land values have been reported in urban areas ranging from 10 percent per year to 25 and even 30 percent in many urban centers. Land speculation causes aberrations throughout the urban development process. Its harshest effect is to shut out low-income families from land ownership. Because of traditions of private land ownership often inherited from colonial eras, many governments have been slow to react to this reality. Outside of the People's Republic of China and Tanzania, there are few cases of direct nationalization and redistribution of urban land.

There have been varied attempts to limit the effects of land speculation and lower the price of land to the urban poor through land taxation measures. Land increment taxes and betterment taxes have been used in several countries to capture for society the value of increases due to speculation pressures and public investment. Taxes are also imposed on idle land to penalize the withholding of urbanized land from productive use. It is difficult to assess the redistributive effects of such taxes. As revenue-raising measures they tax wealthy land-owners progressively; they also tend to reduce the cost of urban land somewhat. Land taxation is, however, a weak component of most countries' fiscal systems. In most cases there remains ample scope to use land taxation more effectively both as a revenue-raising device and as an instrument for controlling urban land markets.

Because of the cost of land in central urban areas, it is difficult for governments to increase the supply of land for low-income households through conventional land purchase and development schemes. Nevertheless, speculation can be controlled by buying peripheral land at low cost and holding it as a reserve for future development. There are many examples of such land development schemes, some involving the joint participation of public and private sectors.

A word of caution is appropriate. Because of fiscal and political pressures public land management and land banking schemes often are used to generate public revenues or for other purposes, rather than to benefit the poor. In Korea, for example, "Land Readjustment" programs provide for the government to urbanize private land in return for a share of the land which subsequently can be sold for new private use; at present, because of shortages of public funds, confiscated land is sold at auction to the highest bidder and this tends to price out low-income households.

Frequently, land represents over 50 percent of total housing costs; low-income residential needs compete increasingly for land use with industry, commerce and upper-income settlements. Land availability and pricing cannot be overlooked when assessing the most pressing needs of the urban poor. New, more innovative and perhaps more drastic solutions such as outright appropriation of underutilized land may be required in some situations.

3. Provision of Secure Land Tenure

Security of land tenure is a critical issue in many developing urban centers. The expensive and complicated legal procedures involved in obtaining freehold or leasehold tenure often are prohibitive for low-income families. This is especially true of some African countries where colonial legal systems did not provide for the needs of the poor majority. In one African country, a "sites and services" project gave residents only a 30-day leasehold tenure. Residents were understandably reluctant to make major personal investments in their shelter; they had no mortgage asset to secure financing.

Residents of sites and services and squatter upgrading projects usually need some reasonable guaranty of tenure as an incentive for investment, although this varies by tradition and culture. Land registration should be inexpensive and administratively simple. In many cases there will be a need to simplify existing procedures drastically.

4. Water Supply and Sanitation

As indicated earlier in Chapter VI, projects in water supply and sanitation can frequently be used to focus new urban development activities in ways which provide more equitable land use patterns. Such projects, whether designed to serve new areas or as extensions of existing water and sewerage facilities for squatter upgrading projects, can provide the impetus for secondary development and action by low-income residents. Even the minimal basic levels of essential services which may be possible through such projects can "trigger" major long-term incremental investments by low-income residents to upgrade their own housing conditions.

5. Housing Construction Materials

Housing construction materials represent about 65 percent of total construction costs in the developing countries, which is considerably higher than in the developed countries. Many measures can be considered to increase the quantity and quality of locally-produced materials to contribute to local employment and to decrease dependence on imported materials. Lower standards

in minimum housing programs generally contribute to this end. Building-materials industries using labor-intensive techniques (e.g., small-scale cement or stabilized block production) should be given high priority in government programs to stimulate the industry.

6. Transportation

The classes and types of transportation available to the urban poor can in great measure determine the viability and permanence of specific low-income residential areas.

The concurrent development of transportation to provide access to jobs and essential urban services, to facilitate the distribution of essential goods, and to facilitate the social interaction of low-income households will be important in conjunction with many projects intended to develop new housing sites or upgrade existing squatter communities. Transportation projects can also increase dramatically the capital assets of the urban poor through the direct employment opportunities which they generate as well as through the increases in property values and the productivity of equipment controlled or utilized by the urban poor.

7. Household Counseling

Frequently the most potentially effective local resources for upgrading or increasing low-income productivity and demand are not recognized or are misunderstood by the target community. Just as household guidance in such things as family budgeting can enable the poor to afford improved levels of public services, it can serve also to focus household and community attention on the importance of housing in sound development and it can indicate ways of securing such housing. In most developing countries, the level of low-income housing activity occurring outside the formal public and private housing mechanisms, is extremely high. Low-income residents through their own initiative often are responsible for constructing more low-income housing than the public and private sectors combined. Although such housing is frequently "illegal" or "substandard", the basic development potential clearly exists and can be tapped and focused through appropriate counseling on budgeting, savings and the use of credit mechanisms.

Target groups for such projects frequently may be "reached" through existing community structures or organizations. The selective use of such organizations can provide a firm base for an effective counseling program as well as a potential for the development of community-based credit and savings mechanisms which are appropriate and responsive to real community needs.

Experience throughout the developing world has shown that such community organizations often handle the problems of credit determination, debt collection and administration in a far more effective way than many traditional institutions whose interest and understanding of the problems of low-income people is limited.

F. Other Likely Impacts

Housing development projects for low-income urban residents are likely to have a considerable variety of impacts which extend beyond the groups for whom those projects are designed. Some of these impacts are likely to be positive (benefits) and others negative (disbenefits).

1. Benefits

a) Increased Total Output

Incremental activities in the field of low-income housing development can generate significant increases in the total output of the construction sector of the economy.

b) Increased Income

Increased income for upper- and middle-income groups associated with the housing industry is likely to result from new housing projects. Maximizing the labor content in the production of construction materials could also contribute to a broader distribution of income through increased employment opportunities for lower-income groups.

c) Increased Tax Revenues

The increased assets of low-income people made possible through the upgrading of housing and concurrent increases in the value of developed land can provide an additional source of long-term tax revenues for government. Such revenues, of course, will depend upon the existence or establishment of an equitable property tax policy and program.

d) Increased Social and Economic Stability

Low-income housing projects properly developed and oriented to the particular needs of specific segments of the urban poor can result in dramatic increases in not only the supply of essential services, but also the capital assets which are controlled by target populations. Such programs clearly increase both the social and economic stability of those communities and the larger urban area as well.

e) Strengthened Capital Markets

Low-income housing policies and projects can have important implications for a country's capital and money markets. The institutionalization of capital mobilization and credit regulation within a broad housing policy can markedly affect the provision of credit and interest rates for housing.

f) Higher Savings Rates in the Economy

The potential for increased output in the housing sector, together with increased levels of capital investment and savings for housing can significantly raise the savings rates in the total economy.

g) Increased Construction Industry Skills

The additional demands placed on the construction industry by the low-income housing sector can play an important role in maintaining or upgrading and developing new skills within that sector of the economy.

h) Reduced Health Hazards

Overall upgrading of the conditions of degradation and deprivation commonly suffered by the urban poor can result in reduced health hazards for the larger urban population in their daily interaction with such target groups.

i) General Environmental Upgrading

The development and implementation of broad-based housing projects aimed at the poor are likely to have a positive effect on the general quality of the physical environment and provide opportunities for increased recreation and social interaction.

2. Disbenefits

The development of housing projects for low-income urban households involves increased governmental costs not only for the housing itself, but also for the related facilities and infrastructure required for such projects. Such projects can also have important implications for a country's international payments and debt position. The impact on present and future debt positions should be considered within broader national economic planning.

In addition to its obvious monetary costs, a housing strategy focused on low-income groups may have other effects that might be considered negative. Three such possibilities are identified below.

a) Reduced Housing Supply for Middle and Upper-Income Groups

Since there are definite capacity constraints within the housing industry at any time, an increased emphasis on low-income housing may reduce somewhat the materials and labor available for middle- and upper-income groups and give rise to negative political reactions within these groups. This impact will depend, however, on the extent to which low-income groups and more affluent groups place demands on essentially separate sub-sectors within the housing industry. The chief overlap probably is in the demand for unskilled labor, a resource that is not in short supply.

b) Reduced Construction in Non-Housing Sectors

In a similar manner, the capacity limit in the construction sector at any one time may require a reallocation of non-residential construction resources.

c) Reduced Short-Term Growth

Increased commitments of human and fiscal resources to low-income housing clearly affect other sectors of the economy as well as housing. Reduced short-term rates of overall growth might occur because of lower rates of return on investment in housing compared with investment in other sectors.

Chapter IX

PROJECTS IN URBAN TRANSPORTATION

A. The Role of Transportation in Development and Its Importance for the Urban Poor

Many types of transportation have direct and/or indirect impacts on the urban poor because of the contribution of transportation facilities and services to various aspects of the economic development through which the poor are provided with employment and essential goods and services. National and regional projects serving urban areas directly, or serving rural areas which, in turn, are linked with urban areas, may have such impacts; so may a wide variety of urban transport facilities and services which are oriented to all segments of the urban community -- for example, ports, airports, river barge systems, railways and trucking facilities. Transportation projects of these types, individually and in the aggregate, are major generators of employment for low-income households and play a vital role in the distribution of essential goods and services.

However, because of the terms of reference of the present project, attention here is focused on projects that provide transportation for the urban poor directly.

The purposes of such projects are primarily: 1) to provide jobs; 2) to provide access to jobs; 3) to facilitate the distribution of essential commodities used by the poor and to help to keep prices of those commodities as low as possible; 4) to facilitate access to essential urban services; 5) to facilitate the social activities of low-income groups; 6) to increase the assets available to the poor in the transportation sector itself (in the form of vehicles or equipment); 7) to increase the assets of the poor through the impact of transportation on property values and on the productivity of equipment utilized by low-income entrepreneurs; and 8) to increase the supply of land suitable for settlement by the poor.

Unlike commodities such as clothing and shelter, transportation is not regarded as a desirable consumption good in itself, but as a necessary activity to be kept at as low a level as possible consistent with households' goals and the constraints

they must recognize. Except to the extent that movement provides employment, status and/or aesthetic pleasure, it is a "nuisance" activity.[1]

The factors which tend to keep the level of transportation services for the poor low include: the limited ability of the poor to pay -- either directly in the form of user charges or indirectly in the energy required even for walking; the risk of losing opportunities for casual jobs for which one must be "on the spot" at the right time; and the costs of producing transportation services with existing technologies.

On the other hand, there are factors limiting the extent to which transportation activity can be reduced. These include: the scale and nature of the activities to be linked through transportation -- including, obviously, the total population to be served; the space required for those activities; limits on the extent to which communication can be substituted for transportation; the jobs that transportation can generate relative to other means of generating employment; increases in the value of land and other assets that can be achieved for the poor through transportation relative to the increases that can be achieved by other means; the nature of the physical environment, including its topography and existing structures and facilities that affect transport routes; the technologies available for transportation; and, perhaps, the status and aesthetic pleasure achievable through transportation relative to the degree to which they can be achieved by other means.

Some negative impacts on low-income groups may partially offset the benefits enjoyed. Some employment in traditional modes may be lost, for example, as public transport is improved through the adoption of intermediate or modern technologies. Low-income housing, workshops or retail outlets may have to be demolished to upgrade existing street systems, although demolition should be avoided wherever possible, even in so-called "slum" areas. Land values in some areas may be increased by improved transport to a point at which low-income households can no longer stay in these areas. If they are landowners, which rarely is the case, they may be able to benefit from the capital gains involved. More often they will be squatters who have been tolerated in the absence

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[1]The aesthetic pleasure of walking or bicycling perhaps should not be underrated; the journey to work of a householder working twelve hours a day for a pittance and traveling an hour to and from work may be one of the few forms of recreation he has. Nor should the status associated with the ownership of even a modest vehicle such as a bicycle or motorcycle be overlooked.

of alternative higher-yield uses and increases in the potential income from changed uses will result in their being forced out. Improvements in the management of mass transportation necessary to raise the levels of service provided may result in a more systematic levying of user charges, so that some low-income riders who previously traveled free will have to pay or find alternative modes of travel. Potential negative impacts of these and other kinds also should be built into the analysis on which project identification and preparation are to be based.

In addition to their impacts on low-income groups, transportation projects focused on these groups may have broader effects which impact other groups as well. Some of the more common of these will be identified later in the present chapter, in Section F, since they too should be recognized in deciding whether or not to undertake a project.

B. Policy Implications

The potential impact of transportation on distribution costs for essential commodities, the interdependence of transportation and land use, and the dependence of many developing countries on imported equipment for improvements in transportation suggest the potential importance of having policies in these other areas that will support transportation projects designed to benefit low-income groups.

1. Policies Affecting the Pricing of Essential Commodities

If transportation projects intended to keep the distribution costs of essential commodities as low as possible are to be fully effective, it may be necessary to establish policies which will help to insure that transportation efficiencies are reflected in final prices to the consumer. For example, transportation pricing policies, the licensing of wholesaling and retailing for food distribution, and the provision of credit to facilitate entry into the food distribution industry should be designed to encourage competitiveness in that industry where there is a heavy reliance on free market operations. Food retailing usually is relatively competitive but wholesaling often is concentrated in the hands of a few entrepreneurs.

2. Land Policies

Policies affecting the ownership and pricing of urban land should be designed to help to insure that the additional potential land supply created by improvements in transportation becomes available to low-income groups. Policies which limit the size of individual urban land holdings and taxes based on market values which encourage land to be brought into efficient uses rather than used for speculation may be important parts of the policy package required. Incentives and/or regulations which affect the spatial

distribution and density of residential and other land use also should be designed to encourage efficient land use patterns which keep the need for transportation as low as possible.

3. Policies Affecting Choice of Mode

Because private automobiles and some other private vehicles (using the term "private" here to refer to vehicles not available for public transport) are very inefficient users of public road space, it may be necessary to establish policies which restrict the importation, production and use of such vehicles -- in particular, the private automobile.

4. Policies Affecting the Importation of Essential Transportation Equipment

Existing import tariffs and other regulations in many countries often result in unnecessarily high prices and shortages of mass transit vehicles, equipment and replacement parts. If there is an intent to improve levels of service in mass transportation for the poor and there is a heavy dependence on import to achieve this, import regulations should be made consistent with this objective.

5. Other Tax Policies

If improvements in transportation are expected to increase land values and the productivity of capital equipment -- for other groups as well as the poor -- it may be possible to shape property tax systems, corporate taxes and personal income taxes to bring into the public purse a reasonable percentage of the capital gains and other increased revenues generated through improvements in transportation so that those augmented revenues can be available for investment in further support for low income groups. The feasibility of this will, of course, depend upon the real priority ascribed to redistribution. Very often increased revenues of this sort are invested in public facilities which further widen the gap between the rich and poor.

C. Projects with Potentially High Impact

Cities in the developing areas typically accommodate their goods and passenger transportation demands through a great variety of technologies ranging from pedestrian pathways and bicycles through traditional modes such as rickshaws, handcarts and animal-drawn goods and passenger vehicles to taxis, private automobiles, mini-buses of various types, high capacity buses and rail services. Each of the public modes involved operates at different frequencies and fare levels and some are capable of functioning on quite different types of routes. They provide a multiple-choice service

that could be tailored to the needs of all user groups but deficiencies in public systems usually reduce the range of effective choice drastically. The lower-income groups are the people most adversely affected by these deficiencies.

On the positive side, the developing world's cities still have opportunities to achieve resource-efficient and varied transportation services that most of the so-called "developed" world's cities have long since lost or can recover now only at enormous expense. Levels of automobile ownership are low and street systems often are serving the residential, commercial and other spaces of the city, rather than dominating them as is so frequently the case after the types of modernization which make all else subservient to the automobile. There is no need to repeat the mistakes of the developed world.

In taking advantage of these opportunities it is extremely important to recognize: 1) the variety of types of low-income group that exist and the variety of their transport needs; 2) the richness of the variety of existing forms of transport and the persistent advantages of some of the simple, traditional modes in relation to local income levels and behavior patterns; 3) the desirability of keeping the need for movement as low as possible; and 4) the potential for organizing land use and transportation jointly to make it possible to exploit to the full the simplest modes, including pedestrian movement, bicycles and traditional local vehicles, at the same time as buses and other more modern systems are being expanded and improved. The discussion of project types therefore begins with the simplest ones.

1. Improved Facilities and Support for Pedestrians

Even in some of the larger cities with populations of several million, walk or walk-and-cycle trips may constitute as much as 40 percent of daily person work trips and 60 or 70 percent of all daily person trips.[2]

[2] In Karachi, Pakistan, in 1971, for example, with a population of over 4 million, the estimates for walk and cycle trips were 40 percent and 66 percent. See: Master Plan Department, Karachi Development Authority, Karachi Development Plan, 1974-1985. Karachi: MPD, KDA, 1973. p. 234.

Improvements in pedestrian movement benefit all low-income groups, including those at the lowest levels, and often can be achieved very quickly at minimal capital cost.

In planning for the development of new low-income areas in such cities it usually will be possible to arrange land use to keep many trip lengths short enough for walking and careful provision should be made for safe pedestrian movement. Likely movement paths should be identified, including a recognition of existing journeys-to-work on foot which often are identifiable where a new settlement area is close to existing low-income settlement and existing job opportunities. Where these likely paths coincide with expected vehicle movement, provision must be made for adequate sidewalks and traffic regulations which neglect the pedestrian (for example, free turns for vehicles where straight-ahead movement is stopped) should be avoided wherever possible. In many cases the expected pedestrian movements can be served with relatively low-cost pedestrian paths from which vehicular movement other than emergency and service access is excluded. Local climatic conditions should be reflected in the detailed design of walkways, in building regulations which affect verandas or balconies, in the orientation of walkways to breezes, etc. Many pedestrians will be among the poorest and most debilitated of the poor for whom the shortening of trip lengths and reasonable walking comfort should be considered not just matters of convenience but factors affecting basic productivity.

Even in already-built-up areas it often will be possible to improve conditions for pedestrians considerably -- by changing traffic regulations which neglect them, as suggested above, by improving sidewalks, by providing protective barriers between pedestrian and vehicular movements in areas of extreme conflict, by preserving as pedestrian ways small streets that are not needed for major vehicle movement, even by reconverting to pedestrian use some streets that have been usurped unnecessarily for vehicular traffic.

In both new and existing areas an important element of any program designed to support the pedestrian will be persistent on-the-spot education of both pedestrians and drivers and rigorous enforcement of traffic regulations, with effective penalties for both pedestrian and driver violations.

In considering the benefits of walking relative to other modes, its advantages, which are considerable, include: a) the fact that capital costs for vehicles are zero; b) the fact that there are no direct foreign exchange requirements; c) the fact that the infrastructure required is minimal; and d) the opportunities for social contact and informal learning from the urban environment probably are at least as high as, and possibly higher than, most other modes. It should be recognized, however, that its operating costs per passenger mile, even with time and losses

of earning potential excluded, are high -- second only to a large automobile.[3] This serves as a reminder of the importance of keeping trip lengths short.

Recent examples of metropolitan planning in which an attempt is being made to exploit the potential of walking for low-income groups include the Karachi Development Plan, 1974-1985.[4] Current work on the implementation of that Plan incorporates a close analysis of likely pedestrian movement and the preservation of existing walk-to-work routes in low-income settlement areas.[5]

2. Facilities and Support for Bicycles

The bicycle is one of the most convenient and energy-efficient forms of individual transportation available. It is an ideal mode for many short-distance journeys, including journeys to work. It is a mode generally available to all but the lowest-income of the low-income groups and initial improvements in the levels of service available, short of major increases in supply, can be achieved quickly at very low capital cost through changes in traffic regulations and, often, through cost reductions achievable by means of cuts in import and sales tax.

Like walking, bicycle transportation contributes to the goal of keeping user expenditures for transportation low, thus facilitating consumption of other essential items. It also represents a form of capital accumulation for low-income groups.

The intermediate purposes it serves are several. It provides excellent individual transportation at capital costs that are low for both the user and government. Operating costs are lower than those for walking, though not as low as for buses. Its energy efficiency and the exercise it provides probably help users to achieve relatively high productivities. The production and repairing of the vehicles generates employment that can be relatively labor-intensive. It helps to keep risks to the user low since it can provide access to widely dispersed places of work and residence and is almost completely flexible if place of work or residence change. Because of its flexibility and the very rudimentary infrastructure required, it helps keep governmental risks low also.

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[3] Master Plan Department, Karachi Development Authority, Karachi Development Plan, 1974-1985. (Karachi: Master Plan Department, Karachi Development Authority, 1973), pp. 244,247.

[4] Op.cit.

[5] See, for example, draft proposals for the Landhi "Metroville" project, September 1975. (unpublished materials with the Metroville Cell, Master Plan and Environmental Control Department, Karachi Development Authority, Karachi, Pakistan).

The types of support for bicycle transportation that can be considered include: assistance for production and servicing; use of bicycles as parts of payment-in-kind packages for labor contributed for housing and other projects; provision of rights-of-way and facilities; establishment of traffic regulations to support bicycle use; and road-user education.

Assistance for production and servicing might incorporate: technical training; provision of credit to manufacturers; public provision of work space; assistance in the importation of parts; and establishment of sales tax levels that help to keep prices to the consumer low. In most cases "people's bicycle" projects would make much more economic sense than the "people's car" projects that sometimes achieve at least short-term political popularity.

Where it is possible to establish payment-in-kind projects for the development of low-income settlements by low-income groups themselves, bicycles would make a very useful part of the payment package. This would extend the concept of "basic settlement facilities" to include not only a plot with water supply, sanitation, power, access to education and access to health services but also minimal personal transportation.

To encourage bicycle use, lightly-surfaced paths can be built at low cost for bicycle use or mixed bicycle and pedestrian use. In some cases it may be economically sound to create lightly-surfaced exclusive bicycle lanes adjacent to the main lanes of local streets, feeder roads and arterials; in addition to providing for safe bicycle movement this may be a useful way to preserve future rights-of-way for bus or other larger-scale transportation later when demands increase, without the initial expense of fully developed rights-of-way and with a fair chance of preserving space that would be encroached on if it were merely designated but not used. In addition to rights-of-way, simple parking spaces, preferrably with racks onto which bicycles can be locked and with police supervision, can be provided in key central-city locations.

Traffic regulations which protect the rights of the cyclist relative to automobile users and mass transit vehicles should be established and enforced.

As with most other transportation improvements, cyclist, driver and pedestrian education -- on-the-spot, with penalties enforced -- will be an important part of cycle-oriented projects.

In summary, the economic and other benefits associated with bicycle projects are likely to include: the generation of employment; low foreign exchange requirements; low out-of-pocket costs and relatively low time costs for the user; low infrastructure costs; low-cost expansion of the supply of land accessible to low-income groups for settlement; the maintenance of low risk for both the private user and public agencies responsible for transportation; the status (at least for low-income households) and pleasure associated with bicycle ownership and use; and the augmentation of low-income groups' assets.

The only potential serious disadvantage of bicycle use is the danger associated with it in heavy streams of mixed traffic. A variation on the basic bicycle is the moped or mini-motorbike which are low in capital and operating cost, capable of moderate speeds making them more convenient for longer distances than ordinary bicycles and less of an interference to other traffic. Import duties sometimes put them out of reach for most low-income groups however.

The bicycle is used extensively in urban areas in a number of countries, including, for example, India, parts of Pakistan and Tunisia.

3. Facilities and Support for Traditional Modes

Traditional modes of goods and persons movement for the poor bear a great variety of local names. They include animal-drawn carts for goods movement, handcarts (small and large -- such as the two-man handcarts common in India), animal-drawn vehicles for passengers (for example, the tongas and victorias of Karachi), bicycle rickshaws and autorickshaws (which, fortunately, have supplanted man-drawn rickshaws in most cities).

All of these provide adaptable forms of transportation at relatively low capital cost, particularly when public and private capital costs are considered jointly, and, relative to owners' incomes, the vehicles involved often represent substantial capital assets. (Sometimes, however, fleets of such vehicles are owned by middle-income entrepreneurs and rented to low-income operators.) The production, maintenance and repair of vehicles, as well as their operation, provide useful sources of relatively low-skilled employment. Like bicycles, they can serve widely dispersed origins and destinations and are readily adaptable to changes in user routings. They, too, help to extend the supply of accessible land for the poor at relatively low cost. Because of their adaptability they also help to keep risks for the user, owner-operators and the agencies responsible for the provision and maintenance of roads relatively low.

Because the equipment and experience necessary for operating traditional modes usually are readily available locally, expansions in traditional systems usually can be achieved quickly.

Through the services traditional modes provide and/or the employment they generate they benefit the full spectrum of low-income groups.

Their major potentially negative impact is their interference with mass transit vehicles. This can be ameliorated if fast and slow routes can be differentiated appropriately, but this often is difficult to do.

Animal-drawn carts and handcarts for goods movement require low capital investments. Users often find the costs of haulage by these modes to be competitive with or cheaper than mechanized transport; this is particularly likely when long periods of waiting for loading or discharge at port, warehouse or shop are involved. Their unit capacities make them especially relevant for small-scale merchants and industrialists. They can tolerate lower standards of road construction and maintenance than heavier vehicles and they can penetrate through narrow lanes in densely-settled areas that are inaccessible to modern trucks.

Animal-drawn vehicles for passenger movements provide low-income residents with transportation on both fixed routes and customized services. Like their goods-vehicle counterparts, they can tolerate rudimentary road surfaces and penetrate into densely-settled areas. They can provide semi-private transportation for women and children where this is culturally important. They also provide a form of public transport that is more convenient for some purposes and often more comfortable than city buses.

Bicycle rickshaws and autorickshaws provide a mechanical passenger mode that is capable of penetrating narrow, isolated passageways within high-density, low-income neighborhoods. They can thus provide sizeable numbers of people with very convenient service. Larger autorickshaws operating over fixed routes with frequent service sometimes can provide low-income neighborhoods with a service quality that is higher than that of city buses. The autorickshaw is the only mechanized alternative open to people in many instances. It is nevertheless expensive for low-income households compared with adequate bus transport. The pollution and safety aspects of the vehicle are matters for concern, but both of these problems are solvable with proper vehicle inspection and police enforcement of existing standards. As drivers' wage costs increase, fares for autorickshaws are likely to approach those of taxies. As this happens and as low- and lower-middle-income households are better served by public transport, the market for autorickshaws can be expected to decline.

To the extent that they can be provided for without interfering excessively with essential forms of mass transportation as systems gradually modernize, traditional modes should be encouraged rather than discouraged. The types of service they can provide, distinct from more modern mass transportation modes, should be recognized and exploited. For the non-motorized traditional modes the case for supporting them has become even stronger in the last several years as fuel prices have risen.

The types of project support for traditional modes that may be worth considering include: a) a differentiation of the services that traditional and modern modes can provide and the different incentives and restrictions appropriate for each -- with large mass transit vehicles excluded from small streets that can be served best by smaller vehicles, and vice versa, together with a relaxation of current restrictions on traditional modes in appropriate parts of urban areas; b) support for owners and operators of traditional modes, in the form of credit and assistance in obtaining parts and materials for construction and maintenance -- including, in some cases, support for the development of cooperatives for equipment purchases, operation and maintenance; and c) careful structuring of taxes and licensing fees to avoid discouraging traditional modes.

Recent cases in which the role of traditional modes has been recognized include the Karachi Development Plan, 1974-1985.[6] Proposals there have been based on a careful analysis of the capital and operating costs of alternative modes and the different types and levels of service they are capable of providing. Measures of the kind suggested above are being considered now in the program for low-income settlement that constitutes an important part of the implementation of the overall Plan.

4. Mini-bus Systems

The mini-bus of Karachi, the jeepney of Manila, the tap-tap of Port-au-Prince, to name just a few of the forms of small mass transit vehicle that have become increasingly popular in many cities of the developing world, provide useful transportation services for a part of the low-income populations of those cities -- but generally for only those who are approaching middle-income status.

[6] Karachi Development Plan, 1974-1985, Chapter XIV: Urban Transport, pp. 233-278.

The ease and rapidity with which services can be expanded with project assistance will vary considerably from place to place -- depending, among other things, on the degree to which the purchase of chassis involves foreign exchange versus the conversion of existing used vehicles and the extent to which bodies can be produced locally. The mini-bus in Karachi is wholly imported; the jeepney in Manila, as the name suggests, originated with an abundance of war-surplus jeeps on which local bodies were superimposed; the tap-tap in Port-au-Prince typically is a converted small pickup truck.

In some situations there is likely to be a sustained role for such vehicles -- for example, where even the main road system is fairly rudimentary and carriageway widths and curve radii make it difficult to operate conventional buses, as in Port-au-Prince. Four-wheel-drive vehicles are used to penetrate the ranchos in Caracas. In other cases such as Karachi, however, much of the demand for mini-buses arises because of the shortcomings of the conventional bus system. In these latter cases, the operation of mini-buses needs to be regulated carefully in the context of the overall mass transportation system to ensure that the economies of scale of well-managed conventional bus operations are not foregone. Typically, mini-buses operate on fixed routes with great flexibility in stops, but they are not as adaptable in their routing or as capable of providing customized services as are more traditional modes using smaller vehicles.

Because of the relatively high costs of the vehicles, mini-bus owners usually are middle-income rather than low-income. The extent to which mini-bus systems are capable of generating employment for low-income groups clearly will depend heavily on the extent to which body fabrication, repairs and maintenance can be undertaken with semi-skilled local labor.

For these reasons and because of relatively high fares, the role of mini-buses in low-income transportation may be more limited than most of the other modes discussed here, but they can provide a higher level of service than buses since they provide seats, travel at higher speeds and make fewer stops. Where there is a good case for their support, several types of project assistance may be worth considering.

One possibility is the support of mini-cooperatives for owner-operators who individually cannot raise sufficient money for the purchase of a vehicle. As joint owners and operators they could share driving responsibilities, operating the vehicle in multiple shifts, possibly including a late-night shift for goods transport. The part-time employment thus generated might well yield a higher income than their present employment and they might supplement that income through other off-shift employment in a central city area.

Another possibility is the provision of technical assistance and credit for mini-bus bodybuilders and maintenance shops. Present bodybuilding techniques often result in rapid depreciation but could be improved quite markedly with minor innovations.

If there are really good grounds for sustaining mini-bus systems, adjustments in import regulations and tariffs may be justifiable, but the wisdom of this should be evaluated carefully to guard against the possibility of supporting a mode whose present popularity is primarily a result of bad management of the conventional bus system.

Port-au-Prince, Haiti, is a case in which there are grounds for continuing support for mini-bus operations and recommendations to that effect are being considered presently.[7] There the vehicles used for public transportation consist of three major types which might be considered "mini-buses". The most important numerically is a vehicle based on a diesel Peugeot "break". A locally-made body is built on the imported chassis with transverse benches to accommodate nine seated passengers. Agricultural and other merchandise is carried frequently in these vehicles, as well as passengers. A second type of vehicle is based in imported "pickup" van chassis (Datsun, Isuzu, Toyota and, less frequently, Peugeots and Fords). The locally-made body of wood and metal is arranged to accommodate 12 to 18 passengers. Diesel motors are the most common now, but older vehicles have gasoline engines. The third variation is a small diesel bus capable of carrying 22 passengers on transverse benches -- usually based on a Japanese chassis (Isuzu, Toyota, Mitshubishi), occasionally on a Ford. On a street system which makes it relatively difficult to operate larger buses, these mini-buses and a variety of other types of vehicle together provide a very effective service responsive to local demand. They are privately owned. A few owners have relatively large fleets of 30 or 40 vehicles, but most fleets consist of only two or three vehicles. Owner operation of single vehicles is rare.

5. Buses

Buses are likely to play a major role in transportation for the poor throughout the foreseeable future in most cities of the developing world.

Although many bus systems are poorly managed at present, dramatic improvements in services for low-income groups can be achieved relatively quickly through programs which combine the purchase of additional vehicles with improvements in management and improvements in routing, scheduling and overall urban traffic operations.

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[7] The analysis is being undertaken in the project "Planification Physique, Habitation et Construction", HAI/74/R-40, a joint project of the Government of Haiti (CONADEP, TPTC) and the United Nations.

Although buses do not have the lowest capital or operating costs among public mass transit modes, their relatively low costs and their great routing flexibility enable them to contribute very effectively to the goal of keeping essential transportation costs low and levels of service high.

In most cities efficiently-operated bus systems will be capable of serving all but the very lowest-income groups without subsidies.

In large urban centers, buses frequently carry at least 50 percent of all non-walk trips and constitute the most important single components of cities' passenger transportation systems. Even if later economic development makes it possible to add fixed-rail services to urban systems it is likely that buses will continue to play a major role in the developing areas (as they still do in Tokyo and London) in public transportation. Their flexibility allows service areas and routes to be tailored to demand. They usually have higher operating costs and lower capital costs than light rail (tram) systems but they provide greater employment opportunities per vehicle. (In Karachi, for example, it was estimated that a bus requires a support staff of nine to eleven people while a light rail vehicle requires only eight.)[8] The high frequency of stops and flexibility of routing limit the capacities of bus systems relative to fixed rail systems but they can provide excellent feeder services for rail systems when local economic conditions and land use patterns make fixed rail feasible.

In undertaking projects to improve bus systems it often will be important to incorporate at least eight types of action -- each of which, of course, may deserve a different degree of emphasis in specific instances.

First, it usually will be necessary to expand bus fleets. In many major urban areas shortages of foreign exchange and limitations in local capacity for production have resulted in fleets that would still be far too small even if they were well managed.

Second, it may be desirable to provide funding and technical assistance for the design and production of complete vehicles or major components (for example, local bodies on imported chassis, as is frequently the custom already). The importance of improved design to facilitate local maintenance and to reflect local climatic and cultural characteristics should not be underestimated. A major reason for the underutilization of some existing fleets is simply the fact that the vehicles are primarily imported and do not function well under local conditions. (Some well-intentioned gifts of foreign vehicles have turned out to be of very little value because of this.)

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[8] Master Plan Department, Karachi Development Authority, Karachi Development Plan, 1974-1985. (Karachi: Master Plan Department, Karachi Development Authority, 1973), p. 241.

Third, it is likely that technical assistance will be needed to improve system management. Deficiencies usually range from service planning including routing, scheduling and pricing, through purchasing procedures, workshop management and maintenance. Management weaknesses often are the single greatest contributor to ineffectiveness in services. This problem typically is more severe where bus services are in the public sector than in situations where private sector management is under the usual performance constraints imposed by the market place. In one major city in which the public sector provides about 25 percent of the buses operating daily, with the remaining 75 percent in the private sector, the differences in performance are striking. Over a recent period of about 15 years, the public sector acquired more than 1,000 new vehicles and 500 used vehicles. At the end of the 15-year period only about 300 of the total 1,500 were operating. In that case the public sector possesses many vehicles which are less than five years old but finds it extremely difficult to keep them roadworthy because of maintenance and administrative deficiencies. Over one-third of the buses in the private sector are more than ten years old, but a much greater proportion of those buses is kept in more or less adequate working condition. If conversion from private to public management seems desirable for ideological or other reasons in such situations, that conversion should be approached cautiously and undertaken gradually, on the basis of demonstrated improvements in performance, at the same time as essential private-sector services are maintained. Among their other problems, public-sector operations often are highly susceptible to political influence which affects efficiency adversely. In most situations where private operations are feasible it is important to maintain ease of entry into the industry to encourage competitive efficiency.

Fourth, realistic fare structures must be established to enable systems to be commercially viable. Unreasonably low fare regulations may drive relatively efficient private-sector operators out of business and make it impossible for public-sector fleets to be operated properly. Cities in a number of parts of the developing world have demonstrated that well-managed services can charge fares that are low enough to be within the reach of most low-income groups.

Fifth, import regulations and tariffs, vehicle and fuel taxes and licensing fees should be such as to encourage the development of effective bus services, not hinder their development. If the changes necessary to achieve this result in substantial losses of revenue it usually will be sound policy to increase tariffs, taxes and licensing fees for private automobiles and other relatively inefficient vehicles; these increases may achieve two purposes -- a) at least a partial compensation for the reductions in revenue from levies on buses, and b) a discouragement of the use of the less efficient vehicles.

Sixth, it may be necessary to construct additional bus terminals and/or intermodal terminals and improve layouts and facilities in existing terminals.

Seventh, it is likely to be necessary to improve overall traffic operations in order to help to take full advantage of the potential efficiencies of buses. The kinds of improvement likely to be worth considering include: specific regulations to favor bus movements on major streets; restrictions on the parking of vehicles in carriageways that otherwise would be available to buses; the establishment of exclusive bus rights-of-way; and integrated scheduling and routing of all major passenger transportation modes to achieve efficient and convenient intermodal transfers.

Eighth, in almost all cases it will be necessary to undertake sustained driver training and road-user education programs -- to improve vehicle performance and reduce maintenance costs, to use road space more efficiently, to reduce accident rates, and to avoid unreasonable interference with pedestrian use of sidewalks where queuing occurs.

In summary, the potential benefits of bus systems include: the provision of low-cost, convenient and flexible mass transportation services accessible to most of the urban poor; the generation of employment through production, operations and maintenance; increases in property values in the areas to which bus services are extended, including areas in which low-income groups are likely to be property owners; and increases in the total supply of land accessible for settlement by low-income households.

Their potential disadvantages include: the high initial capital costs of vehicles, which may require outside funding assistance to initiate system improvements -- but bus costs per passenger space are considerably less than costs per passenger space for modern fixed rail systems ("light" or "heavy"); the substantial foreign exchange requirements for fleet expansions prior to the point at which local production can play a significant role; the fact that buses cannot provide levels of service as high as those achievable with fixed rail systems where population densities are very high; and the environmental pollution that may be associated with bus noise and, where maintenance is inadequate, exhaust emissions.

Cases in which bus projects incorporating some or all of the types of action suggested earlier have been undertaken recently or are under consideration include Tehran, San Jose in Costa Rica and Bombay.

6. Light Rail

The term "light rail" is used here to refer to modern versions of systems that have been known earlier as "tram" or "streetcar" systems. It is used purposely to avoid some of the misconceptions that might be associated with the use of the earlier terms. To suggest that cities in the developing areas introduce a form of mass transportation that many cities in the so-called developed countries abandoned years ago might be considered anachronistic, but a careful analysis of the properties of modern light rail technology will indicate that it is not. Indeed, several cities in Europe (including Frankfurt and Prague) continue to operate light rail services effectively and some cities in the United Kingdom and the United States are considering re-introducing or expanding services. A new service has started recently in Newcastle in the U.K. and Boston and San Francisco in the U.S.A. are expanding their networks.

Initial improvements in mass transportation for low-income groups through the introduction of light rail systems will take considerably longer to achieve than will the benefits achievable through improvements in existing bus systems. They will require careful demand analysis and service planning, the creation of organizational capacity for operations and maintenance, and the installation of rail infrastructure as well as the importation of vehicles (except for the rare cases in which existing railway workshop facilities make it possible to produce local light rail vehicles almost immediately). The long-term benefits, however, are likely to be considerable.

Like bus services, light rail services are likely to be low enough in user costs to be accessible to all but the poorest of low-income groups. When such systems share carriageways with highway-related vehicles they can provide the equivalent of three lanes of highway capacity. When light rail systems are on exclusive rights-of-way they can provide the equivalent of more than nine lanes of highway traffic capacity. Capital costs for light rail rights-of-way and equipment normally are less than for heavier rapid transit modes. Although vehicle capital costs are much higher than for diesel buses, greater vehicle capacities and longer service life reduce the disparity between the returns on bus investments and light-rail investments considerably. Light rail can provide better levels of service than buses in high-density congested central city areas and on high-density corridors. Properly designed vehicles can permit fast loading and discharge of passengers. They can make frequent stops in central city areas. In countries with experience in the production and operation of conventional rail equipment (for example, India and Pakistan) conversion to the production and maintenance of light rail urban mass transit vehicles may be possible relatively quickly. Overall, the

potential benefits of light rail systems include most of those identified for buses, except for the importantly superior routing flexibility of the latter.

Potential disadvantages, in addition to fixed routing, include higher capital costs per occupied passenger space than for buses and potential interference with other road traffic. (Since the automobile is so much less efficient than light rail for urban transportation, perhaps interference with it should be considered a disadvantage only to the extent that this, in turn, interferes with mass transit.)

At least five project elements should be considered in support for the development or improvement of light rail systems.

First, it is likely to be necessary to provide technical assistance for system planning and project feasibility studies. This is likely to be an important component in all transportation undertakings but it is especially important in cases in which the types of system under consideration are new to a locality.

Second, it may be desirable to designate and preserve rights-of-way for light rail routes as soon as the initial planning work has identified desirable routings. Pressures for urban land, especially in locations where densities are of the levels that are likely to make light rail routes desirable, are so great that it may be very difficult to acquire appropriate rights-of-way and the sooner they are designated and protected the better. To help to protect rights-of-way prior to their actual use for light rail it is desirable to establish some controllable interim use -- for example, exclusive bicycle lanes (if the rights-of-way are at the sides of streets rather than in the middle) or exclusive bus lanes. If they are designated but not used, it may be very difficult to prevent irreversible encroachment (or encroachment that is very expensive to reverse) by commercial users and squatters.

Third, technical assistance is likely to be necessary to help to establish local staff capacities and physical facilities for the operation and maintenance of the initial routes of the system that is to be created.

Fourth, technical assistance may be needed to support the development of local capacity for the production of light rail vehicles and equipment where previous experience with conventional rail systems or other conditions make this feasible and desirable.

Fifth, in addition to the training of managerial and operating staff referred to earlier, a sustained public information program is likely to be necessary to inform potential users of the routings and services available, to help them to understand the fare structure and to educate them in the proper use of vehicles.

There are several situations in developing countries in which light rail systems are proposed or already in use.

Karachi, in Pakistan, with a 1972 population of 4.2 million, is one of these. Existing land use and projected growth patterns there are such that a series of heavily-travelled corridors of movement exist or can be expected to emerge during the next 10 to 15 years. In the preparation of a comprehensive metropolitan development plan for the period 1974-1985, with broader perspectives sketched up to the year 2000, three alternative public mass transportation systems were identified and tested analytically. One focused on improvements to the existing bus system and improvements to the limited conventional urban rail system that already exists. A second combined improvements to the bus system with the introduction of a new light rail system and, in the most heavily travelled corridor, a new heavy rail rapid transit spine. The third combined bus improvements with new light rail services only, with two light rail routes substituted for the new heavy rail rapid transit spine of the second alternative. The analysis undertaken indicated that the first alternative would be the best one up to about 1985, with the major focus on bus improvements; the next stage of system development after that should be of the type identified in the third alternative, with a focus on light rail.[9] Interestingly, diesel trams have been operating in the major commercial streets of Karachi since the turn of the century, and have provided an efficient service with remarkably ancient equipment. In 1972 they were carrying approximately 44,000 passengers daily. Unfortunately, the service was terminated recently for reasons that had nothing to do with cost-effectiveness, but the possibility of developing a new light rail system is now under active consideration.

Calcutta, in India, with a metropolitan population that has been projected to exceed 9 million by 1976, provides another example in which there is a long-established tram system (in that case, electric) providing effective services in the heart of the city and extending to several of the older suburbs.

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[9] Master Plan Department, Karachi Development Authority, Karachi Development Plan, 1974-1985. (Karachi: Master Plan Department, Karachi Development Authority, 1973), Chapter XIV.

7. Conventional Rail

Conventional rail systems already provide important services for low-income groups in many urban areas in the developing world. They are particularly useful in providing links between central city areas and suburban areas. "Suburbs" often include semi-villages in which low-income households remain while earning their livelihood from the city, as well as outlying areas in which low-income groups have been located as a result of public policies and other outlying areas in which they have settled, with very low levels of urban services, for want of a better alternative.

Conventional rail with diesel locomotion is likely to be lower in capital cost per occupied passenger space than rail rapid transit or electrified light rail systems. Its operating costs per thousand passenger miles are likely to be considerably lower than those of mini-buses, diesel trams, electric trams or rail rapid transit. It is therefore likely to be able to provide services for all but the poorest of the low-income groups and may be able to reach at least as far down the income scale as buses.

The speed with which improved services for the poor can be achieved through conventional rail projects will depend largely upon whether those improvements can be initiated in an existing system or require the creation of a system where none existed before. In most situations the creation of a completely new conventional rail system for commuting will not be sound; immediate development of a modern light rail service is likely to be a preferable alternative.

The benefits that conventional rail systems can yield include those offered by buses except that routes are fixed and stations must be relatively widely spaced for efficient operation (generally not less than one mile apart in densely settled areas and two to four miles apart in outer suburbs). They also relieve loads on the street system. A major disadvantage of conventional rail is the high capital outlay required to initiate new system development -- much less of a problem, of course, if improvements in services are to be based on an existing rail system.

Existing urban rail systems in the developing areas frequently suffer from poor management and, in some cases, from limitations on the importation of some of the equipment needed for modernization. Line capacities often are affected adversely by existing signalling systems and by the mixes of fast and slow passenger and freight trains that prevail. In some cases, rail capacities are under-utilized because of a lack of coordination in routing and scheduling between rail and other modes.

Project components for the improvement of transportation through existing conventional rail may include the following:

a) Assistance for the purchase of additional locomotives and carriages.

b) Technical assistance and funding to build up local capacity for the production and maintenance of rail facilities and equipment.

c) Technical assistance to improve system management -- including assistance in improving purchasing procedures, line maintenance, vehicle maintenance, signalization, scheduling and the integration of operations with other modes.

d) Funding and technical assistance for improvements in and/or additions to existing facilities -- for example: electrification to save foreign exchange where fuel must be imported, to increase line capacities and to improve levels of service; the introduction of "isolation spurs" or "dead-end snags" to provide for faster handling of trains at stations where reversing is to occur; the introduction of grade separations where road-rail conflicts are severe; the duplication of tracks over heavily-traveled sections; the introduction of additional stations to improve accessibility for low-income groups; and improvements in the facilities available in existing stations and in the utilization of platforms.

e) Changes in fare structure to achieve greater equitability for low-income groups and/or greater economic viability for the system.

f) Improvements in the information available to existing and potential users to expand demand and to use existing facilities more effectively.

In Calcutta, electrification of all of the suburban lines was already well under way in 1967. Proposals have been made for additional running lines, and for grade separations at major road-rail intersections. It has been suggested that a new "through" station at Sealdah be considered and improvements in central-city terminal facilities have been recommended. In 1967 terminal capacity at the Howrah and Sealdah stations, both close to the heart of the City, was not well utilized, even during peak hours; during the morning peak period at Howrah Station, for example, seven platforms were being used by the Eastern Railway services but individual platform use amounted to only one or two trains per hour.

In Karachi, with a focus on short-run capital conservation and immediate action, recommendations have been made for improved scheduling, the introduction of "isolation spurs" at selected stations, the construction of one new station and the integration of scheduling and fare structures in the rail and bus systems.

8. Rail Rapid Transit

"Rapid transit" usually refers to high-speed underground or grade-separated mass transportation systems free from the interference of other traffic. In many cases underground and grade-separated surface systems are combined.

In most cities in the developing world rapid transit, if developed, would constitute an entirely new element in urban mass transportation systems. This fact, together with the scale at which rapid transit systems have to be initiated, their high capital costs and their sophisticated technologies means that it is unlikely that significant benefits can be enjoyed within the first three or four years of the initiation of their construction. They cannot be considered as "immediate action" responses to urgent problems but must be viewed, rather, as potentially important elements in programs for the long-term improvement of mass transportation services.

The potential significance of rapid transit as service benefiting the poor will differ from place to place but in many situations a large proportion of low-income households will be unable to use rapid transit services unless those services are subsidized. Capital costs per occupied passenger space are much higher than for buses, conventional rail systems or light rail systems. Operating costs per thousand passenger miles, though lower than for buses, are likely to be higher than those for electrified light rail or conventional rail. Indeed, the inclusion of rapid transit projects in the present Guidelines, which are focused on projects with high beneficial impact for the poor, is questionable. They are included, at least tentatively, a) because there may be situations in which rapid transit can generate benefits for at least some part of a city's poor population, and b) because rapid transit is often a politically popular mode (at least prior to a serious analysis of cost-effectiveness) and a mode that is popular with foreign consultants and contractors who find high-technology transportation and tunnelling profitable; it is important to refer to it at least in the form of a caution against its premature development.

The benefits achievable with rail rapid transit are similar in kind to those achievable with conventional rail and light rail systems but rail capacities are likely to be considerably higher. Grade-separated systems have the added advantages of not interfering with other surface transportation and being able to penetrate high-density areas.

The potential disadvantages of rail rapid transit, particularly underground systems, should, however, be considered carefully. One of the most serious disadvantages in a developing-country context is the very high initial capital cost involved. Moreover, rail rapid transit uses relatively capital-intensive technologies not only for construction but also for operations and maintenance. Maintenance of sophisticated facilities and equipment may be a severe problem in many situations. As suggested earlier, because of its high costs, rail rapid transit will require heavy subsidization to make it accessible to low-income households. The benefits such a system may yield tend to be benefits for the city as a whole rather than primarily for the poor.

Rail rapid transit systems are likely to be necessary components of the transportation systems of major cities at some point but if both equity and an efficient use of resources in the short run are of concern, the timing of the introduction of rapid transit is crucial.

One case in which rail rapid transit has been recommended in a developing area is Calcutta. The structure of land use there is such that there are several very dense corridors of development. But even in that case, the preliminary suggestions made in 1967 included a recommendation that thorough feasibility studies be undertaken before making a final commitment to investment in rail rapid transit.

It should be noted that in some urban areas in Latin America the poor live in suburban areas and rail rapid transit may in those cases yield substantial benefits specifically for low-income households.

In situations in which there does appear to be a case for introducing rail rapid transit, the types of project elements that need to be considered will be similar to those suggested for light rail systems.

9. Roads and Road-Related Facilities

The term "road" is used here to refer to individual roads and/or road-related facilities such as parking spaces, spaces for road-side vendors, sidewalks, bus stops and street lighting.

Additions to road networks or road improvement intended specifically to benefit the poor might be considered in two categories -- a) improvements or additions in areas in which low-income groups are settled or conduct their business; b) projects undertaken elsewhere whose impact on the poor is chiefly through the employment generated by the construction and maintenance they involve. Only the first type of project will be discussed here.

Although major road projects usually will take some time to yield benefits there are many types of project, such as paving improvements, small changes in geometrics or the construction of simple lanes in low-income areas, that can help to improve conditions for the poor almost immediately.

The obvious purpose of road projects is the improvement of conditions for the movement of pedestrians and vehicles serving or operated by members of low-income groups. But this should not be assumed to be the only (or in some cases, even the major) purpose of such projects. For low-income groups, in particular, roads and road-related facilities serve a wide variety of purposes. To name just a few:

- pedestrian movement (dealt with elsewhere in this chapter);
- vehicular movement of a wide variety of types, ranging from traditional small vehicles to buses and light rail (or even elevated rail rapid transit);
- daily routines such as water-gathering (from public fountains), laundering (in gutters and roadside pools), urinating and defecating;
- public meetings, large and small;
- informal commercial operations such as roadside retailing and personal and business services (barbering, letter-writing, etc.);
- informal manufacturing and service activities such as automobile repair;
- informal education -- through "schoolrooms" on sidewalks and through the variety of experiences to which passersby have access in areas in which roads or sidewalks serve a variety of urban purposes;
- celebrations -- such as weddings, religious festivals -- and entertainment;
- daily play for children (for which roads and sidewalks are often the only spaces available);
- waste disposal -- in the dumping of solid refuse and through open surface drains and sewers.

In undertaking road projects to benefit the poor the possibility of a road or pathway being used for such a wide variety of purposes should be kept very clearly in mind. Non-transportation functions should not be considered in all cases to be "nuisances"; indeed, multiple uses of street space where traffic levels are light often should be considered very efficient uses of scarce public capital and as effective means of preserving rights-of-way that will be necessary for transportation in the future by occupying them with transitory activities now.

Well-conceived road projects that recognize the many possible purposes of public space are capable of benefiting virtually all income levels in a city's low-income population.

Because of the variety of purposes to be served, the possible types of project are too numerous to identify completely here. Moreover, a tremendous number of variations in project characteristics will be called for by differences in local cultural characteristics as well as the other features unique to each locality. All that will be attempted here is an identification of some of the most common categories of projects that typically are, or should be, considered in identifying road and road-related projects to benefit low-income groups.

In all cases, there are at least four things that should be of major concern: 1) careful analysis of the full variety of purposes to be served by road spaces and road-related spaces -- including an analysis of the potential changes in use that should be provided for (for example, when it can be foreseen that a right-of-way used initially for a variety of non-transportation purposes, as well as relatively light or intermittent traffic, will have to be converted to an important traffic street later on); 2) a high degree of efficiency in the use of scarce capital resources in the short run; 3) the generation of as much employment as possible in the construction and maintenance of roads and road-related spaces; and 4) the achievement of as much local community involvement as possible in the construction and maintenance of the spaces and facilities installed. (As part of this concern, the detailed design of rights-of-way, drainage channels, pedestrian gathering places and other facilities should be such as to encourage and facilitate private household maintenance of those spaces and facilities, for public maintenance is likely to be unreliable in many situations.)

The project types that are likely to be worth considering range all the way from major street and bridge construction through lightly-surfaced lanes, to street lighting, drains and minor changes in geometrics. They include, for example:

- construction and maintenance of arterial and/or other roads to link low-income areas with places of work;
- bridges and/or footbridges across riverbeds where low-income groups are squatting, to provide better access to jobs and other urban facilities;
- interior streets in low-income settlement areas to facilitate the improvement of mass transit services for the poor in those areas;
- interior multi-purpose streets and lanes in low-income areas to provide not only for light traffic but also for the types of other activities suggested earlier;
- improved paving, drainage and lighting for existing internal streets and lanes in low-income areas to improve accessibility under all weather conditions, to improve safety and to provide for non-transportation activities of the types suggested earlier;
- reconstruction of curbs and improvements to intersections to differentiate pedestrian and vehicular rights-of-way more clearly and to increase street capacities;
- closing-off of existing narrow streets to all vehicular traffic except emergency vehicles and, possibly bicycles, to make those streets more useful for the important non-transportation purposes they serve;
- improvements to bus stops to increase safety, to provide weather protection and to facilitate orderly queuing;
- establishment of off-street parking spaces for automobiles, animal-drawn goods and passenger vehicles, bicycle rickshaws, autorickshaws and bicycles;
- technical assistance and funding to assist in the development of more labor-intensive techniques for road construction, bridge construction and road maintenance.

Obviously, projects of these types should be coordinated fully with improvements in mass transportation of the type discussed earlier and improvements in traffic operations, which will be discussed briefly later.

Cases in which a variety of road and road-related improvements of the types suggested here are in the process of being implemented presently include the Lyari slum-upgrading project (with World Bank support) in Karachi and the "Metroville" low-income settlement project (with United Nations support), also in Karachi. The Lyari project is in an area with a densely-settled population of about 500,000 living in terrible conditions in the heart of Karachi; the Metroville program (described in Chapter VIII) is being developed to absorb somewhere between 150,000 and 200,000 additional low-income people in the metropolitan area each year.

10. Traffic Engineering

Many traffic engineering projects -- for example, one-way street systems, signalization, channelization, and directional signs -- are likely to be undertaken to benefit a variety of groups, rather than the poor specifically. There are others, however, that can have a more direct impact on low-income groups and four of these will be mentioned.

The first is the exclusion of vehicles from multi-purpose streets in low-income areas, as suggested in the previous section.

The second is the avoidance of free vehicle turns at intersections where such turns would be hazardous for pedestrians (mentioned earlier in the discussion of pedestrian facilities).

The third is the provision of parking facilities and the enforcement of parking regulations. Proper provision should be made for the parking of vehicles used and/or operated by members of low-income groups (for example, bicycles, animal-drawn goods and passenger vehicles, rickshaws, etc.). The parking of private vehicles in areas where this hinders mass transportation services for low-income groups should be regulated strictly.

Fourth, pedestrian movements across major streets should be controlled through the proper placement and policing of pedestrian crossings -- to increase the safety of pedestrians (many of whom will be members of low-income groups) and, at the same time, utilize existing street capacities more fully.

All of these measures are low-cost means of increasing safety and convenience for members of low-income groups. While such measures are not of major importance in themselves, they can be useful supplements to other transportation projects.

Recent transportation studies in which considerable attention has been given to traffic engineering, particularly for immediate action, include the work undertaken for San Jose in Costa Rica.[10]

11. Education and Information

As in the case of traffic engineering projects, projects for the education of road users (at all income levels) and projects to provide information on transportation for low-income groups usually will be supplements to other transportation projects. However, in some situations it may be possible to achieve considerable improvements in the use of existing facilities through education and information projects alone.

The types of road-user education that are likely to be important include: a) education and enforcement of regulations for all road users to encourage them to respect the rights of pedestrians and the rights of low-income operators of small vehicles; and b) education and the enforcement of regulations for low-income vehicle operators specifically, to increase their own safety as well as that of others, and to achieve fuller utilization of street capacities.

Information services specifically for the poor should include information on the transportation alternatives available to them and information on their rights as pedestrians and vehicular road users -- including information on the actions they are entitled to take against others, including members of higher income groups, when their rights have been infringed. Higher income road users often treat low-income pedestrians and vehicle operators as if they had no rights at all. Information services of this type might well be incorporated in the programs of multi-purpose low-income community service centers.

12. Economic Characteristics of Alternative Modes

The following data from a recent urban planning study are indicative of the relative capital and operating costs of alternative transportation modes that might be considered for low-income groups. Data for additional modes -- scooters, motorcycles, motorcars and taxis -- are presented also, as a reminder of their high costs. In addition to the high direct costs of those other modes, they are much less efficient users of public road space. In Karachi, for example, the city from which the data are drawn, it has been estimated that private vehicles

[10] Alan M. Voorhees & Associates, with PADCO. Republic of Costa Rica, San Jose Area Transportation Study. Technical Working Paper No. 2: Immediate Action Projects. Prepared for the International Bank for Reconstruction and Development, with the participation of the Ministry of Public Works and Transport. San Jose, Costa Rica: Alan M. Voorhees & Associates. June 15, 1973.

generating 44 percent of road passenger miles use 83 percent of road passenger space, while buses generating 55 percent of road passenger miles use only 17 percent of road passenger space.[11]

The data presented in the tables are of interest for comparative purposes. They relate to 1972 and the absolute numbers are already out of date. Some of the comparative characteristics should be treated with caution also, since they do not reflect recent increases in oil prices.

D. Institutional Aspects

1. Integrated Transportation Planning and Management

Transportation projects undertaken to benefit low-income groups are unlikely to be fully effective for the poor themselves, or efficient from an overall resource utilization point of view, unless they are part of a systematic transportation planning and implementation program for the urban area in which they are located. Decisions on the mix of modes to be encouraged, route locations, the scheduling and pricing of mass transportation services, transportation-related taxes and fees, priorities for the improvement of road systems and road-related facilities, traffic engineering decisions and the many other types of decision that need to be made to achieve effective urban transportation services must be made in an integrated way and in conjunction with decisions on other urban services and land use. All of these decisions are highly interdependent. Transportation is a very clear case in which the "system effects" of individual projects need to be analyzed explicitly. (For example, adding capacity on one route may result in excessive traffic discharges into other parts of a road network, but drain traffic away from yet other routes, resulting in their underutilization.)

It is therefore extremely important that transportation projects for the poor be related to overall transportation planning and implementation where such planning and implementation exist. If they do not exist, consideration should be given to the possibility of establishing the institutional framework and technical capacity necessary -- for, without them, individual projects are unlikely to be effective for very long.

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[11] Master Plan Department, Karachi Development Authority, Karachi Development Plan, 1974-1985. (Karachi: Master Plan Department, Karachi Development Authority, 1973), p. 21.

Table IX.1

Summary of Economic Characteristics of Private Modes[f]

	Walk	Cycle	Scooter	Motor-cycle	Motorcar			Auto-rick-shaw	Taxi
					600cc	1,200cc	2,400cc		
Unit cost of vehicle[a]									
1. Capital cost (Rupees)									
Total	-	300	3,800	4,400	23,200	29,900	62,400	11,500	29,900
Economic[b]	-	200	2,000	2,700	13,500	17,500	38,000	6,900	17,500
F.E.C.[c]	-	60	1,800	2,200	12,000	15,500	35,000	5,500	15,500
2. Operating costs[d] (Rupees per thousand vehicle miles)									
Total	100	50	170	160	360	500	880	250	380
Economic	100	50	50	40	100	130	270	70	110
F.E.C.	-	10	30	30	60	60	170	40	60
Costs per occupied seat[e]									
1. Capital cost (Rupees per passenger space)									
Total	-	300	3,165	3,365	12,676	16,334	34,041	9,350	18,341
Economic	-	200	1,660	2,249	7,376	9,562	20,763	5,610	10,735
F.E.C.	-	60	1,500	1,833	6,557	8,469	19,124	4,472	9,508
2. Operating cost (Rupees per thousand passenger miles)									
Total	100	50	140	130	200	270	480	200	230
Economic	100	50	40	30	50	70	150	60	70
F.E.C.	-	10	30	30	30	40	90	30	40
3. Time incurred (Minutes per thousand passenger miles)									
	20,000	6,000	3,000	2,400	1,700	1,700	1,700	3,000	1,700

a/ No right-of-way costs are included.
b/ Economic cost equals total less taxes.
c/ F.E.C. indicates foreign exchange component.
d/ Operating cost includes depreciation and maintenance in all cases but excludes wages of drivers for walk, cycle, scooter, motorcycle and motocar.
e/ Costs per occupied seat are calculated on observed average vehicle occupancies over 24 hours.
f/ One Rupee equals approximately U.S.$0.12 at official 1975 exchange rates. The costs above were estimated in 1972.

Source: Master Plan Department, Karachi Development Authority, Karachi Development Plan, 1974-1985. (Karachi: Master Plan Department, Karachi Development Authority, 1973), p. 247.

Table IX.2

Summary of Economic Characteristics of Public Modes d/

	Mini-bus	City Bus	Express Bus Busway	Tram Diesel	Tram Electric	Rapid Transit		Suburban Rail Diesel
						Elevated	Subway	
Unit cost of vehicle								
1. Capital cost (Rupees)								
Total	54,000	143,500	143,500	85,000	1,310,000	2,200,000	2,200,000	963,000
Economic a/	32,400	94,800	94,800	70,000	1,200,000	1,828,000	1,828,000	800,000
F.E.C. b/	25,000	79,600	79,600	22,000	1,090,000	1,371,000	1,371,000	600,000
2. Operating cost (Rupees per thousand vehicle miles)								
Total	720	2,000	2,250	2,500	3,000	3,500	3,750	3,000
Economic	170	1,250	1,350	1,250	2,250	2,750	2,850	1,500
F.E.C.	100	500	500	200	1,500	2,000	2,100	660
Costs per occupied space c/								
1. Capital cost (Rupees per passenger space)								
Total	3,888	2,870	2,870	1,130	6,390	11,000	11,000	4,815
Economic	2,333	1,896	1,896	930	5,850	9,140	9,140	4,000
F.E.C.	1,800	1,592	1,592	290	5,320	6,860	6,860	3,000
2. Operating cost (Rupees per thousand passenger miles)								
Total	52	40	45	33	15	18	19	15
Economic	12	25	27	17	11	14	14	8
F.E.C.	7	10	10	3	7	10	10	5
3. Time incurred (minutes per thousand passenger miles)								
	2,000	5,000	3,000	10,000	4,000	3,000	3,000	3,000

a/ Economic cost equals total vehicle cost less taxes.
b/ F.E.C. indicates foreign exchange component.
c/ Costs per occupied space are calculated on expected vehicle occupancies during peak hours.
d/ One Rupee equals approximately U.S. $0.12 at official 1975 exchange rates. The costs above were estimated in 1972.

Source: Master Plan Department, Karachi Development Authority, Karachi Development Plan, 1974-1985. (Karachi: Master Plan Department, Karachi Development Authority, 1973), p. 243.

The types of institutional arrangement necessary will vary from place to place. As one example of the kinds of action that may be appropriate in a situation where various aspects of urban transportation are presently the responsibility of a variety of agencies (a situation encountered in many cities) the recommendations prepared for Karachi are of interest.[12] They indicate the kinds of action that might be taken immediately, prior to the creation of a permanent urban transportation agency.

The first step recommended was the creation of a Karachi Metropolitan Transportation Coordination Agency. The term "agency" indicates that a large council of representatives of the several units of government concerned with transportation and traffic in the Region was not proposed. A council would be too unwieldy a body to accomplish the objectives sought. The agency would consist of professionals. An advisory council should be constituted as an adjunct to it, as a method for bringing together representatives of the various governmental units to be coordinated, and perhaps providing policy directives. The agency might be attached to an existing provincial department.

The functions suggested for the Agency included the following:

a) It would conduct or sponsor studies to investigate the need for and feasibility of a semi-autonomous Metropolitan Transportation Authority. The critical inquiry would be: what functions could be performed better, or more economically or efficiently, by a single semi-autonomous authority with jurisdiction over the entire Metropolitan Region? It was not possible immediately to recommend that one authority should take over public bus transport and a new rail transit system, or combine those functions with highway development functions, or perform yet other functions in the Karachi setting. The proposed coordinating agency for Karachi, after some experience and studies, should be able to arrive at appropriate judgements for the Region.

b) The agency should examine and pass on all proposed major schemes for public investment in transport facilities, both public and publicly-supported private facilities. The function might also include the review of applications for bus franchises. The addition of a bureaucratic hurdle in the licensing system is not suggested, but rather a mechanism by which the agency might be appraised of important decisions

[12] These materials are based on the Karachi Development Plan, 1974-1985, Chapter XIV.

affecting regional transportation. Appropriate relationships would have to be worked out for each type of review, to avoid complicating administrative processes and to make it clear that the agency is not supplanting existing licensing and development officers.

c) A similar review function might be performed in connection with proposed highway widening and the extension of new construction schemes of the various agencies concerned. The Transportation Coordinating Agency review would focus on such aspects as:

i) design and specifications, as they affect related parts of the system, particularly with a view towards developing uniform standards. (The layout of intersections in Karachi are not uniform, and some are poorly designed);

ii) conformity with existing or proposed plans for the Metropolitan Region;

iii) implications for (and of) other related urban functions, such as the development of new communities, industrial centers, sewage systems, water supply systems, and facilities that generate considerable traffic (in collaboration with the agency responsible for overall planning for the Region).

d) The Agency might identify deficiencies in the maintenance of highways and transportation facilities, and coordinate with the units responsible.

e) The Agency might provide a forum for arbitrating or mediating disputes between different agencies with conflicting operations or programs (such as a dispute as to whether the Railway or the Municipal Corporation should maintain a particular overpass; or situations in which one agency might lay streets that may be incompatible with the surrounding road network under the jurisdiction of some other body).

f) Going beyond but related to its review functions, the Agency might be made responsible for preparing performance standards for road design and construction, and similar types of transportation planning and development.

g) The Agency might develop a central repository of traffic transportation data to be made available to all concerned governmental and semi-public organizations in the Metropolitan Region.

After several years of operation, a full Metropolitan Transportation Authority might be recommended by the Coordinating Agency.

2. The Financing of Transportation Projects

The financing of transportation projects is too complex and the variations in approach too dependent on local conditions to permit more than a brief commentary here. In each situation the identification of appropriate financing methods will require special study.

a) The Financing of Public Transportation Services

In most situations it will be appropriate to use as a basic guide the principle that public transportation should be paid for by users and other beneficiaries such as property owners and standards of service (presuming efficient management) should be such that each service can be financially viable on this basis. Private sector bus and light rail operations in a number of parts of the developing world have shown this to be possible. Financial assistance may be necessary for public-sector or private-sector entities to initiate new services and/or improvements in existing services but that assistance generally should be in the form of loans rather than grants.

In situations where there are good reasons for supporting private-sector operations it may be appropriate to establish a public transportation financing entity (e.g., a state corporation) to provide credit for private transportation owners of "common carrier" services for the purchase of new equipment and major repair of older equipment. Financing could be provided for new city buses, the purchase of new bodies and the acquisition of parts. In addition, technical assistance and funding might be made available to the owners of smaller vehicles (in small fleets, possibly through cooperatives, or singly) to help to improve the types of service they can provide for the poor and to help to increase the capacities of owners where they themselves are members of low-income groups. Loans might be provided also to small-scale goods transporters for the purchase of vehicles.

In addition to purely financial activity, the public entity could undertake a number of support programs to increase the effectiveness of loans. It could aid potential clients in the selection of equipment, provide instruction in simplified bookkeeping, do a general assessment of projects to be undertaken, process the paperwork needed for the importation of equipment, provide technical engineering staff for the construction of bus and truck terminals, and aid in the establishment of new owner cooperatives.

The agency could assist the Government in the standardization of vehicle types, and participate with police and insurance representatives in the inspection of equipment at various locations to ensure safe operation. It could also provide a forum for the Government to monitor the opinions and problems of the transport operators.

In effect, the agency could act as a means of encouraging the participation of available private capital for a very important public service. Borrowers could obtain title to vehicles at the end of the loan agreement and the Government could regulate the public transportation system through the combined efforts of the financing agency and the police without having to assume responsibility for the operation of the system. This could result in relatively low costs for both the Government and the public.

The funds for the agency should be assembled as fully as possible from direct and indirect levies on road users, with relatively high levies for the more inefficient ones, including automobiles, from general property taxes and from business income taxes -- in the latter two cases to reflect the increases in property values and business income that can be expected to result from improved transportation. Levies on road users and business taxes often will be non-local taxes. The funding agency proposed might be established at the state (provincial) or even the central level. In addition to the likelihood that this would be administratively and fiscally desirable it would also facilitate extensions of the agency's activities to more than one urban area.

b) The Financing of Public Infrastructure for Transportation

The forms of funding most apporpriate for transportation infrastructure -- roads, bridges, etc. -- also will vary from place to place. Again, as a general guide, these works should be funded as fully as possible from user levies, property taxes and business income taxes since this reflects the benefits resulting from the facilities. In the case of infrastructure it may be possible to raise funds also from betterment charges which are established to reflect increases in the value of specific properties that can be shown to be beneficiaries of the improvements. This latter device has worked well in Medellín, Colombia, where it is known as valorización; three conditions that seem necessary for the effective use of betterment charges are: i) clearly demonstrable increases in property values resulting from the infrastructure; ii) general increases in property values and incomes associated with economic growth; and iii) strong local administration.

3. Participant Mobilization

The importance of the involvement of low-income groups in the projects intended to benefit them is stressed in all sectors. In transportation projects of the kinds suggested several opportunities for such involvement present themselves.

As a minimal step, basic transportation information, including the kinds of information suggested earlier, should be made available to low-income groups -- information on the transportation services available, information on the rights of pedestrians and other road users, information on the actions that individuals or groups can take if those rights are infringed, information on the actions that can be taken if private-sector or public-sector services are unsatisfactory and information on the types of funding and technical assistance available to potential owners or owner/operators of transportation services (including opportunities for cooperative ownership).

A second type of involvement can be encouraged through inducements to low-income groups to take direct responsibility for the construction of pedestrian pathways, minor streets and other relatively simple facilities in their settlement areas. Inducements might include local tax credits for works completed or payments in kind (for example, bicycles -- as suggested earlier, building materials for housing, etc.).

A third type of participation can be encouraged through technical and financial assistance to low-income owners or owner-operators of transportation services. The encouragement of cooperative community provision of local service may be an important form of this type of assistance.

Participation by the poor in transportation policies affecting the services they enjoy should be provided for wherever possible by ensuring that low-income groups are represented directly in the transportation committees or boards that determine those policies.

E. Complementary Actions That May Be Necessary

Urban transportation projects are undertaken not only to provide transportation services but also to guide the growth of urban land use, to influence the productivity of both public and private investments in urban areas, and to increase the public revenue base.

Some of the policy actions likely to be necessary to reinforce the benefits of transportation projects have been identified already -- including policies concerning the pricing of essential commodities for which transportation costs are important, taxation policies and land use policies.

In addition to such policy support, specific types of complementary action may be needed in other sectors to support projects in transportation.

For example, when urban transportation facilities and services are being used to guide the growth of land use, projects undertaken in communications, power, water supply and sanitation should be designed to reinforce the patterns of land use being sought. In addition to this, the detailed installation of utilities should be designed and scheduled so that both the initial installations and their maintenance interfere as little as possible with the installation and operation of transportation facilities and services -- and vice versa. At present it is commonplace to find road construction and repairs disrupting utilities and to find utility additions and repairs (and even initial installations) causing severe interruptions in both pedestrian and vehicular movements.

There should be a similar concern with coordination between the implementation of transportation projects and projects in housing, health and education if low-income settlements are to function properly from their inception.

Environmental improvements through landscaping and other means may be desirable in conjunction with the creation of new transportation routes or the construction of new routes.

F. Other Likely Impacts

Because of the key role they play in the development and functioning of urban areas, transportation projects undertaken primarily to benefit the poor are likely to have a substantial impact on other groups as well.

For example, they are likely to benefit middle- and upper-income households whose property values are increased by the improved accessibility they provide for the areas through which they pass.

They may result in higher productivity and profits for some middle- and upper-income enterprises -- because of the higher worker productivity achieved as a result of a reduction in the time and fatigue associated with journeys to work and because of improved accessibility of goods transport to and from those enterprises.

They are likely to result also in increased public revenues as a result of increased property values and business incomes.

On the negative side there will be the increased public expenditures, including foreign exchange, required for the improvements. There may also be higher transportation costs for middle- and upper-income groups as a result of cross subsidies in new transportation pricing structures, as a result of progressive taxation and other levies on transportation and as a result of increased travel time for automobiles if transportation services and traffic regulations both are modified to favor modes which serve low-income

groups. Some residential and other space may be lost in providing improved facilities, though this should be minimized as a matter of policy. There may also be a reduction in environmental quality in areas affected by noise or air pollution resulting from the increased traffic (and changes in types of traffic) associated with improved levels of transportation service -- though this can be ameliorated to some extent through detailed engineering design and proper maintenance.

Chapter X

PROJECTS IN URBAN MANAGEMENT AND FINANCE

A. The Role of Urban Management and Finance in Development and Their Importance for the Poor

The managerial and financial aspects of the provision of facilities and services in individual sectors are dealt with in previous chapters. The concern here is with those aspects of the management and financing of urban development that cut across the boundaries of individual sectors. Of special concern are the achievement of greater competence in integrated urban and regional development planning, in the establishment of inter-sectoral priorities, in the design and implementation of fiscal systems to achieve greater equity for the poor, in urban land management, in the design and utilization of legal processes that will help to achieve greater equity for low-income groups, in the surveillance and evaluation of program and project implementation, in the achievement of greater coordination in planning and implementation at the local level and in the achievement of greater inter-governmental coordination.

The aspects of financing that are of special interest because of their potential impact on low-income groups include the sources of revenue utilized by the various levels of government for urban development and ongoing operations, the levels of funding available, the priorities established for individual types of service and facility, the forms of funding utilized (grants, loans, revenue-sharing, etc.), the credit and credit terms available to governmental agencies, the credit and credit terms available to groups in the private sector generating services for the urban poor and the credit and credit terms available to the urban poor themselves.

Sources of revenue commonly utilized by local governments include the property tax, sales taxes, user charges for various services, licenses, borrowing in the private capital market, inter-governmental borrowing and inter-governmental transfers. Sources available to state (or provincial) and national governments include the personal income tax, corporate taxes, sales taxes, property tax (where shared with local government), import duties, borrowing in the private capital market, inter-governmental grants and loans and international grants and loans.

In order to analyze and evaluate adequately the impact of individual projects in management and finance, it is necessary to consider their impact in the context of the overall management and financing framework that is operative.

The system used for financing capital and operating expenditures in a particular locality may impact the urban poor in a variety of ways. It may, for example, affect the disposable incomes of poor households and their competitive position in seeking essential goods and services. Property taxation, the credit mechanisms available and the types and levels of financing used for urban infrastructure are likely to affect the value of assets held by the poor. Sales taxes which can be transferred to the consumer, together with public pricing policies, price regulation and the efficiency of infrastructure can affect consumption costs substantially. Land management policies and land taxes impact land ownership and values and transportation and utility costs. The credit available to the poor is likely to affect both immediate consumption and the accumulation of assets. The credit available to others who provide services and facilities for the poor will affect the supply and pricing of those facilities and services.

The benefits potentially achievable from improvements in individual sectors are likely to be negated or reduced if there are not simultaneous improvements in overall urban management and finance. Although major improvements are not likely to be achievable quickly it usually will be very desirable, if not essential, to initiate and sustain improvements in general administration at the local level in conjunction with the undertaking of sectoral improvement projects. A new low-income settlement project of the type discussed in Chapter VIII, for example, is unlikely to survive effectively if its sustained management cannot be provided for through a permanent local government entity.

B. Policy Implications

1. High-Level Policy Directives

Usually, there will be a need for clear directives from the highest level of government to give priority to the urban poor in all aspects of public management and finance. Current practices will tend to be biased in just the opposite direction in many countries because of the influence of the affluent at the national and state levels as well as at the local level. As part of this, there will need to be clear policy support for the development of more complete and accurate information on the condition of low-income households and the impact of public management and finance on them.

2. Establishment of Higher Status for Urban Management

Even the highest positions in local government usually have low status relative to those at the state (or provincial) and national levels. Local government salaries usually are low. Where there are established civil services, the best people often are kept at the local level for as short a time as possible, before transferring them to more prestigious positions in higher levels of government. These factors jointly make it very difficult to attract and retain competent people at the local level, with disastrous consequences for urban management. In parts of Asia, in particular, there is an additional tendency to encourage the development of generalist skills in career administrators. Urban management is, in fact, a highly specialized activity and this must be recognized if the levels of management necessary are to be achieved. In some countries, including many in Latin America, there is no formal civil service from which urban management skills can be drawn. It is essential that administrative policies: a) ascribe high status to positions at the local government level; b) provide for the establishment of a cadre of urban management specialists; and c) encourage longevity of tenure for competent people at the local level.

3. Inter-Governmental Coordination

It is important that there be clear directives designed to achieve effective coordination at each level of government -- including authority granted to the local level by higher levels to enable local agencies to seek and obtain information and collaboration from agencies above the local level.

4. Engagement of Private Capital

Policies at the national and state (or provincial) levels, in particular, should provide inducements and directives for the use of private capital to finance activities that benefit the urban poor since governmental resources alone will be inadequate for the scale of the problems to be dealt with and formal private sector credit ordinarily will not be attracted into funding for low-income groups.

5. The Use of International Funding

Policies at the national level, complemented by state (or provincial) and local policies, should be concerned with seeking and using international funding to benefit the urban poor and should encourage the establishment of systematic priorities for so doing. Although international funding is giving increasing attention to poverty groups there are at least two problems that need to be dealt with, in addition to the continuing inadequacy

of levels of funding: a) priorities sometimes are imposed by international agencies by default, because national and/or state and local governments in the developing areas are not yet in a position to establish their own priorities systematically; and b) with bilateral funding, in particular, there sometimes is a continuing tendency, carried over from the 1960s, to favor capital-intensive projects which provide the donor or lender with export opportunities.

C. Projects with Potentially High Impact

1. Urban Management

a) Creation of an Institutional Framework for Integrated Planning, Budgeting and Implementation

Even where the agencies responsible for projects in individual sectors already operate fairly efficiently, the benefits to be obtained for the poor from projects in those sectors frequently are negated to varying degrees because of uncoordinated planning and implementation in individual sectors. Where there is no integrated budgeting procedure for an urban area (typically the case, even where there is integrated sector budgeting at the state and central levels) priorities are likely to depend more on the bargaining power of individual agencies than on the overall needs of poverty groups. More effective integration is likely to be necessary inter-governmentally as well as at the local level.

i) Inter-governmental Integration

Urban development is even more heavily dependent on central and state (or provincial) participation in the developing areas than it is in North America and Europe. This is particularly the case outside major metropolitan areas. With notable exceptions (for example, Medellin, in Colombia) local governments often are responsible primarily for everyday operations and maintenance while state or provincial agencies (or local development agencies under the direct control of a state or province) undertake most major development works. Typically, there is little coordination in planning, construction, operations or maintenance among the agencies within a single level of government with respect to their activities in a particular urban area. Very often there is almost no coordination among levels of government. In addition to the inefficiencies that result from this, there is the added problem of local areas having the uncoordinated programs and projects of higher levels of government imposed upon them with little regard for the needs or capacities of those local areas.

In principle, it may be desirable to create a new intergovernmental form of governance for urban areas, recognizing explicitly the key roles played by the central and state (or provincial) levels but the major political and administrative implications of such a change mean that it is unlikely to be possible to achieve this in the near future in most countries. The initiation of an appropriate integrative framework may have to be achieved through the creation of a relatively modest "catalyst" agency to work within existing central, state and local planning and budgeting procedures.

The local procedures often will be the most rudimentary. It is likely to be desirable to establish an intergovernmental policy body to guide urban growth. It is likely to be necessary also to enact enabling legislation at each level of government. As suggested earlier in Section B, one of the purposes of the enabling legislation enacted at the central and state (or provincial) levels should be to empower local agencies to seek and obtain collaboration in projects from the higher levels of government. It should also enable each level of government to take the initiative in seeking coordination among the projects for which they each are responsible.

The main concerns of integrated planning, budgeting and implementation focused on the urban poor should be to coordinate activity in the relevant sectors, establish and maintain an adequate long-range perspective for project identification and implementation and facilitate timely project preparation and implementation within that framework.

Where no central government entity responsible for urban policy exists it may be appropriate to establish a central government Board or Council consisting of such representatives of the central government, state governments and other persons as the central government sees fit. The central entity would formulate urban and regional planning policies and facilitate the implementation of those policies through central, state and local agencies. As part of its responsibility, it would identify the urban development potential of individual localities throughout the nation and establish priorities for central government support for the urban poor in each locality. The legislation establishing the central government entity could require all central government agencies to give effect to sanctioned urban and regional planning policies. It could also require provincial and other government agencies to give effect to such policies to the extent that the policies concern matters of central government competence. Among its other responsibilities, the central entity could prepare and maintain a cumulative inventory containing references to or summaries of proposed or approved urban and regional planning policies, development

plans, programs and schemes, incorporating information indicative of the impact of these on the urban poor. It could also prepare and submit to the central government and state (or provincial) governments annual planning review reports describing significant relationships among the items in the current inventory, identifying inconsistencies or problems of coordination and recommending measures for their correction or solution. Where the central entity judges that action in the national interest is not likely to be taken by state or local agencies it would have the authority to undertake appropriate action itself.

State governments, similarly, might establish urban and regional planning (or planning and development) entities at the state level with coordinative, informational, planning and, if necessary, development powers and responsibilities analagous to those of the central government entity; regional entities might be established within the state, above the local level of government. In each case, overall planning and development concerns should include explicit priorities and strategies for the urban poor.

ii) Local Integration

At the local level there will, in some cases, be effective urban planning agencies but very often there will be almost no local planning capacity, local budgeting will be rudimentary and local implementation fragmented. In rare cases there will be a municipal (or other local) budget department which has a reasonably systematic procedure for establishing overall financing priorities and maintaining accounts which facilitate systematic project evaluation. More typically, there will be an accounting office whose activities are limited primarily to recording possible sources of funding, making simple projections of financial needs based on past expenditures and recording the results of *ad hoc*, and largely political, budgeting decisions for individual municipal facilities and services. In such situations, it is desirable to introduce, at least gradually, a set of procedures for systematic planning and budgeting and for the evaluation of the implementation undertaken by the various departments responsible for the development and operation of individual facilities and services. A local planning and budgeting entity established for this purpose should incorporate in its overall concerns explicit priorities for projects focused on the poor, it should provide information to facilitate their implementation, it should maintain an annual account of progress, and it should recommend appropriate corrective action where actual performance deviates significantly from expected performance.

iii) Upgrading and/or Training of a Cadre of Urban Management Specialists

Virtually all urban areas in the developing countries are terribly understaffed, at least in terms of the skills available. As noted earlier, one of the reasons for this is that local administration traditionally has been associated with low status and low pay and, at least in countries with colonial pasts, there has been a tradition of generalist administration rather than specialization.

The scale and complexity of urban growth now demands serious attention at all levels of government through the creation of groups of competent urban specialists -- chief executive officers, planners, budgeting specialists, accountants, legal officers and other support staff, in addition to the sector specialists required in individual executing agencies. If the developing countries do not face up to the importance of creating such cadres, the adverse consequences for their urban areas are likely to be extreme and the urban poor will be the worst affected.

There is likely to be a fair amount of political fluidity at the local level in most countries and this makes it all the more important to build up permanent and competent administrative staff groups to sustain urban planning, budgeting and implementing activities so that reasonable continuity in priorities and in the delivery of essential services for the poor can be achieved. Those priorities always will be and, to some extent, should be responsive to political change. What is needed is reasonably stable administrative machinery providing for consistent improvement in the condition of low-income households with intermittent political variations on a basically equity-oriented theme.

Projects for the strengthening of inter-governmental and local urban administration include:[1]

(a) Training and Orientation Programs for Policy-Makers and Staff at the National and State (or Provincial) Levels

As suggested earlier, central and state (or provincial) governments will have an important role to play in urban development, including the undertaking of projects to benefit the urban poor. It is important for policy-makers to be oriented to these problems and opportunities.

[1]These projects do not include the support needed for developing specialized planning, budgeting and implementing skills in individual sectors. They refer only to the support that is likely to be needed for overall management and finance.

It is important also for the central and state levels of government to establish staff groups who will be competent to undertake urban and regional planning work at these levels.

The orientation provided for policy-makers should include, for example: an analysis of the prospects for urbanization in their own countries, the role of urbanization in overall social and economic development, and the role of low-income groups and informal sector activities in urbanization; an identification of the instruments available to central and local governments for guiding urban growth and, specifically, for benefiting the urban poor; a review of international experience in attempts to undertake projects for the urban poor; and the organizational, legislative and fiscal implications of urbanization strategies for central and state governments.

At the staff level, training should include subjects such as: planning, programming and budgeting techniques for urban and regional planning at the central and state levels, including techniques for project identification and project preparation, with an emphasis on projects intended to benefit the urban poor; the framing of enabling acts and other legislation for urban and regional development at the central and state level; data management for urban and regional development guidance at the central and state level; and techniques for providing assistance to local governments.

The orientation and training undertaken should be done predominantly in individual countries, though it may be supplemented by relatively short visits to good examples of relevant experience in other parts of the developing world (and, possibly, to a very limited extent, in the MDC's).

Training programs with an orientation similar to this are being undertaken, for example, through the Development Planning Unit in London, the Indian Institute of Public Administration in New Delhi and, at the policy-maker level, in recent activities of the Administrative Staff College in Pakistan.

(b) Training and Orientation for Policy-Makers and Staff at the Local Level

For policy-makers, the kinds of orientation that are likely to be appropriate are similar to those suggested for central and state policy-makers but, obviously, should emphasize problems and opportunities at the local level.

Staff training should include subjects such as: urban planning, programming and budgeting -- including project identification and project preparation; urban land management; the framing of development incentives and regulations at the local level; techniques for the monitoring of local development; local data management; and procedures for coordinating departmental and intergovernmental activities. (Suggestions for the types of training appropriate for urban finance staff specifically will be discussed later.)

As in the case of the orientation and training suggestions made for the central and state levels, the emphasis at the local level should be on training in the locality concerned so that it can be related to actual problems. Again, it might be complemented with limited visits to relevant government agencies and projects in other developing areas.

(c) Technical Assistance to Local Governments

Consultant services may be provided on an interim basis in each of the subject areas suggested for the training of local staff. However, since it is essential that local capacities for these functions be developed, any outside assistance provided should be designed to build up local capacity and explicit provision should be made for the phasing-out of that assistance. For the same reason, local consultant services should be utilized, rather than foreign consultant services, wherever possible since the costs of such services are likely to be lower than foreign specialists' costs and because there is a greater opportunity for maintaining continuity in advice and support.

Project assistance of the type suggested here is to be undertaken shortly, with U.S. AID support, for an intermediate city in Nicaragua. The phasing-out of outside assistance is an explicit part of that project's design.

(d) Support for Local Government Management Institutions

There are a number of public administration institutions in the developing areas which already provide support for local governments in a variety of ways, including:

- Seminars on municipal organization for senior officers;
- Training for staff groups in various aspects of urban management and finance (including the management and financing of services in individual sectors);

- Training in integrated planning;
- Training in data management;
- Execution of technical studies for municipalities;
- Provision of technical advice and data to consultants to municipalities;
- Preparation of model legislation and regulations for the local level;
- Publication of information on municipal development and management;
- Maintenance of technical libraries for municipal management

An excellent example of such an institution is IBAM (Instituto Brasileiro de Administração Municipal) in Brazil which has been supported by U.S. AID funding as have other entities concerned with local administration. By 1968, IBAM had provided assistance of various kinds to over 2,000 municipios (approximately 50 percent of the municipios then in Brazil).[2]

iv) Dissemination of Better Information on Urban Poverty

One of the factors that encourages continued inaction to deal seriously with urban poverty in many countries is simply the fact that middle-income administrators and entrepreneurial elite do not comprehend the awfulness of poverty they have never experienced, or its causes; nor do they comprehend the scale of the future urban poverty with which they are confronted. There is a great deal of wishful thinking involving such things as "workers' housing", "slum clearance" and "accelerated rural development" through which, it is hoped, the problems of urban poverty can be remedied relatively quickly. There is an urgent need for sustained public communication of the real causes of and prospects for urban poverty. Information programs should be focused, in particular, on senior administrators at all levels of government, as suggested earlier, and on the elite who could assist in taking appropriate action if they were properly motivated; it should be focused also, obviously, on potential leaders among the poor themselves. The information should include a realistic appraisal of the problem and an identification of concrete steps that can be taken to yield visible, even though limited, results relatively quickly.

[2] Instituto Brasileiro de Administração Municipal. Relatorio das Actividades, 1968, (Rio de Janeiro: IBAM, 1969).

v) Action-Oriented Research

As a foundation for improving urban management it is important to undertake action-oriented research and experimentation to help to identify the types of program that are likely to be most effective in dealing with urban poverty. Policy-oriented research of this type is a very appropriate target for international technical assistance and funding. The work undertaken initially might include:

(a) Analyses of the consumption and savings patterns of poverty groups in individual urban areas.

(b) Analyses of the life cycles of rural-urban migrants and second-generation poor urban households.

(c) Analyses of the roles of women from low-income households in development and opportunities for them to participate more fully in the monetized economy -- including the possibility of greater participation in initially unskilled positions in urban government.

(d) Experimentation with simplified and accelerated planning and budgeting procedures to facilitate urban project preparation and implementation focused on the poor.

(e) Legal research and experimentation to create improved instruments and court procedures for the types of action in which the poor are most frequently involved.

(f) Experimentation with simplified land use controls and building regulations suitable for low-income areas.

c) Establishment of Urban Land Management Agencies

Sound urban land management is desirable as a foundation for activities in all other sectors that are focused on the poor. Yet the provision of adequate urban land for projects oriented toward poverty groups remains one of the most complex unresolved bottlenecks in the entire development process. In most parts of the developing world, with exceptions such as Tanzania and the Peoples' Republic of China, private rights, rather than public interests, dominate the use of urban land.

The nationalization of urban land may be a solution in some cases, but most political systems are unlikely to adopt this strategy in the near future. Fortunately, there is a wide variety of public instruments, short of nationalization, available for guiding urban land development and regulating land use.

Purely negative controls over land use (or attempted controls) are unlikely to contribute importantly to improved land management. In addition to conventional standards and regulations being entirely inappropriate for poverty groups, elaborate control systems are likely to have the additional disadvantage of offering excellent opportunities for petty corruption, many of which will impact the poor adversely.

There is considerable potential for the use of taxation, leasing mechanisms, and credit to guide land use soundly. However, it will be difficult to adopt such instruments in some situations.

One of the most promising approaches to managing urban land effectively is direct public intervention in the land market. An essential step in the creation of appropriate land management agencies for this purpose will be the enactment of legislation which broadly defines public purpose, establishes a payment formula which is fair and non-inflationary, discourages flagrant land speculation, and has clear and simple administrative machinery.[3]

Some form of land use control is likely to be necessary in conjunction with public participation in the land market. Land use control systems should not treat public and private development alike in framing zoning and subdivision regulations. For rationalizing land development decisions in the public sector, there will be a need for institutional arrangements through which various public agencies can participate directly or through their administrative departments in a process of negotiation, collaboration and accommodation leading to the adoption of policies which shape their activities to overall development plans (or modified plans to conform to their reasonable requirements). The specifics of such policies should appear in the form of guidelines for public development incorporated in or emanating from integrated development plans. In many situations it will be desirable for an urban planning development policy group to be the sanctioning authority for regulations and guidelines and an appellate forum for agencies dissatisfied with their contents or application. Conflicts between central government agencies and regulating authorities could be referred to a central body for resolution, if one is established through central legislation. A public development reporting procedure should also be instituted. It should require that every public development scheme or project costing up to a specified amount be reported to the urban planning and development policy group before construction begins, as a means of keeping the policy group informed regarding the progress of, or departure from, the development plan.

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[3]For a full discussion of possible types of land development agency, see: Agency for International Development, Department of Housing and Urban Development, Office of International Affairs. Guidelines for Establishing and Administering Land Development Agencies in the Developing Countries, Ideas and Methods Exchange, No. 69, (Washington, D.C.: USAID/USHUD, August, 1973).

For the regulation of private development, enabling legislation should, in many cases, give state governments discretion to delegate aspects of development control powers to appropriate planning or other authorities. Regulatory authorities should be free to impose some controls on an area-wide basis, others on a zonal basis. Regulations should be realistic in relation to the needs and capacities of low-income households. Proper provision should be made for public participation in development control determinations. Adjustments of building construction standards to varying types of lower-cost dwellings could be made on a zonal basis. The staggering dimensions of enforcement problems require innovative techniques to be devised and tested -- for example, the focusing of severe controls on critical areas and the establishment of only modest controls elsewhere -- possibly combined with the use of a task force in randomly-selected areas to spot check and educate the public to the seriousness of governmental intentions.

c) Upgrading of Court Procedures and Legal Instruments Affecting the Poor

Existing court procedures and legal instruments to which the poor are subject often are extremely slow and complex and encourage widespread corruption which, though small by middle-income standards, can constitute a tremendous burden on a low-income household. Experiments should be undertaken to identify simplified legal instruments and to create accelerated court procedures for the types of action in which the poor, in particular, are likely to be involved.

d) Upgrading of Security in Low-Income Areas

The police forces of the cities of many "developed" countries are notoriously corrupt. It is not surprising, therefore, to find the poor in the urban areas of the developing world subjected to a variety of kinds of extortion (including, among other things, "fees" to enable them to continue squatting in unauthorized areas) which add yet another factor to the many that keep them at the poverty level. As in the case of court procedures and legal instruments, experiments should be undertaken to find devices which will at least reduce, if not eliminate, such practices. Since the level of extortion is typically set at "what the market will bear" and the poor have a great capacity for survival, the burden on them often is extreme.

2. Urban Finance

Together with improvements in urban management, improvements in the financing of development are likely to be essential for sustained improvement of the condition of the poor. The kinds of changes that are likely to be necessary cannot be achieved merely through the financing mechanisms used for individual sectoral projects. Indeed, unless overall fiscal and credit systems are structured appropriately, the benefits of individual projects

may well be negated or reduced. (For example, regressive tax structures in which major taxes are easy for middle- and upper-income groups to evade may worsen the relative position of the poor and even make it impossible for them to improve their absolute levels of consumption.)

The financial instruments that are of special interest include taxation, the leasing of public property and credit mechanisms.[4] With those instruments that generate revenues for government there must be a concern with the adequacy of the revenues generated in relation to the needs of the poor, the specific income distribution consequences of such instruments, the impact of such instruments on the supply of goods and services essential for poverty groups, the impact of property tax and lease mechanisms, in particular, on the scale and physical pattern of changes in land use that affect the poor, and the administrative simplicity of the mechanisms used. In the use of credit instruments, the concerns, similarly, should include the adequacy of the credit generated in relation to the specific needs of poverty groups, equity in access to credit, the impact of such instruments on the production of goods and services important to the poor, the impact of such instruments on the scale and form of changes in land that affect the poor, their impact on the assets accessible to the poor, administrative simplicity and financial soundness.

Finance projects that may be worthy of consideration for support will be discussed under three broad headings -- fiscal reforms, the upgrading of credit mechanisms and training.

a) Fiscal Reforms

In order to evaluate the impact of existing fiscal systems on the poor and identify the directions in which change may be needed it is important to analyze the combined effects of taxes, user charges, credit, and the distribution of public expenditures. In a situation such as that of the United States, regressivity in state and local taxes may not be grounds for social concern because the federal tax structure is rather progressive and the benefits from public expenditures constitute large percentages of the money incomes of low-income households and much smaller percentages of the incomes of high-income households.[5] In the developing areas, however, regressivity at the local and state level may be reinforced, rather than counterbalanced, by patterns of public expenditure.

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[4]User charges for urban services, public expenditures for specific facilities and services, and wage and price controls relevant for particular types of sectoral project are discussed in other chapters.

[5]Netzer, Richard, "Tax Structures and Their Impact on the Poor", in John P. Crecine, Ed., Financing the Metropolis: Public Policy in Urban Economies, (Beverly Hills, California: Sage Publications, 1970), pp. 459-460.

Financing instruments designed to generate revenues as well as to benefit the poor through their impact on income distribution, the production and distribution of essential goods and services or land use should be designed with the following points in mind:

(i) The real limitations of present administrative capabilities must be recognized. These limitations can be overcome, but it takes rather explicit "system design" to do so. There are two general rules that should be followed:

(a) The total number of individuals and firms from whom tax must be collected should be minimized; for example, turnover should be taxed at the manufacturing and importing levels rather than at the retailing level;

(b) If the number of taxpayers is large, the tax should be set up so that it is as close to self-enforcing as it can be, perhaps through publicity (for example, public property tax records); or through the use of formulas for determining tax liability which are so simple that underpayment or overpayment is crystal clear to all; or, simply and crudely, by making the penalties for evasion severe and certain (for example, foreclosure and auction of property on which tax has not been paid).

(ii) There should be a careful analysis of the specific income distribution effects of taxes. In high-income countries, a very considerable amount of income redistribution takes place through the expenditure side of the fiscal system, that is, through the provision of welfare, health services, education and other income in kind to all or nearly all low-income households. In lower-income countries, the level and coverage of such government programs is necessarily far more limited. If the fiscal system as a whole is to have large income-redistributive effects it is all the more important to emphasize taxes that redistribute income.

(iii) The revenue system should have beneficial, or at least neutral, effects on urban land use. The direct influences include those of the urban real property tax, income, wealth and capital gains taxes applied to urban real property and the pricing of leaseholds of publicly-owned land. There are a few general rules here:

(a) Taxes on the annual or capital value of buildings tend to be passed on to tenants if the buildings are rented and vacancy rates are low, or discourage investment in buildings (which may result in later shortages of space and increased rents).

(b) Taxes on the market value of land or on the increase in those values over time (for whatever reason), will tend to be neutral with respect to land use and investment decisions (i.e., they usually will not result in unsound resource allocations). Many site owners will find that the requirement for cash with which to pay site value taxes is a force stimulating them to develop sooner and more intensively than might otherwise be the case. In contrast, taxes on land measured by its rental value in current use will tend, in an environment of rising land prices, to encourage underutilization of sites.

(iv) Economic distortions caused by taxes should be minimized.

(a) Uniform and general taxes are economically less damaging than differential and selective taxes, since the former have less effect on patterns of consumption, production and investment. Thus, a central-government sales tax, with a uniform rate applied to a wide range of goods, is less distorting than central excise duties, imposed at widely varying rates on a more limited range of goods. However, for administrative and income-redistributive reasons, selective taxes may be preferred on balance, despite the distortions.

(b) Taxes that impede mobility or raise the costs of transactions are to be avoided, because they interfere with the mechanics of the resource allocation process. Thus, taxes like the octroi (used still in India and Pakistan) and stamp duty are undesirable.

(v) The revenue instruments used should each produce significant amounts of revenue. It is not sensible to employ a large number of separate low-yield taxes to raise a given amount of money, even where the administrative capability to do so exists. Administrative costs will be high and it is likely that the package will contain a fair number of economically unsatisfactory taxes that are palatable solely because of their low rates. However, this criterion does not warrant the elimination of existing low-yield taxes that appear to work well in accordance with the criteria above.

i) Central Government Revenue Possibilities

Greater reliance on income and corporation taxes by the central governments may tend to make overall tax structures more progressive, that is, more income redistributing. The usual reasons given for low utilization of taxes on income include their administrative procedural difficulty compared to indirect taxes, the small numbers of households with incomes above the poverty level against whom the tax can be

levied, and the fear of reducing investment incentives for companies and rich individuals.

The first two of these reasons have some validity; the third is at least questionable, since there is some empirical evidence that very low tax rates on company profits are neither a necessary nor a sufficient condition to elicit additional private investment. Very high tax rates may be a deterrent, but the fiscal concessions and allowances that exist in many developing countries are generous by international standards.

There may be opportunities for selective central government increases in indirect taxation, applied to goods and services primarily consumed by upper-income households. By and large, indirect taxes are easier to administer than direct taxes on income, and while selectivity does give rise to economic distortions, desirable income-redistributive effects can be achieved.

ii) Governmental Financing at the Local Level

In many countries urban areas must improve their own fiscal systems drastically if they are to mobilize funds to provide better services to their poor majorities. They often cannot rely on central or state governments that already are pressed to find resources for projects and programs at the national and state levels and in rural areas.

(a) Urban Property Taxation

In many cases a necessary reform in urban property taxation is to extend present urban property taxes collected by municipalities whose boundaries are obsolete to cover the entire urbanized area at a uniform rate.

More realistic and accurate assessments, similarly, will produce additional revenue and should be encouraged.

Where state and local governments share the urban property tax, one way to secure additional revenue from the property tax each year, given increasing property values, rent levels and local government costs, is to permit local authorities to vary the tax rate itself, whether or not property is revalued frequently. Annual property tax rate changes are likely to be much larger in periods of inflation, but even so, they may do no more than offset the increase in property values while official valuations remain unchanged.

A more important reason for freedom to vary property tax rates is that it gives the local authorities some flexibility and fiscal autonomy. Ideally, valuations

should be kept current and tax rates should be free to vary as well; this solution is more equitable to individual property owners (all properties do not appreciate equally in value over time), as well as providing flexibility to the local authority.

Another class of reforms in the property tax relates to administrative procedures. First, there often is a need for more publicity about the valuation process, assessment guidelines need to be established in advance (which is not the case in many countries) and provision should be made for valuation lists to be continuously open to public inspection. This assists taxpayers in making comparisons and appeals and is also a check on the accuracy and honesty of the valuation process. Second, the property tax should become a lien against the property the day it is levied and take precedence over all other claims, thus prohibiting the sale or transfer of the property unless the lien is satisfied. Moreover, if property taxes are not paid within a specified period (usually three years), the local authority should take title to the property and resell it at auction.

(b) Site Value Tax

A very desirable reform in many cases would be site value taxation, taxing only land values, not buildings, on the basis of the market value of each site (which means its value in the highest permissible use, discounted by the probability of its actually being converted to that use in the foreseeable future). Site value taxation is neutral with regard to land use and investment decisions. Taxes on improvements and/or rental tend to discourage new construction and even normal maintenance expenditure. They also tend to encourage the withholding of land from development since idle land has no annual rental value and therefore no tax. The need for cash to pay the site value tax would exert pressure on owners of idle land to develop it. The site value tax, as a tax on an economic surplus, must be borne, at least in principle, by the owner of the site (whether leasehold or freehold) and cannot be shifted to the occupant or tenant.

A major advantage of the site value tax is that it affords an opportunity to recapture, for public sector use, some of the increases in land values created by population growth and public investment in community facilities and utility and transport services. It may also bring into use for low-income groups land that otherwise would be kept unavailable to them for speculative and/or tax-avoidance reasons.

Site value taxation has been in use in a number of MDC's, notably Australia, for many years. Cities in developing countries using various forms of this property tax include Kingston, in Jamaica, and Mexico City.

The revenue possibilities are considerable. In one major city in a developing area it was estimated in 1972 that if the net income from land was 10 percent per annum and if the rate of increase in land values was also 10 percent per annum (both of these rates are no doubt lower than the actual ones), then a 5 percent site value tax would recoup less than one-half of the return from land and less than one-half the annual increase in land values. Even so, the tax would have raised $30,000,000 annually, compared to the $5,000,000 being collected in local and provincial property taxes in 1972.

A system of property taxation that is intermediate between a tax on rental value and the site value tax is the North American variant of the property tax. In this system, taxes on land and buildings are levied on the basis of capital value, not annual rental values, and the standard for determination of capital value is market value. If properly applied, this system has two advantages. First it taxes land on the basis of its value in its highest use, not its actual use, thus taxing some idle land heavily. Second, newer, higher-quality buildings have a capital value which is a larger multiple of annual rents than do older, lower-quality buildings. A uniform tax rate on capital value will yield taxes that are a higher percentage of gross annual rental value for the newer and better buildings. Thus, taxing buildings on the basis of capital value can achieve the objective of a graduated rate scheme.

The capital value taxation system does act as a deterrent to new construction, but it is a milder deterrent than the Gross Annual Rental Value taxation system, and it taxes land values more heavily. The major disadvantage is that it may require the establishment of a completely new valuation system and complete retraining of present assessment officials.

There are still other ways of recovering revenue from increases in land values. One is a system of betterment charges, that is the financing of specific public investments such as transportation facilities and utilities through charges that are related to the increases in land values these improvements create. It is used, for example, in Colombia, South America, where municipal public works are heavily financed by a tax called the

"valorización" tax. In the City of Medellin virtually all municipal and provincial public works are so financed. Project costs (120 percent to allow for financing and administrative expenses) are assessed against the owners of property in the immediate neighborhood of the project and distributed among them on the basis of a formula that reflects land value increases due to the project. It is a complicated but not impossible tax to administer, and it is popular among property owners, since the public improvements tend to increase land values by four, five or even ten times the property cost.

(c) Metropolitan Income and Corporation Taxation

A municipal surcharge on the personal and corporate income taxes paid by urban residents and firms to the central government and collected by the central government has some attractions, particularly since such taxes can be progressive, but correcting the substantive and administrative defects of existing central income taxes should be a first priority, and there must be some hesitation in suggesting that this additional complication be introduced. However, if central income taxes can be improved, a municipal surcharge might be considered. It should be noted that this is an important and smooth-functioning source of local authority revenue in Scandinavia.

iii) Compulsory Savings System

The use of national compulsory savings systems to finance housing was discussed in Chapter VIII. The possibility of using a part of the fund mobilized in this way for other public urban investment should be considered also. If the total levy were 8 percent of all salaries and wages, for example, 6 percent might be allocated to "housing" (in the broad sense in which that term is used in Chapter VIII) and 2 percent might be made available for major investments in the generation of employment for low-income groups, utilities, transportation, health and education. Relatively large volumes of funding could be achieved in this way. The arguments for doing this include: 1) the levels of funding achievable; 2) the fact that an important percentage of increases in salaries and wages are attributable to the increases in productivity associated with urbanization; 3) the reduced risk of creating the economic imbalances in resource allocation that may be associated with the use of compulsory savings for a single sector; and 4) administrative simplicity. The levy could contribute substantially to the achievement of greater progressivity in overall tax structures if the percentage of wages and salaries withheld were to be related directly to salary and wage levels.

If an important part of compulsory savings are used for general urban investment, care must be exercised that the investments undertaken are capable of yielding public revenues directly or indirectly since savings must be protected against inflation and should yield interest to the involuntary contributor, as they do where they are used for the financing of housing. Combining general urban investment with interest-yielding housing finance (with the largest allocation being for housing) could help to protect the funds used for general purposes.

Although it will be very desirable to establish new forms of taxation in the long run in many situations it must be recognized that such reforms are likely to be difficult to achieve. In most cases the important first step to be taken is a fuller utilization of the existing tax structure through more frequent and realistic assessments, improvements in billing procedures and collections, and firm enforcement of sanctions against tax evasion.

b) Public Land Leases

Local authorities in cities in which significant areas are public lands leased to private users have an even more direct way of recovering a part of increases in land values. Where existing ground rents are unrealistically low, as they often are, they should be renegotiated and land should be disposed of in the future on the basis of leases that provide for a periodic upward revision of ground rents. Current practices of disposing of public land at low prices, only to find that the purchaser can resell it within a relatively short period at a substantial profit should be eliminated. However, for this to occur, the local bodies must not be under severe financial pressure to sell lots off to raise funds as soon as improvements have been made and will need budgetary allocations that will enable them to hold out for higher prices.

c) Upgrading and Expansion of Credit Mechanisms

i) Existing Credit Systems

The dualistic character of development in most developing countries usually extends to financial systems. In most countries there exist organized financial markets lending to established enterprises and individuals in the modern sector. This system usually consists of established commercial banks and other financial intermediaries. The terms and interest established for loans as well as interest paid on savings are usually subject to government regulation.

Outside of organized financial markets there exist extensive informal money markets which serve the needs of the vast majority of poorer individuals and enterprises not considered credit-worthy by organized financial institutions. In urban areas small borrowers often resort to street lenders, high-interest personal loans and commodity advances to meet their needs for working capital. Small loans for fixed capital investment and housing are sometimes available on costly terms but fixed investment is more often financed out of meagre private savings.

Usually, there is a wide gap between the costs of borrowing in organized and unorganized financial markets. This difference is due in part to the usuary restrictions often placed on lending operations in the organized sector. The difference is due also to the much greater risk of lending outside the organized sector, the scarcity of capital for this purpose, and the greater returns available on many informal sector investment opportunities. It is not uncommon to find commercial bank lending rates of 12 to 14 percent together with rates of 60 to 400 percent per year in unorganized markets.[6]

Restrictive practices by governments and by the financial intermediaries themselves often cause deposit and lending rates to be far out of line with the opportunity cost of capital which is reflected more closely by lending rates in the unorganized sector. Two serious problems can arise from this imbalance.

First, the total amount of savings deposited in organized financial intermediaries could be greater if higher interest rates were paid on deposits. While there is some debate about the extent to which overall household savings propensities can be increased through greater interest incentives, there is considerable evidence that higher interest rate structures and improved institutional mechanisms can attract more household savings into liquid accounts for productive investment in the development process. Evidence from the Republic of Korea indicates that a higher interest rate structure in financial institutions helped raise net domestic saving from 4.4 percent of GNP in 1964 to 14.3 percent of GNP in 1968.[7]

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[6] International Labour Office, Sharing in Development, A Programme of Employment, Equity, and Growth for the Philippines, (Geneva: Imprimeries Populaires, 1974), pp. 227-243.

[7] International Labour Office, Op.cit., p. 240.

A second problem resulting from the dichotomy of interest rate structures in developing countries is the disequilibrating effect it has on the investment process. There is considerable evidence which suggests that in labor-surplus economies medium- and small-scaled enterprises often are more efficient users of labor and capital than larger firms. Nevertheless, where interest rates are pegged artificially low and the market is denied the function of credit allocation, lenders are free to adopt other credit rationing criteria. Commonly, they choose to lend to enterprises with the greatest amount of fixed capital equipment rather than in the working capital required by more labor-intensive enterprises.

The tendency to loan for more capital-intensive investment projects is enhanced by the low interest rates which are predominant in organized financial markets. Lending at rates less than the opportunity cost of capital encourages capital-intensive investments and a less-than-optimum allocation of a country's labor and capital resources. This is not compatible with policies which attach high priority to employment generation and a more equitable distribution of the fruits of development.

ii) Designing Credit Systems for the Poor

Credit is often seen as a primary means of improving the productivity and incomes of the urban poor in developing countries. Better financial intermediation among low-income segments of the population can also increase savings mobilization and increase the scope of organized financial lending to smaller - scale and more income-distributive projects. Nevertheless, credit alone is not a panacea for development. Experience with credit directed toward low-income urban residents (and a much more extensive experience with credit for the rural poor) has shown that successful financing programs depend on a range of complementary factors. These factors include the existence of real opportunities for economic gain through the adoption of credit, the recognition of such opportunities among potential credit users, the availability of technical assistance and other complementary services, sound credit policies and well-managed financial institutions.

As suggested in Chapter IV in the discussion of credit for enterprises, the types of credit programs necessary to service smaller-scale urban lending may require separate institutions or at least separate departments of existing agencies and the terms and conditions of lending must be flexible. As noted there also, credit programs for low-income groups require a large component of education and technical assistance to assure ongoing success.

Suggestions for insuring the viability of credit institutions were made in Chapter IV and the potential dangers of using heavy subsidies, particularly where rates of inflation are high, were noted.

There are no simple solutions for the selection of an appropriate interest rate and the degree of subsidy to be employed. This must depend on a variety of economic and political considerations to be studied in each case. Inflation can be an additional concern. Lending in an inflationary economy represents a large degree of subsidization to borrowers unless interest rates include expected inflation rates or principal balances of loans are indexed to price level changes. Indexing can be an effective means for maintaining the real value of capital in financial institutions, but it can also cause economic imbalances if applied to investments in only one sector, as noted earlier.

iii) Participation of Private Credit Institutions

In some cases, nationalization of commercial banks and private lending institutions will have made it relatively easy to tap these sources of credit for low-income groups. In other cases, it will be necessary to provide incentives for private institutional participation. Whether participation is mandatory or by persuasion, the basic problems associated with lending to low-income groups should be recognized and the mechanisms established should be designed to safeguard against the pitfalls of such lending as fully as possible. The risks of default are high. Forms and amounts of security are limited and in some cases (for example, land) legal procedures make it very difficult to use forms of security that are common in the MDC's. The administrative costs of processing large numbers of small loans are relatively high. The rates of return may be lower and the commitment periods longer than for many other forms of investment. (On this last point, however, it should be recognized that although rates of return on lending for such things as housing may be relatively low, there are already lending practices in which the poor are involved that have associated with them very high rates of return and short lending periods. It is not unknown for market women in Managua, Nicaragua, for example, to borrow $4.00 from money-lenders in the morning and pay $5.00 in the afternoon. This represents an annual rate of interest of 9,000 percent. Frequently, market women pay 40 percent per month on borrowed working capital.)

To attract private credit institutions into the low-income lending field, some of the types of project action that might be considered include: assistance to those institutions in obtaining reliable information on borrower's capabilities; encouragement of mixed portfolios in which short-term high-interest loans are combined with longer-term lower-

interest commitments; provision of loan guaranties (for example, in the project in Northeast Brazil referred to in Chapter IV, 20 percent of total portfolios are guaranteed and 100 percent of individual loans are guaranteed); and simplification of the legal procedures affecting the status of commodities such as land as forms of security.

iv) Creation of Special-Purpose Lending Entities

In some cases it may be appropriate to set up special-purpose governmental lending institutions focused on credit for low-income groups or special divisions within existing institutions. In the early stages of experimentation, if lending mechanisms for the poor are attached to existing institutions they should be kept separate for accounting purposes, so that the partner institutions are not burdened with the consequences of high rates of default and the many other problems that low-income lending may entail; this sort of arrangement has been proposed, for example, for the funding of low-income settlement through the House Building Finance Corporation in Karachi, Pakistan. Another possibility is to establish a private non-profit corporation to function as a catalyst between private lenders and the poor; this has been done in the formation of UNO in Northeast Brazil, as noted in Chapter IV.

v) Increasing the Credit-Worthiness of the Poor

Regardless of the sources of funding adopted, it will be desirable to increase the capacity of the poor for responsible borrowing. There are at least two complementary ways in which this might be done. One is to encourage the formation of cooperatives for borrowing. A cooperative has the advantage that it is in a better position to undertake long-term commitments than many individuals are. It can offer the lender a form of security which is not dependent entirely on individual members; as part of this, it can accumulate assets that are not accessible to individual members.

As a second line of attack on the credit-worthiness problem, the borrowing capacities of individuals and households can be strengthened in a variety of ways. They can be assisted in obtaining legal title to the land they occupy. They can be given instruction and counseling in the use of credit. They can be assisted to find stable employment. And their productivity and income-earning ability can be increased through improving the basic urban services available to them (water supply, sanitation, health, education, etc.) as suggested in other chapters.

vi) Credit for Governmental Agencies

The provision of "hard" and "soft" loans under multi-lateral and bilateral agreements is one of the most common forms of credit instrument in the developing areas and need not be discussed at length here. Until recently, multi-lateral and bilateral lending has not been focused on the urban poor but this set of target groups is now receiving increasing attention as the attempt to create the present Guidelines suggests.

One of the most interesting examples of bilateral lending focused on urban development, including an explicit concern for low-income families, is the urban/regional sector loan from USAID to the Government of the Republic of Colombia. That loan is intended to support Government of Colombia initiatives which serve urban/regional development objectives, including the promotion of economic growth in urban areas, with a special concern for intermediate cities in credit for the promotion of labor-intensive industry, credit for municipal infrastructure, improvement of the living conditions of low-income families and improvement of local level planning and public administration.[8]

The borrower is the Government of Colombia, represented by the Ministry of Finance. The implementing agency is the Ministry of Development, which is a signatory to the loan. The sub-implementing agencies are the National Housing Agency (ICT), the Institute for Municipal Development (INSFOPAL), Bank of the Republic (BOR), acting through the urban and finance funds (FFDU and FFI, respectively), Popular Finance Corporation (CFP), Advanced School of Public Administration (ESAP), the National Planning Department (DNP), and the Administrative Department of Statistics (DANE). For the purposes of coordination the Direction of the National Planning Department is also a signatory to the loan agreement.

The loan has been undertaken in two stages. Through the second stage, ICT is providing support for newly-forming neighborhoods and low-income rental housing. INSFOPAL is being supported in the development of water and sewage installation in intermediate cities, as well as other investments. FFDU is providing credit for intermediate city valorization (betterment charge) projects and other activities. FFI is providing credit to intermediate city industries, as is CFP. ESAP is being supported in the provision of short-course training for local-level public officials. DNP is being assisted in information and publicity programs, technical and public administration activities for intermediate cities, program-related studies and other urban/regional development unit activities. DANE was provided with assistance for the 1973 Census specifically.

[8] U.S. Department of State, Agency for International Development. Colombia-Urban/Regional Sector Loan. Sector Loan Paper. (AID-DLC/p-1032) (Washington, D.C.: USAID, June 6, 1972), p. i.

The loan is to be evaluated in 1975-76 to assess its impact and its cost-effectiveness.

d) Training

If urban management and finance are to be upgraded and expanded on a scale sufficient to deal with the growth that is foreseeable, large-scale training programs are needed urgently. Training will be needed for staff at the central and state (or provincial) levels where new or existing entities at those levels are to assume increased responsibility for urban programs. At the local level the kinds of training in finance likely to be necessary will include such things as: basic accounting; program and project budgeting; analysis of tax incidence; analysis of the impact of taxes of various types on land use; tax assessment; tax surveillance and enforcement; the pricing of public land; public borrowing procedures; and loan management.

As in the case of the management training discussed earlier, it is desirable that most of the training undertaken be done on-the-spot, supplemented by visits to agencies with sound financing practices and/or relevant innovations in progress. The emphasis should be on agencies in other developing areas.

D. Complementary Actions Which May Be Needed

Improvements in urban management and improvements in public finance are linked intimately, as are improved general urban management and project execution in individual sectors. Improvements in overall management and finance will be of limited value if they are not accompanied by corresponding changes in planning, budgeting, financing and implementation practices in the specialized individual sectors through which essential facilities and services for the urban poor are provided.

E. Other Likely Impacts

Changes in overall urban management and finance are likely to have widespread effects, even though they are focused initially on poverty groups. These may include:

1. Benefits

a) Increased public revenues through better utilization of the existing revenue base and efficient use of new or augmented revenue sources.

b) Improved urban services for upper- and middle-income households, as well as low-income households.

c) Decreased costs of general urban administration, relative to output.

d) Decreased capital and operating costs for public services and facilities, relative to output.

e) More efficient use of urban land -- tax, leasing and credit mechanisms designed to facilitate low-income urban settlement and discourage extravagant upper-income development are likely to result in higher-density and more-easily-serviced overall land use patterns than would otherwise be the case. In addition to using urban land more efficiently this should help to keep both the capital and operating costs of transportation, water and sanitation, power and communications relatively low, achieving cost-effectiveness gains additional to those achieved directly through better management. One of the aspects of more efficient land use that will be especially important is likely to be the achievement of relatively low out-of-pocket transport costs for the poor.

f) Increased benefits from projects in all of the other sectors that have been discussed -- to the extent that improvements in general administration improve performance in those sectors also.

g) Changes in the supply of essential commodities for middle- and upper-income groups -- tax and credit measures designed to increase the supply and/or reduce the price of essential goods and services for low-income groups will produce similar benefits for the middle- and upper-income groups that consume the same types of commodity if those commodities are distributed through ordinary market mechanisms.

h) Increased access to credit for middle- and upper-income groups -- general increases in the mobilization of savings and expansion of credit mechanisms is likely to benefit middle- and upper-income groups, as well as low-income households, except where specific credit mechanisms are restricted to the poor.

2. Disbenefits

Potential disbenefits from the types of change suggested include:

a) Reduced capital gains from land speculation by upper- and middle-income households.

b) Reduced incomes for those previously engaged in extortion that is eliminated by reforms -- and political resistance from these groups.

c) Higher tax payments by upper- and middle-income groups -- this would result from both the income-distribution and revenue-raising features of tax changes of the kinds proposed.

d) Higher interest rates for middle- and upper-income groups -- where overall credit structures are modified to facilitate access to credit by the poor, interest rates for middle- and upper-income groups may have to be increased and the periods for which credit is extended to them may have to be decreased in order to maintain or improve the viability of the overall credit structures.

e) Higher prices for non-essential items -- the revenue-raising and redistributive features of tax changes of the type suggested are likely to result in substantial taxes on "luxury" items.

Chapter XI

THE IMPORTANCE OF INTERSECTORAL LINKS

The sections in previous chapters that deal with the complementary actions likely to be necessary for projects in individual sectors make clear the fact that activity in most sectors calls for a consideration of the potential need for action in other sectors simultaneously. Most projects are, implicitly or explicitly, intersectoral projects.

The purpose of the present chapter is to discuss more fully the importance of intersectoral links. It is intended to reduce the risk of projects in individual sectors affecting adversely or being affected adversely by projects or events in other sectors. It is intended also to reduce the risk of losing the potentially beneficial impacts of projects or events in other sectors when undertaking a project in a particular sector and the risk of losing the potentially beneficial impacts of that project on projects or events in other sectors. The discussion of links should therefore be of assistance in project identification, project preparation and project review or appraisal.

A. Relevant Types of Links

It is important to be concerned with at least three basic categories of links:

1) Dependency Links

These links are unavoidable because projects in different sectors are functionally dependent upon one another. For example, the installation of individual household sewer connections will require individual household water supplies to make those sewer connections effective. If such links are neglected, few (perhaps none) of the principal benefits of a project are likely to be enjoyed and the project may have negative or almost entirely negative results.[1] Similarly, a technical training project will

[1] It is conceivable that some secondary benefits may be yielded -- for example, some employment may be generated from a sewerage installation that cannot be used for want of water supply -- but these benefits are unlikely to be sufficient grounds for proceeding with a project.

require the creation or existence of suitable job opportunities if it is to pay off fully; if those job opportunities do not exist or cannot be created, the technical training may have negative results because of frustration that leads to serious social unrest.

2) Potentially Positive Links

These links are not functionally necessary in the way in which dependency links are, but they represent opportunities to optimize the net benefits from a project to be undertaken in the particular sector and/or projects or events in other sectors. For example, the labor skills created as a result of a housing project can help to make it possible to undertake construction in other sectors, strengthen self-help construction programs and facilitate communal maintenance of public sanitary facilities. The generation of employment for heads of households may make it possible for teenagers to receive at least minimal education and productive employment subsequently, whereas without the employment for the head of household those teenagers would have had to seek employment in the informal sector to support the family. Technical education which increases productivity can assist in achieving full effectiveness from the creation of new job opportunities. Projects in water supply and sanitation can reinforce projects in health and nutrition.

3) Potentially Negative Links

These are links through which a project in one sector may reduce the effectiveness of projects, or affect adversely other events, in other sectors or through which the project itself may be made less effective by other projects or events. All projects are linked negatively in the sense that a commitment of resources to one withholds resources from others, except where the opportunity cost of a resource allocation (for example, surplus labor) is theoretically zero. A recognition of this general type of negative linkage should, of course, occur in the establishment of priorities.

Beyond this, however, there are many situations in which a project may affect adversely or be affected adversely by projects in other sectors. For example, a project in transport which calls for the construction of a new route through an existing low-income settlement area may require the demolition of part of the existing squatter housing stock and thereby reduce the effectiveness of a slum upgrading project. The modernization of water supply and sewerage may reduce employment opportunities in previously informal sectors

(water carrying and nightsoil collection); although the overall impact may be positive for a variety of poverty groups, the negative impact on the particular groups previously working in those informal sectors should be recognized and evaluated.

Links among projects or between projects and events in different sectors may be direct or indirect. For example, a project in literacy may improve directly the effectiveness of a project in personal hygiene and environmental sanitation. A shelter project may increase indirectly the effectiveness of a project in urban management and finance by increasing a household's sense of stability and responsibility, thus increasing that household's support for improved local government.

The consequences of links may be immediate and/or long-term. The impact of a reduction in transportation costs on households' ability to pay for water, sanitation and shelter, for example, may be almost immediate. The impact of technical training on health and a generally improved lifestyle as a result of increased income may take a year or more to be felt. Both impacts are likely to have effects which persist over long periods.

The distinction between direct and indirect links and the distinction between present and future links are not always clear-cut but the differences indicated are, nevertheless, useful as a reminder of the nature of specific links. If links are indirect, there are, implicitly, one or more direct links with project or events in other sectors intermediate in the chain of relationships and it is important to recognize these in making project decisions. For example, a project in water supply and sanitation may impact a housing project indirectly by contributing to increased health and increased land values, thus increasing households' credit-worthiness. In order to anticipate the likelihood and magnitude of the impact of improved water and sanitation on creditworthiness it is important to assess the dimensions and probabilities of impacts on health and land values. The distinction between present and future links is useful as a reminder of the "lag-time" that should be considered in establishing expectations about the timing of benefits and/or taking precations to avoid negative intersectoral effects.

The phrase "projects or events" has been used several times in the preceding material. Links that are important because of their implications for low-income groups may be links among projects and/or links between projects and events in other sectors that do not involve the undertaking of a project in those other sectors. For example, improvements in water supply and sanitation are likely to increase worker

productivity and incomes for the households that receive improved services. Those increases in incomes may, in turn, increase the households' ability and willingness to obtain improved shelter, even if there are no publicly-supported shelter projects. Links among projects and links between projects and events both will be important if they impact urban poverty groups or other groups that are of concern.

The particular types of intersectoral links that are likely to be important have been identified in earlier chapters in the sections dealing with the complementary actions likely to be necessary with projects in individual sectors.

In addition to links among projects in urban areas, there are likely to be links between projects in urban areas and projects or events in rural areas. These will be the subject of a later section of the present chapter.

B. Potentially Important Links Between Projects in Urban Areas and Projects and/or Events in Rural Areas

Urban and rural development often are seen as competing. Indeed, both national government and inter-agency priorities have fluctuated between rural and urban emphases from time to time. In some cases, rural development has been seen as a solution to problems associated with urban growth, overcrowding and urban infrastructure overloads.

Two points, in particular, deserve comment. First, the dichotomy often drawn between urban and rural development is, in many respects, a dangerously misleading one; urban and rural development should be seen as complementary and mutually reinforcing. Second, in most developing countries, it is not realistic to expect rural development to slow down rates of urban growth or alleviate urban growth problems significantly.

1. The Potential for Complementarity Between Urban and Rural Projects

Urban development is a major source of demand for domestic rural output. In many countries, where long-run agricultural export potential is limited, future rural prosperity depends largely upon urban prosperity. Rural development, similarly, is an important source of domestic demand for urban output. Many of the basic materials and equipment necessary for rural improvements must come from urban areas. Specialized urban services also are likely to be important for increasing rural productivity.

Although various degrees of political and administrative decentralization are feasible and desirable in individual countries, many major political and administrative decisions affecting rural development are likely to be made in urban centers.

There is a considerable potential for the re-use of urban waste water and solid wastes in agriculture. There often is a potential for the urban re-use of agricultural wastes, similarly -- for example, the use of bagasse for urban construction materials and the generation of methane gas from animal wastes.

There may be a considerable and, as yet underutilized, potential for reducing unemployment and underemployment by sharing labor resources between rural and urban areas where seasonal employment patterns in agriculture and cyclical employment patterns in urban areas can be scheduled to complement one another -- where seasonal and/or cyclical labor migration is feasible, and, most obviously, where agricultural areas are close to urban centers.

There often will be opportunities for the joint rural and urban use of basic resources and facilities (for example, water resources, power sources and transportation facilities) which increase resource productivity and justify major resource development that would not be justifiable for urban or rural use alone.

Agricultural improvements close to urban areas may also contribute importantly to environmental upgrading in urban regions.

A number of proposals have been made recently for complementary urban and rural development.

An ambitious proposal for large-scale re-use of urban waste water has been made for Karachi[2] as noted in Chapter V. The water regeneration system would carry waste water from the urban area to agricultural areas, after primary or more elaborate treatment in sewage treatment plants and, possibly, after treatment of part of the total waste generated in stabilization ponds. The steady flow of waste water into irrigation, followed by percolation through the soil into underground aquifers, would build up groundwater reserves for the metropolitan region. Underground sources would then be used for both urban and agricultural areas. Coupled with surface water management through contour trenches, check dams and other means it should be possible eventually to build up underground water storage to ensure adequate supplies of water for a future urban population of

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[2]Master Plan Department, Karachi Development Authority, Karachi Development Plan, 1974-1985. Karachi: Master Plan Department, KDA, 1973. pp. 126-127.

at least 15 million. The augmentation of groundwater resources would begin as soon as large-scale irrigation is started.

A similar proposal has been made more recently for the large-scale re-use of waste water from the urban population of Bombay.

A proposal for urban villages in the proximity of major urban areas has been made for Asia, with a specific project proposal for the Bombay Metropolitan Region.[3] A cluster of four urban villages with combined water recycling systems would support a population of the order of 30,000. Water would be distributed initially through a central facility for drinking, food preparation and bathing and would be recycled after treatment for bathing, laundry, toilets, etc. It has been estimated that water supply could be of the order of 200 gallons per household per day, including 100 gallons of lower grade water for intensive gardens and fish farming. A closed cycle of sewage through a stabilization pond, leading to the production of algae and returning the water for human use would constitute the foundation for the recycling system. Four villages would share a stabilization pond to produce algae economically for consumption by fish, chickens and other livestock. All perishable foods consumed in the community could be produced within a short distance of residences and surpluses could be released to markets in the densely settled urban core nearby. It has been estimated that up to 100 tons of foodstuffs per acre per year could be produced through intensive gardening, aquaculture, pisciculture and horticulture under the climatic conditions in Bombay.

Complementary urban and rural projects are likely to benefit a number of groups, in addition to the urban poor. Increases in agricultural output in areas close to urban centers and in other locations serving urban markets may decrease local rural unemployment and underemployment levels. Since increased agricultural output serving urban markets will be distributed through market mechanisms in most cases, rather than rationed physically, middle and upper-income urban households are likely to benefit from increased agricultural supplies. To the extent that rural taxation facilitates this, public revenues will be increased as a result of increases in agricultural output. Urban government revenues may be increased also from the sale of waste water and solid wastes for use in agriculture. Skills developed by rural workers during seasonal employment in urban areas may reduce production costs for agricultural entrepreneurs. Improvements in agricultural technology and related skill upgrading may,

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[3] Meier, Richard L., Resource Conserving Urbanism in South Asia IV: The Development of Greater Bombay. Working Paper No. 154, draft. Berkeley, California: Institute of Urban and Regional Development, University of California, Berkeley. July 1971. pp. 59-61.

similarly, result in cost reductions for urban entrepreneurs employing seasonal rural labor.

2. The Potential Impact of Rural Investment and Development on Urban Growth

Much lip service has been paid to the desirability of decreasing the high rates of rural-urban migration in the developing countries through increasing efforts in rural development. The most recent theoretical analyses of rural-urban migration have stressed that migration tends to be a function of the expected difference in urban and rural wage rates. Such an explanation might be widened to include the sum of all net differences in the living environment between urban and rural areas. Thus, in addition to the somewhat high income expectation typically existing between the urban and rural underemployed, a host of other tangible and psychological benefits are enjoyed in urban areas. The sum of wage and other benefit differentials explains the almost universal willingness of migrants to brave the harsh conditions of the cities.

The argument which often follows such analysis is that, in order to reduce the rural-urban flow, governments need only raise rural productivity and incomes and increase the levels of rural amenities available. Numerous countries have advocated rural development programs with this end in mind. However, where the principal aim of such programs has been to reduce population flows to urban centers, few, if any, examples of success can be cited. The overall desirability of such objectives has recently been called into question.

The primary motive for attempting to limit urban growth through rural development has usually been political. Some governments fear massive and potentially volatile agglomerations of poor citizens. They naturally prefer to keep such elements divided and in rural areas. In addition, there have been many legitimate concerns with rapid urban growth which have prompted searches for solutions in faster rural development. There is a great apprehension of a coming urban avalanche in most developing countries. With the infrastructure, housing stock and public service capacities of most major cities already overloaded to the breaking point, many governments want to ease future urban, as well as total, population pressures. At the same time there is a deeply-ingrained concern with rural areas and small villages and there is a natural desire to reduce inequities in the distribution of income, employment, and services.

There are, in fact, many convincing arguments for governments to exert greater efforts in rural development to reduce urban problems. Most countries need high levels of food production, both to improve local nutritional standards, to

provide a larger food surplus to support urban centers, and to reduce dependence on imported foodstuffs. A more equal distribution of incomes, employment and services may itself be socially desirable. To increase the productivity and incomes of rural areas will provide an expanding market for the goods and services of urban centers, as noted earlier. For these and other reasons, rural development programs are a vital factor in virtually every developing nation's economic growth. However, there is not yet clear evidence that rural development programs can significantly reduce the magnitude of urban poverty by reducing rural-urban migration. On the contrary, progress in rural areas may tend to increase such migration. Higher rural income levels and better health and nutrition can increase rural population growth. Higher incomes, better education and improved transportation and communication can increase people's aspirations and abilities to move to urban centers. These are not arguments against rural development programs; they are grounds for caution in estimating the consequences for urban population growth.

There are several examples of governments' concerns with the problems of urban growth and attempts to control it through increased efforts in rural development. In Zambia, the Second National Development Plan planned for rural-urban migration to fall from 4.9 percent to 3.4 percent for males and from 7.4 percent to 3.7 percent for females. In spite of an increased effort at rural development and an ambitious program of "Intensive Development Zones", the rates of growth of Lusaka and other major Zambian cities have continued at previous high rates.

In another case in the Caribbean in which there is a concern to slow down urban growth, recent estimates of a 7 percent growth rate for the capital city are viewed with alarm. The population of the city has expanded far beyond the capacity of infrastructure, employment and levels of government services. It is hoped that planned programs for rural development can reduce the demographic pressures on the capital. Much of this hope is based on a view which overlooks the severity of current rural overpopulation and underemployment. It is estimated that there is a 600 percent surplus of manpower in rural areas. Several good opportunities for rural development do exist. However, it is unlikely that more than a fraction of the surplus manpower can be absorbed even with the most labor-intensive technologies. As rural incomes rise and better transportation networks are developed, migration to the cities is likely to continue. Although agricultural production and rural incomes can and should be expanded, the greatest percentage of economic growth will inevitably continue to be in urban areas. Rural-urban migration will be the inevitable concomitant of economic expansion.

If there is a major exception to the general ineffectiveness of rural development programs in limiting urban growth it appears to have been in mainland China. The Chinese government has tried various "rustication" programs which have attempted to keep peasants in rural areas and to relocate urban bureaucrats and youth in the countryside. Programs have involved both temporary and permanent resettlements. Checkpoints have been used to discourage "blind migration" to the cities. In addition, a series of less direct controls and incentives have been used. For example, education and food rationing have been conditioned upon individuals' willingness to live in rural areas. China is also experimenting with new forms of urban design which attempt to minimize the social distinction individuals feel between urban and rural space. Service centers are designed to service agrarian needs with the same efficiency they have for meeting urban manufacturing and commercial requirements.

The Chinese model is interesting in a number of respects, but it may be of limited applicability under present political and social conditions in many developing countries. The willingness to work in rural occupations and the reverence for rural life in China is a result not only of intensive political education but also of a long history of intense symbiotic relationship between city and countryside. The conflicts found between the rural masses and urban-based elites in the West has never been as pervasive in China. In addition, few of the developing countries of today possess the policy tools and motivations of the Peoples' Republic. Most leaders hesitate to use direct control and other means which for them are associated with anti-democratic and colonialist policies.

It should be emphasized that the points made above pertain to rural development programs as a means of limiting urban growth. A separate but related issue should be mentioned. Many governments have established policies to "decentralize" urban growth away from primate cities into smaller centers. Evidence as to whether urban infrastructure, services, employment and housing can be provided more efficiently in large or small cities is far from clear. Ultimate decentralization decisions are usually political as well as economic and reflect governments' desires to provide a more equitable regional distribution of the fruits of development. Such strategies can limit short-term economic growth, but they may also bring about more long-run economic efficiency. This may be feasible, in particular, in larger, more advanced countries such as Brazil which posses relatively abundant and geographically dispersed resources.

PART III: THE USE OF THE GUIDELINES IN IDENTIFYING AND UNDERTAKING PROJECTS TO BENEFIT THE URBAN POOR

Chapter XII

IMPACT ANALYSIS

A. Preliminary Comments

1. The Project Cycle

To see how impact analysis can contribute to the various decisions to be made in project formulation and in determining whether or not to undertake a project, it is useful to review briefly the cycle of activities usually involved from the inception of a project idea through various stages of project formulation and scrutiny to project execution and evaluation.

The steps followed, at least in principle, by many governments and aid agencies are shown graphically in Diagram XII.1. The principal features of each of these steps are as follows:

a) Identification of Problem

The initial impetus for formulating a project usually originates in the identification of a problem or problems considered to be important in relation to national, regional, state and/or local development goals. Where goals are already explicit, a problem can be defined in terms of them. Where goals are only implicit or unarticulated, the identification of a problem may give rise to the establishment of an explicit goal.

The definition of a problem, if it is realistic, implies the existence of a possible solution and usually contains within it at least the germ of a project idea.[1]

b) Review of Current Plans and Resource Constraints

In most situations there will be some form of national and often regional, state and local plans and programs to which individual projects should be related.

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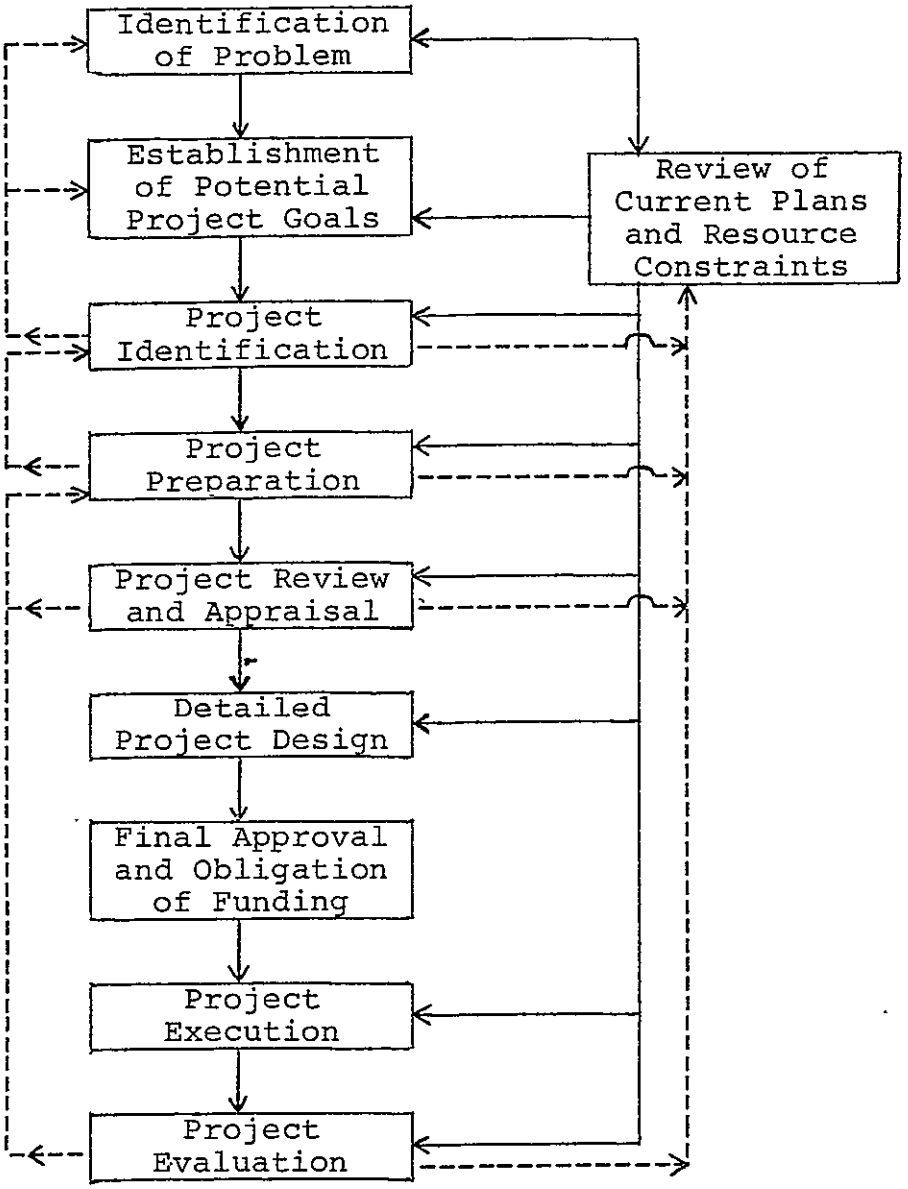
[1] If there is no solution, then there is for practical purposes, no "problem" but, simply, an unsatisfactory state of affairs that must be accepted.

Diagram XII.1

Synopsis of a Typical Project Cycle



SYMBOLS:

▭	Decisionmaking Activities
⟶	Main Flows of Information
⟵------	Potential Feedback

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Those plans may be the origin of the identification of problems which lead to project formulation -- for example, where regular reviews of progress result in the identification of shortfalls. Where problems are identified independently, current plans should, in any case, be consulted to help to establish project goals that will be consistent with overall program goals and to identify the constraints that should affect project formulation. The content of current plans will also play an important part in project identification, project preparation, project review, detailed project design, project execution and, through its influence on goals and performance criteria, project evaluation. The content of current plans, in turn, may be modified as a result of the formulation and execution of a project.

c) Establishment of Potential Project Goals

If a project is to be formulated rationally in response to a problem or an opportunity and if there is to be an explicit basis for comparing alternatives in its formulation, and for subsequent project evaluation, it is necessary to establish explicit and operational project goals. Those goals will provide an important part of the foundation needed for determining what elements should be included in a project. They will also provide a foundation for establishing a number of the criteria on which project reviews and appraisals and project evaluation should be based. As indicated by the potential feedback shown in Diagram XII.1, the goals identified at the inception of a project may be modified subsequently by later activities in the project cycle -- if, for example, some of the initial goals turn out to be not feasible or if other possible goals are discovered as a result of those later activities.

d) Project Identification

This is the step in which the broad features of a potentially promising project are identified, usually including at least crude analyses of the resources it will require and the benefits and costs likely to be associated with it. Project identification usually will involve a consideration of alternative possible responses to a problem or opportunity and should be sufficient to select out those for which more complete project definition appears worthwhile. Project identification usually will be followed by a series of policy decisions which determine which project or projects are to be developed more fully in the project preparation step of the cycle to provide a basis for project review and appraisal. The level of project definition that is appropriate at the project identification stage will vary with the agencies involved. The content required in

U.S. AID procedures, for example, is spelled out in a Project Assistance handbook,[2] which identifies the information needed for the preparation of a Project Identification Document (PID).

e) Project Preparation

At this stage the project should be defined fully enough, with an indication of how it is to be implemented and an analysis of its expected costs and benefits, to permit its tentative approval or rejection by the governmental agency or agencies concerned, and, where appropriate, by international agencies whose project assistance is to be sought.[3] As in the case of project identification, the requirements of individual agencies may vary; U.S. AID requirements for the preparation of a Project Review Paper (PRP) are identified in the Project Assistance handbook referred to in d).

f) Project Review and Appraisal

This is the step through which a basic "go-no-go" decision is made by the relevant government agency or agencies and, where appropriate, international aid agencies. As indicated in e), a "go" decision usually is tentative and subject to final approval at appropriate policy levels in the governments or governing bodies controlling the agencies concerned. Rejection at this stage should be unlikely if project identification and project preparation have been undertaken properly; if it occurs it may be for the abandonment or reformulation of the project. The possibility of the need for reformulation is indicated by the feedback indicated in Diagram XII.1.

g) Detailed Project Design

Detailed project design should be undertaken only if a basic "go" decision has been made. It should include a definitive description and appraisal of the project, together with final cost estimates and a specific implementation program which includes an identification of the responsibilities of the public and private entities that are to be involved. It usually provides a basis for final project authorization, the mobilization of resources for implementation and the disbursement of funds. It should include also an explicit program for subsequent project monitoring and evaluation. In U.S. AID procedures a Project Paper is required at this stage.[4]

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[2]Agency for International Development, Department of State. Project Assistance. Handbook 3. Washington, D.C.: AID, September 1, 1975.

[3]Project approval at this stage usually is tentative, and contingent upon the subsequent availability of funding, detailed project design requirements and the fulfillment of other preconditions for project implementation.

[4] Agency for International Development. Op.cit., Chapter 6.

h) Final Approval and Obligation of Funding

This will typically follow detailed project design if that step has been executed properly and provided that funding and other resources are available.

i) Project Execution

The term "project execution" is used here to refer to the full sequence of activities through which a project is brought to fruition, including physical construction, the provision of related services, the institution of relevant policy measures, the execution of necessary complementary actions in related sectors and, hopefully, the utilization of the goods and services generated through the project by that project's intended beneficiaries.

j) Project Evaluation

Because all project execution is fraught with uncertainty, it is desirable (though not universal practice) to establish systematic project monitoring and evaluation procedures through which the actual results of a project can be compared with its expected results and current evaluation criteria -- as a basis for future project formulation or the modification of the present project and, in extreme cases, project termination. Project evaluation should be based on evaluative criteria derived from original project goals and other criteria that may have been established subsequently as a result of changes in overall plans and programs or values.[5] The specific requirements for evaluation will vary from agency to agency. Those established by U.S. AID, for example, are spelled out in an Evaluation Handbook.[6] Evaluation may lead to feedback of several kinds, as indicated in Diagram XII.1.

2. Purposes and Limitations of the Present Guidelines

The Guidelines that have been developed are intended to be of assistance primarily in project identification and project reviews and appraisals by identifying the steps necessary for

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[5] Even though a project may be fulfilling its original goals adequately, this may not be a sufficient basis for judging it a success if subsequent events and ideas have led to the establishment of different and/or additional criteria for determining what is or is not "successful".

[6] Office of Program Evaluation, United States Agency for International Development. Evaluation Handbook: Second Edition. Washington, D.C.: United States Agency for International Development. (Third Printing). May, 1974.

impact analysis, the sequences in which those steps should be executed and formats for recording impact information in ways that will facilitate identification and review.

They should be of assistance also in project preparation as a reminder of the principal impacts on goals that are being sought, intermediate project purposes, the specific poverty groups likely to be impacted beneficially, potential negative impacts on those and/or other poverty groups, potential impacts on groups other than poverty groups, the policy implications of projects and the complementary actions that are likely to be necessary.

They may be of help in project evaluation, in serving as a reminder of the types of impact, positive and negative, to be looked for and a reminder of the types of complementary action that should be taken in implementing the projects in question. If actual results are different from those expected, the background chapters on the various causes of poverty and the chapters in which sector and project characteristics are analyzed may be of help in discovering the reasons for those differences.

They are likely to be of use to host country agencies in the preparation of requests for project assistance.

They are intended also to assist in making the basis for recommendations of project selection more readily apparent to people other than the technician making the recommendations.

It should be obvious that the Guidelines by no means constitute a complete set of materials for project identification, project preparation, project review and appraisal or project evaluation. They are intended, rather, to complement other tools and techniques that already exist in such a way as to at least keep the risk of really poor project selection relatively low. Optimistically, they should help to increase substantially the probability of selecting projects with highly beneficial impacts.

In project identification, preparation, review and subsequent evaluation, it will be important to specify explicitly the goals and intermediate purposes of a project, the goals and intermediate purposes of a project, the inputs necessary for project execution, the outputs expected from the project, including objectively verifiable indicators for determining the degrees to which project purposes and goals have been achieved, and the assumptions upon which the project's design is based. Procedures for developing and organizing these types of information are spelled out in the specialized technical manuals relevant for individual projects and in various

methodological frameworks such as the AID Logical Framework.[7] The present Guidelines are intended to complement the materials in existing documents of this type by identifying projects in selected sectors that are likely to be highly beneficial for the urban poor and by identifying the basic elements of such projects, their ultimate goals and intermediate purposes, including an identification of the specific poverty groups likely to be benefited by them, their potentially negative impacts on the urban poor, potential impacts on other groups, the policy implications of such projects and the complementary actions that are likely to be necessary to support successful project execution.

3. The Basic Types of Impact That Are Presumed to Be of Concern

It is presumed that the types of impact (positive or negative) that are likely to be of concern, based on the goals identified in Chapter III, include the following:

a) Impacts on the Goals Relevant for the Urban Poor

i) Impacts on the Current Consumption of the Poor

- Food
- Water
- Sanitation
- Fuel for household use
- Electricity
- Clothing
- Shelter
- Essential information (on job availability, etc.)
- Opportunities for satisfying social interaction
- Opportunities for participating in and influencing the decisions that affect one's own future
- Opportunities for enjoying a satisfying physical environment
- Recreation

ii) Impacts on Capital Accumulation by the Urban Poor

- Human capital (calling for a concern with the services and opportunities necessary to develop human capital -- in particular, health services, education, and the provision of opportunities for

[7] Agency for International Development, Program Methods and Evaluation Division, Bureau for Program and Policy Coordination. The Logical Framework - Modifications Based on Experience (Second Printing). Washington, D.C.: Agency for International Development. November, 1973.

enriching and heightening individual's sensibilities)
- Monetary savings
- Equipment
- Real property, including land and housing

iii) Impacts on the Risks to Which the Urban Poor Are Likely to Be Exposed

- Economic
- Physical
- Social

b) Impacts on the Goals Relevant for Other Target Groups

In selecting for implementation as elements in a country program projects which are intended to benefit the urban poor, the overall goals and constraints relevant for that program should be considered if priorities for the poor are to be related rationally to overall priorities. It is therefore necessary to consider impacts that such projects may have on the achievement of goals relevant for other target groups.

In the present Guidelines it is presumed that those goals will fall into the same three basic categories as those identified for the poor, namely:

- Impacts on current consumption;
- Impacts on capital accumulation;
- Impacts on risk.

The particular types of consumption, capital accumulation and risk given priority for other groups are likely to be different from those that are important for urban poverty groups. They also are likely to differ from one urban area and country to another. It is not productive to try here to anticipate the specific goals that will be given highest priority in individual situations but in the summary sector and project data tables of Part IV of this Volume other impacts judged likely to be important in most cases are identified. The list presented is, of course, by no means complete or binding and will undoubtedly have to be modified to suit individual situations.

4. Intermediate Project Purposes

Impacts on the achievement of goals of the types just identified are the ultimate concern. As pointed out in Chapter III, the achievement of these goals can be influenced by affecting the demand for those goods and services. In the present Guidelines the intended impacts of a project on the supply of and/or demand for essential goods and services are

referred to as that project's intermediate purposes to distinguish them from its impact on ultimate goals (which have to do with changes in consumption or in the accumulation of assets as a result of changes in supply and/or demand).

Although it is desirable, in principle, to identify the expected impact of a project on ultimate consumption or asset-accumulation goals in order to decide whether or not to undertake that project, data limitations and insufficient information on relationships among variables frequently will preclude this. In such cases the decision-maker may have to be satisfied with an analysis of expected impacts on the supply of the relevant goods and services as a basis for a "go-no-go" decision. Intermediate project purposes, as well as sector and project goals are therefore identified in the tables presented in Part IV.

5. Impact Agents and Instruments

Natural resources, man-made goods and services, institutional mechanisms and the powers and capabilities of individuals and entities, both public and private, to influence the allocation of resources, goods and services are the means through which a project's impact is achieved.

The individuals and entities that influence project impacts will be referred to here as impact agents. They may be individuals, households, private commercial enterprises, social organizations, governmental agencies, international agencies or organizational entities of other types, formal or informal. The shaping of a project and its execution must always take place through and be influenced by one or more impact agents. A recognition of potential impact agents, the instruments available to them and the inter-relationships among them (i.e., the networks through which the influence of those agents may occur) is therefore important as a basis for decisions in project design and execution and the decisions through which it is determined whether or not a project is to be undertaken.

Impact agents potentially relevant in projects for the urban poor and the principal flows of cash, goods and services (including regulations and controls) through which those agents may be related are identified in Table XII.1. The networks through which these flows may occur are implicit in the table. A part of one such network is, for example:

Table XII.1

Potential Flows of Cash, Goods and Services
Among Impact Agents Relevant for the Urban Poor

FROM[6] \ TO[6]	INTERNATIONAL AGENCIES	NATIONAL GOVERNMENT	STATE/PROVINCIAL GOVERNMENT	LOCAL GOVERNMENT	FORMAL SECTOR ENTERPRISES[1] (DOMESTIC AND FOREIGN)	INFORMAL SECTOR ENTERPRISES[2]	SOCIAL ORGANIZATIONS[3] (DOMESTIC AND FOREIGN)	OTHER URBAN HOUSEHOLDS	LOW-INCOME URBAN HOUSEHOLDS
INTERNATIONAL AGENCIES		Loans Grants Guarantees			Payments for Purchases Loans		Loans Grants Fees		
NATIONAL GOVERNMENT	Counterpart Commitments Principal & Interest Payments Fees[4]		Loans Grants Guarantees Technical Assistance Land, Facilities & Services	Loans Grants Guarantees Technical Assistance Facilities & Services	Payments for Purchases Loans Grants/Subsidies Guarantees Technical Assistance Tax/Other Incentives & Controls Facilities & Services	Payments for Purchases Loans Grants/Subsidies Guarantees Technical Assistance Tax/Other Incentives & Controls Facilities & Services	Loans Grants/Subsidies Guarantees Technical Assistance Tax/Other Incentives & Controls Facilities & Services	Loans Wages Facilities & Services	Loans Wages Grants/Subsidies Technical Assistance Tax/Other Incentives & Controls Land, Facilities & Services
STATE/PROVINCIAL GOVERNMENT		Counterpart Commitments Principal & Interest Payments Tax Sharing		Loans Grants Guarantees Technical Assistance Facilities & Services	Payments for Purchases Loans Grants/Subsidies Guarantees Technical Assistance Tax/Other Incentives & Controls Facilities & Services	Payments for Purchases Loans Grants/Subsidies Guarantees Technical Assistance Tax/Other Incentives & Controls Facilities & Services	Loans Grants/Subsidies Guarantees Technical Assistance Tax/Other Incentives & Controls Facilities & Services	Loans Wages Facilities & Services	Loans Wages Grants/Subsidies Technical Assistance Tax/Other Incentives & Controls Land, Facilities & Services
LOCAL GOVERNMENTS		Counterpart Commitments Principal & Interest Payments Tax Sharing	Counterpart Commitments Principal & Interest Payments Tax Sharing		Payments for Purchases Tax/Other Incentives & Controls Facilities & Services	Payments for Purchases Tax/Other Incentives & Controls Facilities & Services	Tax/Other Incentives & Controls Facilities & Services	Wages Facilities & Services	Wages Technical Assistance Tax/Other Incentives & Controls Facilities & Services
FORMAL SECTOR ENTERPRISES (FOREIGN & DOMESTIC)	Services Principal & Interest Payments	Services Principal & Interest Payments Taxes Fees & User Charges	Services Principal & Interest Payments Taxes Fees & User Charges	Services Taxes Fees & User Charges	Payments for Purchases Goods & Services	Payments for Purchases Goods & Services	Payments for Purchases Goods & Services Loans[5]	Wages Goods & Services Loans	Wages Goods & Services Loans
INFORMAL SECTOR ENTERPRISES		Goods & Services Principal & Interest Payments Taxes Fees & User Charges	Goods & Services Principal & Interest Payments Taxes Fees & User Charges	Goods & Services Taxes Fees & User Charges	Goods & Services Payment for Purchases	Goods & Services Payment for Purchases	Goods & Services	Goods & Services	Wages Goods & Services Loans
SOCIAL ORGANIZATIONS (DOMESTIC & FOREIGN)	Principal & Interest Payments Services	Principal & Interest Payments Taxes Fees & User Charges	Principal & Interest Payments Taxes Fees & User Charges	Taxes Fees & User Charges	Goods & Services Payments for Purchases Principal & Interest Payments	Payments for Purchases	Payments for Purchases Loans Principal & Interest Payments	Wages Goods & Services	Wages Goods & Services Grants/Subsidies Loans Technical Assistance
OTHER URBAN HOUSEHOLDS		Principal & Interest Payments Labor Taxes Fees & User Charges	Principal & Interest Payments Labor Taxes Fees & User Charges	Labor Taxes Fees & User Charges	Labor Payments for Purchases Principal & Interest Payments	Payments for Purchases	Labor Payments for Purchases Donations	Self-help	Goods & Services[7] Wages Gifts
LOW-INCOME URBAN HOUSEHOLDS		Principal & Interest Payments Labor Taxes Fees & User Charges	Principal & Interest Payments Labor Taxes Fees & User Charges	Labor Taxes Fees & User Charges	Labor Payments for Purchases Principal & Interest Payments	Labor Payments for Purchases Principal & Interest Payments	Labor Payments for Purchases Principal & Interest Payments	Payments for Purchases[7] Labor	Self-help

[1] Including banks and other financial institutions and consultants.

[2] Including informal-sector financial entities.

[3] Including cooperatives, private aid organizations, religious groups, etc.

[4] For example, where OPEC countries pay for technical assistance.

[5] For example, employers loans to worker cooperatives.

[6] Intergovernmental and inter-entity cooperation and coordination are presumed as possible flows of "services" but not shown explicitly.

[7] For example, where low-income households purchase or steal water from middle and upper-income households.

Diagram XII.2

Illustrative Section of an Impact Network

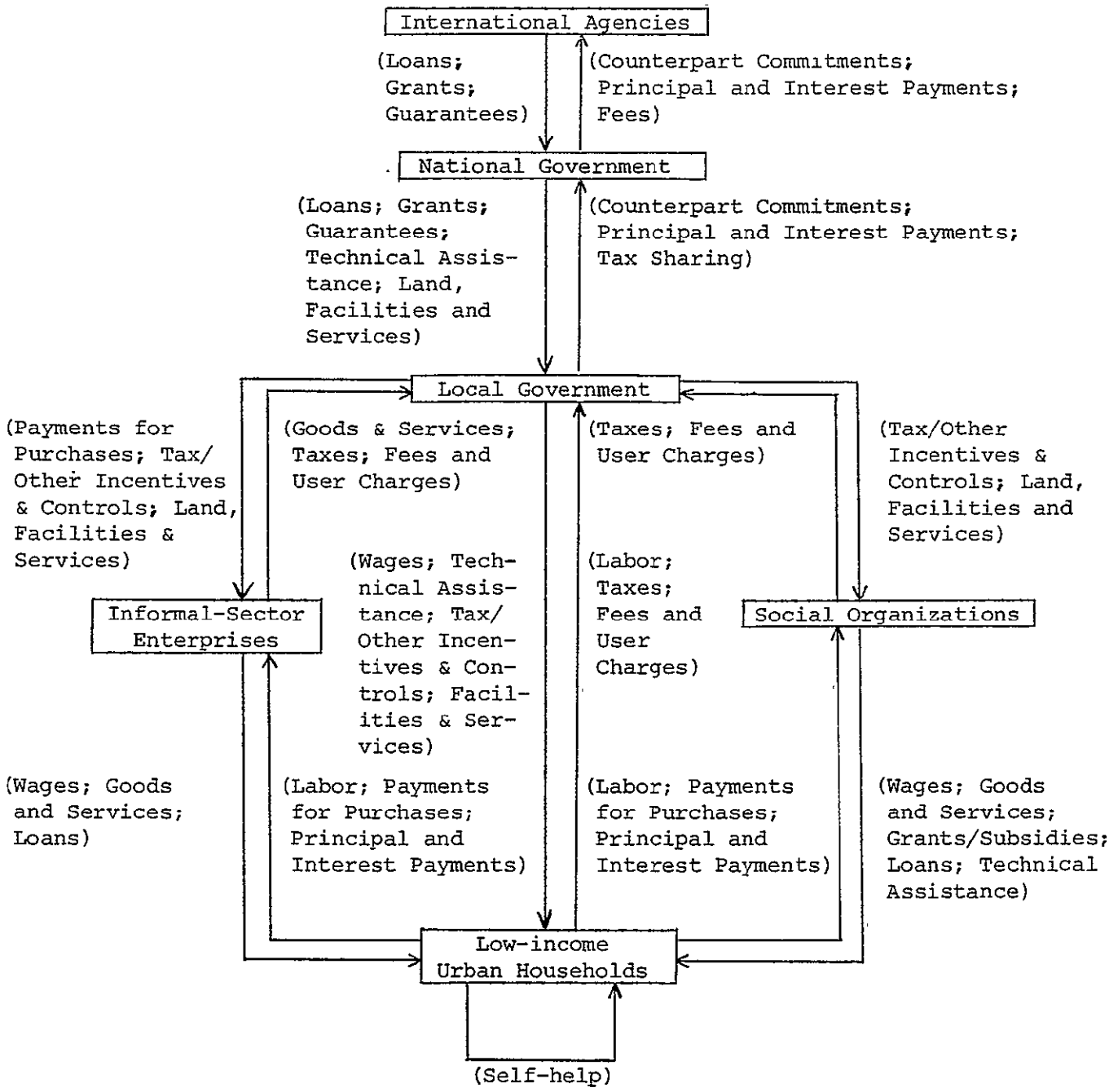

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Table XII.1 is presented as a reminder of the impact agents that may be important and as a device to aid in tracing through the networks of potential relationships that should be recognized in deciding which instruments should be focused upon in formulating project components and project assistance.

In formulating a project for low-income settlement, for example, in considering the part of the relevant impact network shown in Diagram XII.2, it might be decided that the relationship to be established should include the following:

International Agencies - National Government

- "Soft" loans and grants, but not guarantees
- Specified national government commitments of technical staff support

National Government - Local Government

- Loans to local government
- Grants to local government
- Technical assistance by national government
- Provision of land, power, bulk water supply and major sanitation and transportation facilities by national government
- Provision of supporting technical staff by local government
- Reduction of tax sharing burden on local government and greater local discretion in use of local revenues

Local Government - Informal Sector Enterprises

- Government provision of improved food distribution markets and other facilities for the sale of informal-sector goods and services
- More rigorous collection of fees for the use of public market space by informal-sector vendors

Local Government - Social Organizations

- Increased and improved provision of land and infrastructure for private social organizations providing education, health and other essential social services of acceptable quality
- Greater tax concessions for these social organizations
- More rigorous government regulation of the quality of services provided by social organizations

Local Government - Low-Income Households

- Increased employment of members of low-income households in local government
- Technical assistance in housebuilding and maintenance of communal facilities
- Increased tax concessions
- Improved delivery of water supply, sanitation, mass transportation education and health services
- More rigorous collection of user charges for water supply and sanitation
- Greater exercise of self-help initiative in response to increased government support

Although both the table and this example are illustrative rather than exhaustive, the table should be useful, at least as a starting point, in thinking through the components that should be incorporated in projects and in specifying requirements for project assistance.

6. Impact Linkages

The potential flows of cash, goods and services identified in Table XII.1 suggest the types of transactions and relationships that it will be important to affect in undertaking a project. However, in order to decide how to affect them, it is necessary to have knowledge of the physical, economic, social, political and other variables and relationships through which they are likely to be affected. For example, in order to decide how to design a project so that it will have a high probability of helping to achieve a specific level of improvement in water consumption by households with monthly incomes of $20 or less, it will be necessary to have information on such things as household incomes and consumption preferences, the existing level, quality and pricing of water supply from all sources to the target households, the technological options for providing increased and improved supplies of water, possibilities for lowering the costs of other essential goods and services to help the target households to have more of their income available to pay for water, and so on. In other words, it is desirable to have an analytical model -- whether it be simple or sophisticated -- of the variables and relationships that determine levels of water consumption by target households.

The specification of even the major variables and relationships that are relevant for each of the project types identified in the present Guidelines is beyond the scope of the Guidelines themselves. It is presumed that the detailed

knowledge necessary for their specification will be available through the agency staff members and/or specialized consultants responsible for project identification, project preparation, project review and appraisal and subsequent project evaluation. The need to analyze impact linkages of these kinds is mentioned here chiefly as a reminder of the importance of having such skills and knowledge available -- and as a reminder of the point made at the beginning of this chapter, that the present Guidelines do not pretend to be a substitute for all of the specialized materials needed for project formulation and analysis.

7. Quantitative and Qualitative Impacts and Interpersonal Comparisons

If all impacts could be reduced to a single dimension, as in the case of economic analysis in which profit maximization is the only goal, the task of impact analysis, though still difficult because of the difficulty of tracing all of the linkages through which impacts may occur, would be relatively simple. In practice, some potential impacts will be easily quantifiable (provided the linkages through which they occur are well defined) -- as in the case of changes in household income likely to result from the creation of particular types of job opportunity. Others will be less directly quantifiable but nevertheless quantifiable in principle -- for example, the additional pleasure gained from a new settlement which provides increased opportunities for social interaction and for the enjoyment of an improved physical environment (which might be quantifiable in principle, through measures of the price differences households are willing to pay to locate in the new settlement).

However, even with readily-quantifiable impacts, the task of aggregating impact information is by no means simple if the quantitative changes (for example, increases in income) cannot be made commensurable because they relate to different individuals or households.

In the present Guidelines it is presumed that almost always it will be impossible to reduce relevant impacts to a single dimension. It is presumed that, as a result of this, the best that can be done in advising the policy makers responsible for project selection decisions is to provide them with organized listings of the various types of impact, quantitative and qualitative, that can be expected with each project and an identification of the particular target groups likely to be impacted.

8. Significance and Insignificance

Impact identification takes time and effort. Delays in decisions pending advice on project impacts may have enormous

opportunity costs. It therefore is essential to focus as quickly as possible on truly significant impacts and ignore the rest. In each case, criteria for determining what is "significant" and what is not should be established explicitly. Two points of caution are in order in relation to this. First, a number of individually small impacts may together result in a major impact. (For example, very modest improvements in local sanitation, coupled with the addition of minimal health services and the initiation of a very basic education and information program may together be sufficient for some of the individuals benefited to reach a threshold of confidence and physical capacity from which they can take off and exercise their own initiative in improving their condition.) Second, the significance of an individual impact will depend on the context in which it occurs. (For example, a small change in water treatment processes may be just sufficient to trigger the virtually complete elimination of pathogens where the system was already close to the threshold for their survival.) Both of these points serve as a reminder of the importance of having an adequate model of the system that is being impacted, so that multiplicative effects and existing conditions close to thresholds for change can be recognized.

9. The Timing of Impacts

An identification of the times at which impacts can be expected to occur will be important for a number of reasons. Clearly, it is important to be able to select projects with rapid impacts if there is to be an adequate response to urgent problems; many of the urban poor are on the brink of disaster and their condition calls for projects which have very early, even if modest, pay-offs. In more general terms, the time pattern of the impacts of a project, related to the changes in conditions that are expected to occur and explicit or implicit rates for discounting future benefits and costs, may be a major factor in deciding whether or not that project should be selected. A project with high future benefits may give rise to short-run cash flow crises, for example. As a particular aspect of the concern with time, the combined patterns of impact from different projects over time must be considered. The limited early impacts of a project may mature into major ones later, alone or in combination with the impacts of other projects. (The introduction of small local stabilization ponds may trigger off a cycle in which the growth of algae or plants such as water hyacinths is stimulated; simultaneously, fish life may flourish; and plant growths may be used for fodder; and so on.) Decision makers should be made alert to the long-term multiplicative (and sometimes cyclical) effects of projects.

10. Dealing with Uncertainty

Varying degrees of uncertainty will attach to all of the potential impacts identified for a project. In the accounting processes through which impact information is used in project identification or review, the existence of this uncertainty should be made explicit. The impact analyst should therefore attach to identified impacts an indication, whether it is quantitative (using conventional probability measures) or qualitative, of the degree of uncertainty surrounding them.

11. The Dynamics of Impact Analysis

Impact analysis in project identification, initial project review, project preparation, project appraisal and subsequent evaluation should be an important source of feedback. At the project identification, initial project review, project preparation and project appraisal stages, in particular, it may lead to the discovery of unexpected impacts whose identification results in important changes in project elements. It may also lead to changes in judgements about the complementary actions necessary for effective project implementation. It may be useful, similarly, in project evaluation, as a basis for changing the course of project implementation.

12. The Economics of Impact Analysis

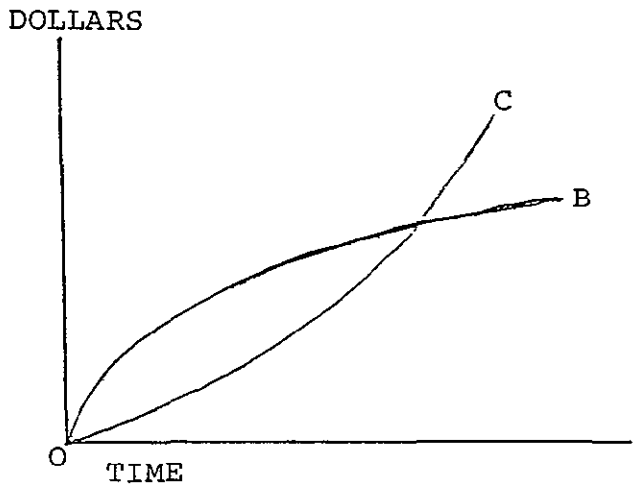
As noted earlier, impact analysis is not costless. Much more important than the direct costs of the analysis itself may be the opportunity costs of delays in project decisions pending impact findings.

The impact analyst should recognize the direct and potentially much greater indirect costs of analysis and weigh this against the potential gain from further analysis -- in order to establish a cut-off point at which to pass on to the policy group or other technicians he is supporting the best possible information available at that time.

Initial discoveries of unanticipated impacts may be very valuable indeed, but there is likely to come a point at which increasing refinements of findings will yield very little additional benefit while the opportunity costs of delays in action are mounting rapidly. Conceptually, the situation may be something like the following:

Diagram XII.3

Benefit and Cost Curves For A Hypothetical Impact Analysis



Where: O C Identifies the Expected Aggregate Costs of Delays at Each Point in Time

O B Identifies the Expected Aggregate Benefits of Analysis at Each Point in Time

Although some of the benefits of undiscovered findings are, by definition, unknowable, many of the likely increased costs of inaction will be more or less identifiable. It usually will be possible to reach a point at which a reasonable number of project alternatives has been considered and at which at least one alternative which yields acceptable net benefits has been identified; at that point, the potential costs of inaction should be weighed very carefully against conceivable benefits from additional analysis. Clues as to the dimensions of those possible additional benefits might be obtained from the differences identified among the alternatives already examined.

13. Participation in Impact Analysis

Various levels of sophistication will be achievable by specialists working beyond the level of analysis for which the present Guidelines are intended. However, for the field conditions for which these Guidelines are designed, much of the analysis through which the likelihood of specific types of impact is established will have to be based on informed judgement, aided by the quantitative and qualitative materials in the summary sector and project tables.

Because of this, it is important for the analyst to enlist the judgements of other informed laymen, including host country technicians and policy makers and, wherever possible, members of the poverty groups for which projects are intended. Under the severely judgemental conditions in which the user of the Guidelines is likely to have to operate, direct involvement of poverty groups themselves, together with other informed host country participants, is likely to be one of the most valuable sources of the impact information he needs.

B. The Use of the Guidelines in the Project Cycle

As suggested earlier, if the potential impacts of a project on specific poverty groups are to be identified systematically, it is desirable to have a model of the variables and relationships through which those impacts are likely to occur.

In principle, such a model should make it possible to achieve at least the following:

1) An identification of the types of impact likely to result from a particular project under specified conditions -- including an identification of the specific poverty groups and other groups likely to be impacted, the particular goals of those groups that are likely to be impacted, and at least the approximate time periods over which the impacts are likely to occur, with an indication of the uncertainties involved.

2) An identification, for each target group, of cumulative impacts on each goal in each time period of relevant possible combinations of projects, with an indication of the uncertainties involved.

Ideally, for those impacts that are quantitative, it is desirable to be able to determine the cumulative quantitative impacts of all projects on each goal, for each target group, in each time period, weighted by their probabilities.

In principle, it is possible to construct analytical models of various kinds to achieve this. However, several factors mitigate against the development of such models in the kinds of situations for which the present Guidelines are intended:

1) The relationships among the variables involved are not sufficiently well understood to permit full modeling;

2) Even if the relationships were understood, there are unlikely to be sufficient data to utilize the models in most developing-country situations;

3) Users of the Guidelines are unlikely to have the time or training necessary to utilize such models. It must be remembered that these users are concerned primarily with project identification and review, not with detailed project preparation. For detailed analyses, they must rely upon consultants or other sector specialists who may construct and use sophisticated models in order to develop appropriate impact findings.

As a crude but, hopefully, practical alternative to sophisticated models for impact analysis, the present Guidelines provide five basic sets of material:

I: Background information on the dimensions and causes of urban poverty in the developing areas, varieties of urban poverty and potential goals of projects intended to benefit the urban poor -- presented in Part I;

II: An analysis of project opportunities in six sectors that are believed to be among the more important ones -- presented in Part II;

III: Step-by-step procedures for impact analysis in project identification and project review, together with a brief commentary on the potential use of similar analysis in project preparation and project evaluation -- presented later in this section (Part III);

IV: Summary sector and project data -- presented in Part IV; and

V: An illustrative case study to indicate the types of specific data it is desirable to build up to complement the generic material provided in other sections of the Guidelines.

In addition, there is a brief appendix specifically for U.S.AID users.

The purposes of the present section are: a) to indicate how the materials of Parts I, II, III, IV and V can be used systematically in project identification and project review, which are the principal phases of the project cycle for which they are relevant; and b) to comment briefly on their potential usefulness in project preparation and project evaluation. To simplify the discussion it will be presented in terms of a single project but the same points apply to analyses of sets of related projects.

1. The Use of the Guidelines in Project Identification

The principal concerns in project identification are:

a) To identify the general characteristics of at least one project that will have an acceptably high probability of benefiting specified urban poverty groups in specified ways. Among other things this calls for a concern with the completeness and internal consistency of the project itself, its feasibility, its policy implications and the complementary actions that are likely to be necessary for its successful execution. As part of this, it calls for a preliminary definition of the time frame expected for project execution, the means by which the project could be executed, and the expected timing of flows of project benefits and costs.

b) To provide reasonable grounds for judging that the project (or alternative projects) selected at this stage for more complete project preparation will have an acceptably high probability of contributing as fully as possible to overall development plan objectives and priorities at the national, local and other relevant levels. Among other things, this calls for an analysis of the potential impact of the project on other groups, as well as targeted poverty groups.

c) To explore at least briefly a sufficient number of alternative projects to provide a basis for judging that those alternatives include the best possible project that can be identified within the resource and time constraints that are operative.[8]

d) To be as efficient as possible in identifying the project (or set of alternative projects) that is to be developed more fully through full project preparation.

A procedure for project identification which recognizes these concerns is shown graphically in Diagram XII.4.[9] The elements of the present Guidelines that are relevant at each stage and the ways in which they can be used are shown there also. Because the focus here is on the use of the present Guidelines, the other tools and techniques that are likely to be relevant are not shown.

The kinds of quantitative and qualitative information required for project identification will vary from agency to agency and will include many other types of information in addition to the impact and impact-related information in the present Guidelines. No attempt is made here to spell out all of those types of information or to propose a standardized format for their presentation because such a presentation would extend far beyond the purposes of the Guidelines and because there undoubtedly are sound reasons for many of the distinct requirements of individual agencies.[10]

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[8] In general there will be no rational way of ensuring that this has been achieved; the most that can be hoped for is that if a majority of the technicians, policy makers and others involved judge that a sufficiently wide range of alternatives has been identified they will not be dangerously wrong.

[9] This is not claimed to be the only possible procedure which recognizes these concerns but it is judged to be a generally useful one.

[10] U.S.AID requirements for a Project Identification Document (PID), for example, are spelled out in: Agency for International Development, Department of State. Project Assistance. Handbook 3. Washington, D.C.: AID, September 1, 1975, Chapter 4.

Diagram XII.4

The Use of the Guidelines in Project Identification

STEPS IN PROJECT IDENTIFICATION		THE USE OF THE GUIDELINES IN EACH STEP OF PROJECT IDENTIFICATION	
		RELEVANT SECTIONS	USES
Identify problem		PART I	Analysis of causes of problems.
	Review current plans and resource constraints.		
Establish project goals and tentative project purposes — including a definition of target groups.		PART II	Formulation of sector and project goals. Selection of target groups.
	Establish time and resource constraints for project identification		
Formulate alternative possible projects (including a preliminary identification of expected inputs and outputs and the assumptions made about relationships among variables).		PART II PART III PART IV PART V	Identification of project opportunities. Identification of potentially important impact agents and instruments. Preliminary formulation of project description.
	Check for consistency with current plans and resource constraints.		
Discard infeasible alternatives.			
Identify policy implications or feasible alternatives and the complementary actions likely to be necessary for their successful execution.		PART II PART IV PART V	Identification of policy implications of feasible projects and the complementary actions likely to be necessary.
	Identify in preliminary terms the likely impacts of feasible alternatives on target groups and their other likely impacts.	PART II PART IV PART V	Identification of impacts of feasible alternatives.
Discard less promising alternatives.			
Present most promising project (or more-or-less equally promising alternatives) for approval for full project preparation (including in the project identification or description of project goals and purposes, the inputs required and outputs expected, preliminary estimates of flows of benefits and costs and a preliminary identification of the means proposed for project execution).		PART I PART II PART III PART IV PART V	Project background and justification. Completion of project identification.

2. The Use of the Guidelines in Project Review and Appraisal

Project review and appraisal is one of the most important stages of the project cycle because it is here that a basic, though still tentative, decision is made as to whether or not to undertake a project. It is also one of the most demanding stages in the cycle in terms of the information called for.

As in other aspects of project formulation and development, the specific types of information required for project review and appraisal will vary from agency to agency, and no attempt is made to present a standard set of information items here. It is useful, however, to identify the major types of information that are likely to be necessary in all or most cases, in order to indicate how the present Guidelines can contribute to reviews and appraisals.

Project descriptions at the review and appraisal stage are likely to have to include at least the following information:

- An analysis of the relevance of the project for overall development plans and programs and its relation to resource and other constraints;
- Specific sector goals to which the project is addressed, including an identification of the specific target groups that are expected to benefit;
- Intermediate project purposes;
- Inputs required;
- Specific outputs expected;
- An implementation plan for the project, including a description of the institutional arrangements and financing through which the project is to be executed, with an identification of the responsibilities of each entity, public or private;
- An explicit identification of the policy decisions needed;
- An identification of the complementary actions likely to be needed in other sectors;
- An identification of the legislation, if any, that should be enacted to support project execution;
- An analysis of the technical soundness of the project;
- An analysis of the financial soundness of the project;

- A socio-economic analysis of the project, identifying flows of benefits and costs expected over the lifetime of the project (both quantitative and qualitative) and their expected distribution among relevant groups;
- An outline of the methods proposed for evaluating the project during its execution;
- Where applicable, an identification of other relevant project experience which supports the expectations described in the project materials;
- An identification of alternatives for project design and execution that were considered and the reasons for recommending the proposed alternative in preference to them.

The specific procedures followed for project review and appraisal will vary from agency to agency. Most agencies are likely to have at least the following concerns:

a) The relationship of the project to overall development goals, plans and constraints at the national, local or other levels. The project should be consistent with overall goals and plans or indications of ways in which they could be improved upon. If it is to be approved, it should also represent a "best-available"[11] use of resources in relation to overall goals and constraints at the time at which it is reviewed.

b) The specific expected socio-economic impacts of the project -- i.e., the flows of quantitative and qualitative benefits and costs expected to be associated with the project during its lifetime and the expected distribution of those benefits and costs among the socio-economic groups that are of concern. Some of this information is necessary to fulfill requirements under a), above, but there may also be impacts that are important even though they are not explicitly of concern in overall goals and plans.

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[11] "Best available" is used rather than "best possible" because the latter phrase suggests that all possible alternatives should be considered -- which is clearly impractical in most situations. "Best available" refers to a course of action which is judged to be at least as good as every other possible course of action that it has been possible to identify and appraise at the time at which a decision must be made.

c) The completeness of the project description including a proper specification of the organizational arrangements and legal instruments through which it is to be implemented as well as an explicit program for its financing.

d) The technical soundness of the project.

e) The financial soundness of the project.

f) The policy implications of the project.

g) The complementary actions likely to be necessary in other sectors if the project is to have an acceptably high probability of achieving its purposes and the sector goals to which it is addressed.

h) The specifications, at least in outline form, of a definite plan for evaluating the project during its initial execution and, where appropriate, through part or all of its lifetime.

i) Efficiency in review and appraisal.

One (but by no means the only) possible procedure for project review and appraisal is shown in Diagram XII.5 to indicate the ways in which the various sections of the present Guidelines can be used at each stage of the process.

A major concern in the appraisal process is to select for approval projects which are likely to have the highest available[12] beneficial impacts on the targeted urban poverty groups that are of concern, subject to the constraints imposed by resource availability and other development objectives. As noted earlier, the present Guidelines clearly do not contain all or even most of the types of information and techniques necessary to achieve this. (Alternative techniques for cost-benefit analysis and cost-effectiveness analysis, for example, are not discussed; nor are the various measurement procedures that are necessary for quantifying the types of impact discussed in the Guidelines that are quantifiable.) At the risk of being excessively repetitive, it should be stressed that their purpose is a modest one -- simple to supplement well-established tools and techniques by identifying potentially promising types of projects, the types (but not the specifying levels) of impact that projects of those types are likely to have on the urban poor, other possible impacts, the policy implications of such projects and complementary actions that are likely to be needed

[12] "Highest available" is used, rather than "highest possible", for the same reason that "best available" was used in preference to "best possible" earlier.

Diagram XII.5

The Use of the Guidelines in Project Review and Appraisal

STEPS IN PROJECT REVIEW AND APPRAISAL			THE USE OF THE GUIDELINES IN EACH STEP IN REVIEW AND APPRAISAL	
			RELEVANT SECTIONS	USES
REJECT OR REQUEST CHANGES	Unsatisfactory	Check for completeness of project description (including explicit scheme for subsequent project evaluation).	PART II PART IV PART III	Verification of inclusion of all relevant goals, intermediate purposes, basic elements, likely impacts, policy implications and complementary actions likely to be necessary in other sectors. Verification of recognition of likely impact agents and instruments.
REJECT OR REQUEST CHANGES	Unsatisfactory	Satisfactory Appraise technical soundness.	PART II PART IV	Limited use in verifying the inclusion of basic project elements and the consideration of relevant alternatives -- as a supplement to specialized technical materials and analyses.
REJECT OR REQUEST CHANGES	Unsatisfactory	Satisfactory Appraise financial soundness.	PART V	Review of comparable cases to appraise plausibility of financial assumptions
REJECT OR REQUEST CHANGES	Unsatisfactory	Satisfactory Review policy implications.	PART II PART IV	Analysis of policy implications.
REJECT OR REQUEST CHANGES	Unsatisfactory	Satisfactory Review complementary actions likely to be necessary in other sectors	PART II PART IV	Analysis of complementary actions likely to be necessary.
REJECT OR REQUEST CHANGES	Unsatisfactory	Satisfactory Appraise expected socio-economic impact.	PART II PART IV PART V	Appraisal of judgements made about likely impacts.
		Satisfactory Communicate tentative commitment to project if policy group approves.		

with each project type -- together with background information intended to assist in understanding the origins of urban poverty and in selecting target groups sensitively. All of this can only provide a starting point for the substantial technical and policy making effort necessary to identify and undertake the "best-available" projects. Optimistically, it will at least reduce the likelihood of important project opportunities and interdependencies being overlooked and the likelihood of patently bad project decisions.

3. The Use of the Guidelines in Project Preparation and Project Evaluation

a) Project Preparation

Much of the work of project preparation has to do with technical analysis to which the present Guidelines can contribute little or nothing. They are potentially useful, however, in clarifying the sector goals to which projects may be addressed, in serving as a reminder of the likely policy implications of projects, as a reminder of the complementary actions likely to be necessary in other sectors if a project is to be as fruitful as possible (which may, in turn, affect the design of the project), and as an aid in reducing the likelihood of important project impacts being overlooked.

Moreover, it should be borne in mind that project preparation is not likely to be (or at least should not be) undertaken in a vacuum. If it is to be done efficiently, the criteria that are to be used later for project appraisal will already be established and will influence design decisions. Project appraisal itself involves preliminary appraisals through which potential project alternatives are screened to arrive at those that appear to deserve serious attention during project preparation. The information in the Guidelines on the types of impact, policy implications and complementary actions likely to be associated with individual types of projects should be of help in this screening and selection process.

b) Project Evaluation

In project evaluation during the initial execution of a project and, where appropriate, at various periods during its lifetime actual results will be compared with expected results and will be evaluated in relation to then-current goals and conditions. Because both goals and other variables at the time of project evaluation may be different from those anticipated during project appraisal, even where a project performs exactly as it was expected to, the significance of its performance may be very different from the significance that was assumed as a basis for project approval.

As in the case of project preparation, the present Guidelines are of only limited relevance for project evaluation. Most of the information, tools and techniques required for evaluation are outside their intended scope. They may be useful in evaluation in the following ways:

i) In identifying possible causes of discrepancies between actual results and expected results -- through the use of generic material in Parts II and IV and the case study data that are intended to be built up by users in Part V;

ii) In serving as a reminder of the types of impact that should be looked for in evaluating a project;

iii) In identifying previously-unconsidered policy implications, complementary actions and impacts that should be recognized at the time of evaluation -- for the Guidelines themselves are intended to be evolving continually and, if they do, at the time at which an evaluation takes place they may well contain useful information that was not available at the time of appraisal.

PART IV: SUMMARY PROJECT CHARACTERISTICS

INTRODUCTION

Part IV is intended to be one of the parts of the Guidelines used most frequently as a working tool in project identification and review and, to a lesser extent, in project preparation and evaluation. It presents in tabular form project characteristics that are expected to be especially relevant for consideration in deciding whether or not a project is likely to be worth undertaking to benefit a particular urban poverty group or groups.

The project tables are organized in six groups or subject areas, some of which (for example, housing) correspond to traditional sector groupings. The project characteristics identified are:[1]

- the types of goals to which projects in each group are likely to contribute
- the likely policy implications of projects in each group
- complementary actions in other sectors or subject areas which may be needed with projects in each group
- other likely impacts of projects in each group, in addition to their impact on various types of poverty groups
- the basic elements of each type of project
- intermediate project purposes
- the specific types of poverty groups likely to be affected
- the specific types of impact, positive or negative, likely to occur
- the time likely to be needed for project impacts to occur

[1]Although seven groups of projects are discussed in Part II, tabular information is presented here for only six groups because those are at present the six groups of most interest to U.S.AID, the client for the preparation of these Guidelines. Other users of the Guidelines may wish to introduce tables for other groupings to reflect their special interests and priorities.

The tables include provision for cross-references to the case-study material that is intended to be built up in Part V as the Guidelines are used in the field. The generic types of information provided in Part IV and the specific case materials in Part V are intended to be used jointly.

The first four characteristics listed above are tabulated for groups of projects, rather than individual types of project, because most of the goals, policy implications, complementary actions and other likely impacts identified are relevant for most, though not all, of the types of projects in each group.

The tables do not identify all of the detailed technical information needed for project identification, project preparation, project review and appraisal or project evaluation. The complete sets of information required (data on expected inputs and outputs, assumptions made about relationships among variables, objectively verifiable indicators of performance, etc.) differ from agency to agency and are identified already in existing agency manuals and proformas of various kinds.[2] The tables, like the other elements in the present Guidelines, are intended to supplement existing manuals and proformas, rather than replace them, by identifying factors that should be considered in the preparation of the full sets of information they call for.

[2] For U.S. AID, for example, see the Project Assistance Handbook No. 3, Logical Framework and Evaluation Handbook referred to earlier.

GROUP I: PROJECTS TO INCREASE EMPLOYMENT AND PRODUCTIVITY

GROUP CHARACTERISTICS

GROUP: Projects to Increase Employment and Productivity

I: GOALS[1] TO WHICH PROJECTS IN THE GROUP ARE LIKELY TO CONTRIBUTE

CURRENT CONSUMPTION GOALS

Increased consumption of essential foods, safe potable water, sanitation services, fuel for household use, electricity, clothing and shelter; increased use of available information concerning opportunities for self-improvement; increased social interaction; increased enjoyment of an improved physical environment; and increased recreation activity -- as a result of increased incomes.

CAPITAL ACCUMULATION

Greater economic productive potential and greater capacity for enjoying a full life for members of low-income groups.

Increased household savings.

Increased property ownership and/or other secure property rights for the poor.

REDUCED RISK

Reduced economic risk -- as a result of more stable and higher-paying employment -- and, as a result of this, reductions in the physical and social risks to which low-income households are exposed.

[1]Note that improvements in the supply of goods and services and increases in potentials demand (resulting from increased employment and higher incomes, better information, etc.) are treated as intermediate purposes to be served by projects and therefore are shown in tables of Summary Project Characteristics; the goals shown in the present table are the improvements in the actual consumption and/or capital accumulation and reductions in risk that are expected to occur.

II: POLICY IMPLICATIONS

Adoption of tariff and exchange rate policies to encourage the use of technologies that reflect the social costs of factors of production, including labor and capital.

Adoption of tax and credit policies to encourage the use of such technologies.

Adoption of labor policies (including, for example, policies concerning minimum wage levels, ability to hire and fire, night work and double-shifting, and social security payments) which encourage an economically and socially sound use of labor.

In some cases, adoption of "outward-looking" growth policies to encourage international competitiveness (for example, where import substitution policies already have been exploited fully).

SUMMARY GROUP CHARACTERISTICS

GROUP: Projects to Increase Employment and Productivity

III: COMPLEMENTARY ACTIONS WHICH MAY BE NEEDED

Support projects in power, water supply, sanitation, transportation and communications to support the activities of existing and new enterprises.

Support projects in power, water supply, sanitation and transportation to augment the productivity gains achieved through changes in employment status.

Support projects in education to achieve greater worker productivity.

Support projects in education to help households take full advantage of increased income.

SUMMARY GROUP CHARACTERISTICS

GROUP: Projects to Increase Employment and Productivity

IV: OTHER LIKELY IMPACTS[1]

BENEFITS	DISBENEFITS
Increased supplies of essential goods and services for middle- and upper-income groups. Increased profits for some middle- and upper-income entrepreneurs. Increased public revenues -- as a result of higher property values, higher personal incomes and higher profits for enterprises. Increased savings and investment.	Increased public capital and operating costs resulting both directly and indirectly from project support. Potentially, some decreases in public revenues from taxes on enterprises -- if small enterprises are more difficult to tax than large ones. Temporary inflation -- if increased demands for output as a result of higher and more equitably distributed incomes outpace increases in output. Possibly, increased dependence on external markets as a result of more "outward-looking" growth policies. Possibly, decreased profits for some middle- and upper-income enterprises as a result of increased competition. Possibly, increased rates of rural-urban migration (but this may not constitute a net disbenefit -- see text of Chapter IV).

[1]The benefits and disbenefits listed here are those that may impact groups other than low-income households.

PROJECT CHARACTERISTICS

GROUP: Projects to Increase Employment and Productivity

PROJECT TYPE: Support for Individual Private Enterprises

I: Time Required for Impact to Occur:

Almost immediate (within a few months) for existing enterprises.

For new enterprises timing of beginning of impact will depend on startup time required.

II: Project Elements:

Credit

Technical assistance in market analysis, production planning, budgeting and accounting.

Technical assistance in selection of a location.

Selection and purchase of equipment and supplies.

Technical assistance in product design, modification of existing technologies, production and quality control.

Legal advice.

Provision of essential infrastructure.

Technical assistance in marketing.

III: Intermediate Purposes to be Achieved:

Generation of additional jobs for members of low-income households.

Increases in productivity and incomes of employed members of the low-income labor force.

Increased ease of entry into industry for low-income entrepreneurs.

Increased stability of low-income enterprises.

Increased competitiveness of low-income enterprises.

Increased supply of essential goods and services for low-income consumers at prices they can afford.

Improved quality of essential goods and services for the poor.

IV: Specific Poverty Groups Likely to be Benefited:

The unemployed.

Workers in low-productivity and unstable jobs.

Workers already employed in stable but low-productivity jobs.

Workers in relatively high-productivity but unstable jobs.

Low-income entrepreneurs without access to credit.

Low-income entrepreneurs dependent on high-interest-rate informal credit.

Low-income entrepreneurs with some access to formal credit but insufficient credit-worthiness.

All low-income households having access to the increased supplies of essential goods and services resulting from the project.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improvements in quality of essential foods, private-sector water supply (where applicable), private sanitation services, household fuel, clothing, shelter, private-sector education and health services and private-sector recreation -- as a result of support for enterprises.

Increased consumption of potentially all essential goods and services -- as a result of increased incomes.

Capital Accumulation:

Increased health knowledge, skills and sensibilities -- as a result of higher incomes and improved consumption.

Increased household savings.

Increased ownership and tenancy rights in land and housing.

Increased ownership of productive commercial capital equipment and facilities.

Reduced Risk:

Reduced economic vulnerability -- as a result of more stable and higher-paying employment.

Reduced physical risk -- as a result of improved consumption and greater control of assets.

Reduced social risk -- as a result of improved consumption, reduced economic vulnerability and increased knowledge and sensibilities.

Disbenefits:

No major disbenefits -- unless projects are biased in favor of those already employed and the semi-skilled or skilled in which case the unemployed and the unskilled may be at a greater relative disadvantage and subject to even greater risks than before.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects to Increase Employment and Productivity

PROJECT TYPE: Support for Cooperatives

I: Time Required for Impact to Occur:

Increases in motivation may be almost immediate.

Increases in income and other benefits are likely to take a year or more to achieve although progress may be faster than this in a few cases.

II: Project Elements:

Same elements as support for individual private enterprises, plus:

Technical advice on cooperative organization and financing.

Sustained assistance in cooperative management, including training of management staff, participatory assistance in meetings, assistance in monitoring payments of fees, and assistance in using the bargaining power of the cooperative for the purchasing of supplies and the sales of output.

III: Intermediate Purposes to be Achieved:

Mobilization of capital for production of goods and services that cannot be undertaken by individual low-income entrepreneurs.

Generation of additional stable jobs for members of low-income households.

Increases in productivity and incomes of employed members of low-income groups.

Increased competitiveness in production of essential goods and services for low-income groups and increased supplies of those goods and services at prices low-income groups can afford.

Managerial training for potential entrepreneurs in the relatively low-risk environment of a cooperative.

IV: Specific Poverty Groups Likely to be Benefited:

Same as for projects supporting individual private enterprises, with primary impact on members of cooperatives but with potential benefits also for other poverty groups linked with cooperatives.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improvements in quality of essential foods, private-sector water supply (where applicable), private sanitation services, household fuel, clothing, shelter, private-sector education and health services and private-sector recreation -- as a result of support for enterprises.

Increased consumption of potentially all essential goods and services -- as a result of increased incomes.

Capital Accumulation:

Increased health knowledge, skills and sensibilities -- as a result of higher incomes and improved consumption.

Increased household savings.

Increased ownership and tenancy rights in land and housing.

Increased ownership of productive commercial capital equipment and facilities..

Increased capacity for social organization and ability to influence decisions affecting one's own well-being.

Reduced Risk:

Reduced economic vulnerability -- as a result of more stable and higher-paying employment.

Reduced physical risk -- as a result of improved consumption, greater control of assets and greater ability to organize to maintain and protect private property and communal facilities.

Reduced social risk -- as a result of improved consumption, reduced economic vulnerability, increased knowledge and sensibilities and increased ability to organize socially.

Disbenefits:

Increased relative disadvantage of those without access to cooperatives -- to the extent that this is not offset by benefits they gain through their economic links with cooperatives.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects to Increase Employment and Productivity

PROJECT TYPE: Projects Designed to Increase the Productivity of Individuals Through Training and Other Assistance Outside Specific Enterprises

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I: Time Required for Impact to Occur:

Dependent on the kinds of additional skills needed; time range may be from a few months to a year or more.

II: Project Elements:

Training in relatively simple manual skills -- sewing, candy-making, carpentry, masonry, etc.

Training for relatively skilled positions in organized enterprise including large-scale enterprises -- plumbing, electrical work, fitting and turning, welding, etc.

Training in basic management skills for small enterprises -- rudimentary market analysis, product design, production scheduling, purchasing, quality control, marketing, accounting, credit financing, etc.

Assistance in seeking employment.

Assistance in setting up small businesses as individual enterprises or cooperatives -- through supplementary projects of the kinds already described for individual enterprises and cooperatives.

Follow-up evaluation of trainees after employment is obtained.

Refresher and remedial training and supplementary training in more advanced skills.

III: Intermediate Purposes to be Achieved:

Increases in productivity and incomes of employed members of low-income labor force.

Employment of the unemployed.

Increased stability of low-income enterprises.

Increased competitiveness of low-income enterprises.

Increased supply of essential goods and services for low-income groups at prices they can afford.

Improved quality of essential goods and services for the poor.

IV: Specific Poverty Groups Likely to be Benefited:

The unemployed.

Employees (including the self-employed) in low-productivity and unstable jobs.

Employees in stable but low-productivity jobs.

Low-income entrepreneurs not yet capable of effective management.

All households having access to the increased supplies of goods and services resulting from the project.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of potentially all essential goods and services -- as a result of increased productivity and incomes.

Capital Accumulation:

Increased health knowledge, skills and sensibilities -- as a result of higher incomes and improved consumption.

Increased household savings.

Increased ownership and tenancy rights in land and housing.

Reduced Risk:

Reduced economic vulnerability -- as a result of more stable and higher-paying employment.

Reduced physical risk -- as a result of improved consumption and greater control of assets.

Reduced social risk -- as a result of improved consumption, reduced economic vulnerability and increased knowledge and sensibilities.

Disbenefits:

No major disbenefits, provided training is well designed and executed in relation to real demand for skills.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects to Increase Employment and Productivity

PROJECT TYPE: Direct Governmental Hiring of Labor

I: Time Required for Impact to Occur:

Immediate.

II: Project Elements:

Direct hiring of unskilled labor for basic construction and maintenance.

Direct hiring of semi-skilled workers.

Direct hiring of women for unskilled and semi-skilled support functions in administration and social services.

On-the-job training to upgrade skills and increase productivity.

Government contracting policies which favor private enterprises which utilize economically sound labor-intensive technologies.

Payments in kind to low-income government employees using distribution of essential goods and services to these employees to supplement low money wages. (For example, provision of food, provision of health services, provision of education services, contributions to pension funds, distribution of housing plots, distribution of bicycles, and distribution of transistor radios in exchange for labor services.)[1]

III: Intermediate Purposes to be Achieved:

Generation of additional jobs for members of low-income groups -- directly, through government employment and indirectly, through contracting with firms using sound labor-intensive technologies.

Increases in the productivity and incomes of low-income workers in real terms.

Increased participation of women in the employed labor force.

Increased supply of essential goods and services directly accessible to members of low-income groups employed by the government.

Encouragement of the practice of payments-in-kind in essential goods and services in private enterprises through governmental demonstration of this practice.

Increased capacity of government to deliver essential facilities and services to members of low-income groups in addition to those directly in the employ of government.

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[1]Caution must be exercised in use of these types of payment in kind to relate such allocations to the needs of all poverty groups and to avoid creating a "low-level elite" of governmental-employee households who are much better off than other low-income households with similar real needs.

IV: Specific Poverty Groups Likely to be Benefited:

The unemployed and underemployed.

All households receiving improved governmental services as a result of the increased labor inputs in governmental activity.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of potentially all essential goods and services -- as a result of increased incomes.

Capital Accumulation:

Increased health knowledge, skills and sensibilities -- as a result of higher incomes and improved consumption.

Increased household savings.

Increased ownership and tenancy rights in land and housing.

Reduced Risk:

Reduced economic vulnerability -- as a result of more stable and higher-paying employment.

Reduced physical risk -- as a result of improved consumption and greater control of assets.

Reduced social risk -- as a result of improved consumption, reduced economic vulnerability, and increased knowledge and sensibilities and as a result of direct links with government.

Disbenefits:

Creation of a "low-level-elite" among the poor if the government employment offered and, in particular, the payments-in-kind made by government, are not related soundly to the overall pattern of inequity in urban poverty groups.

VI: Case References:

GROUP II: PROJECTS IN WATER SUPPLY AND SANITATION

GROUP CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

I: GOALS[1] TO WHICH PROJECTS IN THE GROUP ARE LIKELY TO CONTRIBUTE

CURRENT CONSUMPTION GOALS

Improvements in water quality, increases in water consumption and improvements in sanitary conditions.

Increased levels of consumption of other essential goods and services -- such as food, clothing, education and shelter -- as a result of higher incomes achieved with improvements in health and productivity and as a result of higher productivity and lower costs in industries benefiting from improvements in water supply and sanitation.

Increases in environmental satisfaction as a result of the upgrading achieved through improved water supply and sanitation.

CAPITAL ACCUMULATION

Increased property values -- resulting from environmental upgrading and/or increased incomes and demand for property in low-income settlement areas.

Increased personal capacity for future employment and the enjoyment of future consumption.

REDUCED RISK

Reduced physical risk -- as a result of reduced exposure to health hazards and reduced exposure to the dangers of flooding, water-logging and erosion.

Reduced economic risk -- as a result of higher earning capacities associated with improved health and productivity.

Reduced social risk -- as a result of the stabilization of physically-upgraded areas.

[1]Note that improvements in the supply of goods and services and increases in potentials demand (resulting from increased employment and higher incomes, better information, etc.) are treated as intermediate purposes to be served by projects and therefore are shown in tables of Summary Project Characteristics; the goals shown in the present table are the improvements in the actual consumption and/or capital accumulation and reductions in risk that are expected to occur.

SUMMARY GROUP CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

II: POLICY IMPLICATIONS

Need well-publicized high-level policy support for emphasis on the urban poor in future development of water supply and sanitation systems, since this often will represent a major departure from past practices.

High-level policy support for changes in pricing of water supply and sanitation to achieve greater equity and financial viability.

Adoption of labor policies which discourage socially uneconomic use of capital-intensive technologies for water supply and sanitation.

Impact regulations and tariffs which do not hinder import of essential new equipment or parts and supplies for maintenance of systems.

Adoption of water conservation policies to achieve socially sound use of basic sources.

SUMMARY GROUP CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

III: COMPLEMENTARY ACTIONS WHICH MAY BE NEEDED

Optimization and/or expansion of complementary utility system (for example, optimization and/or expansion of sewerage and drainage systems to deal with increased wastes generated by increased water usage; expansion of electric power systems for pumping).

Development of local capacity for production of equipment and/or importation of equipment.

Modification of import policies to facilitate the acquisition of materials and equipment for construction and maintenance.

Development of agricultural programs to utilize waste water and solid wastes.

Development of fishing to utilize rejuvenated water bodies and stabilization ponds.

Improved groundwater management in agricultural areas near urban areas -- to maintain groundwater levels and to take full advantage of recharging of aquifers that results from urban waste water regeneration.

Organization of land use in new settlement areas to encourage proper utilization of water supply and proper operation and maintenance of sewerage, drainage and solid waste systems.

Regulation of land use in agricultural areas to avoid overgrazing and other damaging agricultural practices that would reduce the benefits achieved from an increased use of waste water and solid wastes.

Development of transportation to serve new settlements made possible by expansion of water supply and sanitation.

Regulation of urban land use to reinforce the impact of water supply and sanitation as instruments for guiding urban growth.

Regulation of urban land use to avoid improper use of sanitary land fill areas.

Regulation of urban and nearby other land use to control run-off and erosion.

Support for the development of industries re-using waste water and solid wastes.

Development of surface, ground and waste water resource controls.

SUMMARY GROUP CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

IV: OTHER LIKELY IMPACTS[1]

BENEFITS	DISBENEFITS
Increased revenues for government (from user charges, from property tax increases resulting from higher land values in improved existing settlement areas and from new areas brought into development), and from increases in personal and corporate taxes resulting from higher productivity.	Increased water and sanitation charges for upper and middle income groups.
Decreased unit costs for health services.	Increased need for local production and/or importation of equipment.
Improved health for middle and upper income groups.	Increased demand for complementary utility services (for example, increased sewerage and drainage needed as a result of increased water usage).
Increased property values for middle and upper income groups.	Increases in the prices of outputs of industries in which water and sanitation charges are large components of costs, as a result of restructuring of prices.
Facilitation of guidance of land use in directions sought by government.	Localized deterioration of environment in middle and upper income areas where water usage is reduced.
Environmental enhancement and, possibly, new recreation opportunities in new impoundment areas and where groundwater levels are built up.	Loss of land in new impoundment areas.
Increased fisheries potential in new impoundment areas and in sewage stabilization ponds.	Reduction in safe buildable land if diminution of groundwater reduces load-bearing capacity.
Increased opportunities for agricultural production generally, in addition to that oriented specifically to low-income households.	Increased salinity in areas used for waste water percolation (depending on characteristics of waste water, soil characteristics and drainage).
Build-up of groundwater where waste water used to recharge aquifers.	Increased soil and groundwater pollution which may result from expansion of traditional sanitation technologies.
Area-wide environmental rehabilitation where pollution has decreased.	Political resistance from middle and upper income groups experiencing higher user charges and/or reduced services.
Reductions in per capita demand for water (as a result of technologies introduced to reduce industrial demand).	
Reductions in flood erosion damage to property of upper and middle income groups.	
Reduced costs for repetitive public rectification of flood damage.	

[1]The benefits and disbenefits listed here are those that may impact groups other than low-income households.

SUMMARY GROUP CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

IV: OTHER LIKELY IMPACTS[1] (continued)

BENEFITS	DISBENEFITS
Increases in the acreage of buildable land (through reclamation resulting from erosion control. Improved attitudes to government.	

[1]The benefits and disbenefits listed here are those that may impact groups other than low-income households.

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Water Supply

PROJECT TYPE: Reduction of Losses in Existing Systems

I: Time Required for Impact to Occur:

Almost immediate -- dependent on speed with which surveys and rectification can occur.

II: Project Elements:

Updating of mapping of system.

Training of leak detection and regulatory crews.

Leak detection, wastage and pilferage surveys.

Rectification of leaks.

Regular surveillance to reduce wastage and pilferage.

Installation/repair of siphons, valves and faucets.

Consumer education.

In some cases:

Repair of meters.
Import or local production of meters.
Installation of meters.
Establishment or upgrading of meter maintenance workshops.
Regular meter inspections.

III: Intermediate Purposes to be Achieved:

Increased supply for low-income households.

Reduced unit cost of supply and reduced water prices for low-income groups.

Reduced need for system expansion.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Those in areas already served and those settling close to areas already served.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of safe potable water.

Increased consumption of other essential goods and services by the groups receiving improved water supply -- as a result of improved health and higher productivity and incomes associated with improved water consumption.

Capital Accumulation:

Increased personal capacity of members of group receiving improved water supply -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings in households receiving improved water supply -- as a result of higher productivity and incomes.

Increased access to credit, as a result of greater credit worthiness.

Increased property ownership and tenancy rights, as a result of increased productivity and incomes.

Increased property values as a result of improvements in water supply.

Reduced Risk:

Reduced physical health risk.

Reduced economic risk -- as a result of higher earning capacities associated with improved health and productivity.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

Reduced water availability for low-income agricultural and urban users who previously were drawing water from the public system illegally.

Reduced employment and incomes for low-income intermediates who were drawing water from the public system illegally for resale.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Water Supply

PROJECT TYPE: Rationing, Reallocation and Pricing Changes

I: Time Required for Impact to Occur:

Almost immediate.

II: Project Elements:

Physical rationing, using existing control valves and/or with additional valves.

Physical rationing through regulation of use of public fountains and standpipes.

Changes in pricing to favor low-income groups and reduce non-essential use.

Consumer education.

Publicity campaigns for gradual changes in pricing.

III: Intermediate Purposes to be Achieved:

Increased share of supply for low-income households.

Make initial connections feasible for low-income households.

Lower user charges for low-income households.

Greater financial viability of system.

More efficient use of overall water resources.

IV: Specific Poverty Groups Likely to be Benefited:

Those in areas already served and those settling close to areas already served.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of safe potable water.

Increased consumption of other essential goods and services by the groups receiving improved water supply -- as a result of improved health and higher productivity and incomes associated with improved water consumption.

Capital Accumulation:

Increased personal capacity for members of groups receiving improved water supply -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings in households receiving improved water supply -- as a result of higher productivity and incomes.

Increased access to credit, as a result of greater credit worthiness.

Increased property ownership and tenancy rights, as a result of increased productivity and incomes.

Increased property values as a result of improvements in water supply.

Reduced Risk:

Reduced physical health risk.

Reduced economic risk -- as a result of higher earning capacities associated with improved health and productivity.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Reduced social risk -- as a result of increased and more stable incomes, improved consumption of essential goods and services and increases in property values.

Disbenefits:

User charges for water may be increased for some low-income groups in some situations because of increased system costs but very often it will be possible to deliver piped water with user charges lower than those paid to water carriers and other intermediaries previously by low-income households.

Employment opportunities and incomes for water carriers may be reduced -- depending, among other things, on the rate of expansion of the distribution system relative to population growth and the pricing of piped water.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Water Supply

PROJECT TYPE: Differentiation of Water Quality for Different Uses

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I: Time Required for Impact to Occur:

Almost immediate, where existing distribution system permits bypassing of treatment plants and/or tapping of new low-quality sources.

II: Project Elements:

Switching of industrial and other non-residential users to untreated or partly-treated supplies for purposes other than drinking.

Selective treatment of the supply at public fountains to achieve acceptable geographic distribution of safe, potable water, with some public outlets untreated for bathing, laundry and other purposes.

Consumer education.

III: Intermediate Purposes to be Achieved:

Increase share of supply of safe, potable water for low-income households.

Lower supply costs and lower user charges for low-income households (dependent on costs of necessary additions to distribution system and pricing policy).

Greater financial viability for system.

More efficient use of overall water resources.

IV: Specific Poverty Groups Likely to be Benefited:

Those in areas already served and those settling close to areas already served.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of safe, potable water.

Increased consumption of other essential goods and services by the groups receiving improved water supply -- as a result of improved health and higher productivity and incomes associated with improved water consumption.

Capital Accumulation:

Increased personal capacity for members of groups receiving improved water supply -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings in households receiving improved water supply -- as a result of higher productivity and incomes.

Increased access to credit, as a result of greater credit worthiness.

Increased property ownership and tenancy rights, as a result of increased productivity and incomes.

Increased property values as a result of improvements in water supply.

Reduced Risk:

Reduced physical health risk.

Reduced economic risk -- as a result of higher earning capacities associated with improved health and productivity.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

No major disbenefits likely unless costs of additions to distribution system to provide lower-quality water for purposes other than drinking are reflected in higher user charges to low-income households.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Water Supply

PROJECT TYPE: Reduced Industrial Water Consumption

I: Time Required for Impact to Occur:

Almost immediate, where changes needed are chiefly reductions in unnecessary use with existing equipment.

For reductions requiring changes in user technology: dependent on nature and scale of changes required.

II: Project Elements:

Consumer education.

Increased prices to industrial users.

Regular surveillance to reduce wastage.

Installation of water-conserving production technologies.

III: Intermediate Purposes to be Achieved:

Increased supply for low-income households.

More efficient overall use of water resources.

IV: Specific Poverty Groups Likely to be Benefited:

In the short-term, those served by the existing distribution systems; in the longer-term, potentially all types.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of safe, potable water.

Increased consumption of other essential goods and services by the groups receiving improved water supply -- as a result of improved health and higher productivity and incomes associated with improved water consumption.

Capital Accumulation:

Increased personal capacity for members of groups receiving improved water supply -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings in households receiving improved water supply -- as a result of higher productivity and incomes.

Increased access to credit, as a result of greater credit worthiness.

Increased property ownership and tenancy rights, as a result of increased productivity and incomes.

Increased property values as a result of improvements in water supply.

Reduced Risk:

Reduced physical health risk.

Reduced economic risk -- as a result of higher earning capacities associated with improved health and productivity.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Reduced social risk -- as a result of improved health, higher incomes and higher property values.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Water Supply

PROJECT TYPE: Water Source Development

I: Time Required for Impact to Occur:

For small-scale development (draw-off from local streams, shallow tubewells, etc.): almost immediate.

For other sources: dependent on nature and scale.

II: Project Elements:

Installation of individual house (or small communal) rainwater tanks.

Additional or new draw-off from local streams, by gravity or with small diesel or electric pumps.

Installation of shallow tubewells.

Installation of deep tubewells.

Construction of dams and impoundment areas.

Installation of check dams and regulation of agricultural water use to build up groundwater for existing tubewells.

Training of construction, management and operations staff.

III: Intermediate Purposes to be Achieved:

Increased supply for low-income households.

Generation of employment.

Environmental improvement in areas accessible to low-income households.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all types -- including lowest-income households without secure property rights if the areas they occupy are provided with facilities such as tubewells.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of safe, potable water.

Increased consumption of other essential goods and services by the groups receiving improved water supply -- as a result of improved health and higher productivity and incomes associated with improved water consumption.

Capital Accumulation:

Increased personal capacity for members of groups receiving improved water supply -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings in households receiving improved water supply -- as a result of higher productivity and incomes.

Increased access to credit, as a result of greater credit worthiness.

Increased property ownership and tenancy rights, as a result of increased productivity and incomes.

Increased property values as a result of improvements in water supply.

Reduced Risk:

Reduced physical health risk.

Reduced economic risk -- as a result of higher earning capacities associated with improved health and productivity.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Reduced social risk -- as a result of improved health, increased incomes and increased property values.

Disbenefits:

Increased user charges for water -- dependent on source development costs, previous prices paid by low-income users and pricing policies.

Increased pressure for slum clearance.

Reduced employment and income for water carriers.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Water Supply

PROJECT TYPE: Additions to Existing Treatment Capacity

I: Time Required for Impact to Occur:

For small-scale local treatment stations: almost immediate.

For large-scale treatment plants: dependent on nature and size of plant.

II: Project Elements:

Installation of small-scale localized treatment stations using simple chlorination or other procedures.

Installation of conventional large-scale filter plants.

Training of management and staff.

III: Intermediate Purposes to be Achieved:

Increased supply and improved quality of supply for low-income households.

IV: Specific Poverty Groups Likely to be Benefited:

Those in areas already served and those settling close to areas already served.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of safe, potable water.

Increased consumption of other essential goods and services by the groups receiving improved water supply -- as a result of improved health and higher productivity and incomes associated with improved water consumption.

Capital Accumulation:

Increased personal capacity for members of groups receiving improved water supply -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings in households receiving improved water supply -- as a result of higher productivity and incomes.

Increased access to credit, as a result of greater credit worthiness.

Increased property ownership and tenancy rights, as a result of increased productivity and incomes.

Increased property values as a result of improvements in water supply.

Reduced Risk:

Reduced physical health risk.

Reduced economic risk -- as a result of higher earning capacities associated with improved health and productivity.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

User charges may be increased as a result of the cost of added treatment facilities -- but this will depend, among other things, on pricing policies and the prices paid previously by low-income groups using private suppliers.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Water Supply

PROJECT TYPE: Expansion of Distribution System

I: Time Required for Impact to Occur:

Within a few months -- dependent on scale of additions needed, local construction capacity and imports.

II: Project Elements:

Installation of siphons, rising mains, pumping stations, gravity mains, distribution lines and individual or communal connections.

Installation of small-scale localized treatment stations to draw from streams.

Installation of tubewells to augment supply in existing mains.

Installation of balancing reservoirs.

Training of management, operations and maintenance staff.

Consumer education.

III: Intermediate Purposes to be Achieved:

Increased and more regular supply for low-income households.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all types except those located in areas where system extension is not socially or economically justifiable in relation to current resource constraints and other priorities.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of safe, potable water.

Increased consumption of other essential goods and services by the groups receiving improved water supply -- as a result of improved health and higher productivity and incomes associated with improved water consumption.

Capital Accumulation:

Increased personal capacity for members of groups receiving improved water supply -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings in households receiving improved water supply -- as a result of higher productivity and incomes.

Increased access to credit, as a result of greater credit worthiness.

Increased property ownership and tenancy rights, as a result of increased productivity and incomes.

Increased property values as a result of improvements in water supply.

Reduced Risk:

Reduced physical health risk.

Reduced economic risk -- as a result of higher earning capacities associated with improved health and productivity.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

Increased user charges may be necessary -- but this will depend on factors such as overall system economics, pricing policies and the prices paid previously to private-sector suppliers.

Increased pressure for slum clearance.

Reduced employment and income for water carriers with previously unlimited access to the public supply system.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Water Supply

PROJECT TYPE: Re-use of Waste Water

I: Time Required for Impact to Occur:

Long-term, requiring substantial additions to equipment and changes in user practices.

II: Project Elements:

Modification (in some cases, simplification) of treatment processes.

Installation of gravity mains or pumps and rising mains to discharge areas.

Distribution of waste water for agricultural use and/or natural percolation and recharging of groundwater.

Installation of tubewells for recovery of naturally-purified water for agricultural and/or urban use.

Management and staff training.

User education.

III: Intermediate Purposes to be Achieved:

Increased supply for low-income households.

Reduced cost of supply and reduced user charges for low-income households.

Increased agricultural output.

Recharge of groundwater and environmental improvements in areas used by low-income households.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all types.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of safe, potable water.

Increased food consumption -- as a result of increased agricultural output associated with the re-use of urban waste water.

Increased opportunities for enjoying a physical environment of high quality -- as a result of environmental upgrading associated with agricultural improvements close to urban areas.

Increased consumption of other essential goods and services by the groups receiving improved water supply -- as a result of the improved health and higher productivity and incomes associated with improved water consumption.

Capital Accumulation:

Increased personal capacity for members of groups receiving improved water supply -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings in households receiving improved water supply -- as a result of higher productivity and incomes.

Increased access to credit, as a result of greater credit worthiness.

Increased property ownership and tenancy rights, as a result of increased productivity and incomes.

Increased property values as a result of improvements in water supply and environmental upgrading associated with re-use of waste water for agriculture close to urban areas and for the maintenance of urban open space.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health and productivity.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Reduced environmental hazards -- as a result of better erosion and flood control likely to be associated with improved groundwater management linked with the re-use of waste water.

Disbenefits:

No major disbenefits -- unless environmental upgrading leads to pressures for slum clearance.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Sewerage

PROJECT TYPE: Improvement and Expansion of Traditional Systems

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I: Time Required for Impact to Occur:

Almost immediate.

II: Project Elements:

Upgrading and expansion of use of pit latrines.

Upgrading and extension of night soil collection.

Upgrading and extension of surface sewers.

Training of private and public staff.

Household education in use and maintenance.

III: Intermediate Purposes to be Achieved:

Improved sanitation in low-income areas.

Generation of employment.

Environmental improvement in areas accessible to low-income households.

Increased agricultural output.

IV: Specific Poverty Groups Likely to be Benefited:

All who do not have access to modern water-borne sewerage services.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved consumption of potentially all essential goods and services (with actual changes in consumption depending on factors such as prices and individual preferences) -- as a result of improved health and higher productivity and incomes.

Capital Accumulation:

Increased personal capacities of members of groups receiving improved services -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased access to credit -- as a result of greater credit worthiness.

Increased property ownership and tenancy rights -- as a result of higher incomes and increased access to credit.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Sewerage

PROJECT TYPE: Upgrading and Improved Maintenance of Existing Networks and Sewage Treatment Plants

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I: Time Required for Impact to Occur:

Ranging from almost immediate to a year or more, depending on the nature of the upgrading required.

II: Project Elements:

Training of management and maintenance staff.

Modification of treatment installations to use capacity more fully.

Modification of treatment standards to increase effective capacity of existing treatment plants.

Upgrading of operation and maintenance of existing treatment plants.

Repairs and upgrading of maintenance of trunk sewers, pumps, local sewers, etc.

User education.

III: Intermediate Purposes to be Achieved:

Improved sanitation in low-income areas.

Reduced costs of sanitation.

Environmental improvements in areas accessible to low-income households.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Primarily tenants or owners in areas that are already serviced.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved consumption of potentially all essential goods and services (with actual changes in consumption depending on factors such as prices and individual preferences) -- as a result of improved health and higher productivity and incomes.

Capital Accumulation:

Increased personal capacities of members of groups receiving improved services -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased access to credit -- as a result of greater credit worthiness.

Increased property ownership and tenancy rights -- as a result of higher incomes and increased access to credit.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

No major disbenefits -- unless costs of improvements are passed on to low-income recipients of improved services.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Sewerage

PROJECT TYPE: Re-Distribution of Treated Wastes for Agricultural Use

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I: Time Required for Impact to Occur:

At end of first growing season after beginning of use of wastes in agriculture.

II: Project Elements:

Incremental additions to or modification of treatment facilities to provide effluent of a quality appropriate for re-use.

Piping or tanker transport of treated or partly-treated wastes to agricultural areas and installation of distribution channels, etc.

User training.

Regular surveillance to control health hazards.

III: Intermediate Purposes to be Achieved:

Increased agricultural output.

Decreased costs of sanitation, if wastes sold to agricultural users.

Generation of employment.

Environmental improvements in areas accessible to low-income households.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all types -- as a result of increased and improved food supply.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved food consumption -- as a result of increased supply and improved quality of agricultural output.

Improved consumption of potentially all other essential goods and services -- as a result of increased productivity and higher incomes resulting from improved nutrition.

Capital Accumulation:

Increased personal capacities of members of groups receiving improved services -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased access to credit -- as a result of greater credit worthiness.

Increased property ownership and tenancy rights -- as a result of higher incomes and increased access to credit.

Increased property values in vicinity of agricultural areas in or near urban areas where output is increased through the re-use of wastes.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Sewerage

PROJECT TYPE: Construction of Communal Cesspools and Septic Tanks

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I: Time Required for Impact to Occur:

Within a few months -- dependent on scale of installation.

II: Project Elements:

Installation of individual septic tanks in low-density areas.

Installation of communal septic tanks.

Installation of communal cesspools and tanker cleaning systems, with distribution to agricultural areas where feasible.

Management and staff training (private and public).

Household and community leadership education.

Agricultural user education.

III: Intermediate Purposes to be Achieved:

Improved sanitation for low-income households.

Environmental improvement in areas accessible to low-income households.

Increased agricultural output.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Primarily tenants or owners in stable locations.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved consumption of potentially all essential goods and services (with actual changes in consumption depending on factors such as prices and individual preferences) -- as a result of improved health and higher productivity and incomes.

Capital Accumulation:

Increased personal capacities of members of groups receiving improved services -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased access to credit -- as a result of greater credit worthiness.

Increased property ownership and tenancy rights -- as a result of higher incomes and increased access to credit.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

Increased cost of services.

Increased pressure for slum clearance.

Loss of income for night soil collectors.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Sewerage

PROJECT TYPE: Conventional Sanitary Sewerage

I: Time Required for Impact to Occur:

Ranging from a few months to several years -- dependent on nature and scale of additions needed.

II: Project Elements:

Installation of treatment plants.

Installation of pumping stations.

Installation of distribution networks with individual connections.

Management and maintenance staff training.

Changes in pricing -- possibly including changes in methods of charging for initial connections.

User education.

III: Intermediate Purposes to be Achieved:

Improved sanitation in low-income areas.

Environmental improvement in areas accessible to low-income households.

Reduced costs of sanitation.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Primarily those in stable locations who are tenants or consolidating their territorial commitments.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved consumption of potentially all essential goods and services (with actual changes in consumption depending on factors such as prices and individual preferences) -- as a result of improved health and higher productivity and incomes.

Capital Accumulation:

Increased personal capacities of members of groups receiving improved services -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased access to credit -- as a result of greater credit worthiness.

Increased property ownership and tenancy rights -- as a result of higher incomes and increased access to credit.

Increased property values -- as a result of environmental upgrading.

- Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

Increased cost of sanitation services.

Reduced employment opportunities for night soil collectors.

Increased pressure for slum clearance.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects for Water Supply and Sanitation

Sub-Group: Sewerage

PROJECT TYPE: Stabilization Ponding

I: Time Required for Impact to Occur:

Within a few months -- dependent on scale of installation.

II: Project Elements:

Installation of local stabilization ponds and related individual or communal connections, trunk sewers and, where necessary, pumps.

Use of stabilization ponds for fishing, poultry-raising and fodder production.

Installation of distribution channels and, if necessary, piping and pumps for use of pond effluent in agriculture.

Publicity campaign to indicate advantages of ponding and user education to facilitate maintenance.

III: Intermediate Purposes to be Achieved:

Improved and lower-cost sanitation for low-income households.

Environmental improvement in areas accessible to lower-income households.

Increased output in agriculture and fishing.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all except highly vulnerable squatters in unstable locations.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved consumption of potentially all essential goods and services (with actual changes in consumption depending on factors such as prices and individual preferences) -- as a result of improved health and higher productivity and incomes. (The potential for improved food consumption would be increased also by agriculture and pisciculture made possible by establishment of stabilization ponds.)

Capital Accumulation:

Increased personal capacities of members of groups receiving improved services -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased access to credit -- as a result of greater credit worthiness.

Increased property ownership and tenancy rights -- as a result of higher incomes and increased access to credit.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

Reduced employment and income opportunities for night soil collectors.

Increased pressure for slum clearance as a result of general environmental upgrading.

Loss of land area potentially usable for low-income settlement -- since stabilization ponds require relatively large land areas in relation to population served, but they can be distributed geographically in an urban area in smaller units than have been typical in the past.[1]

VI: Case References:

[1] Oxidation ditching is an alternative though somewhat more complex technique for sewage treatment that is, like stabilization ponding, relatively low in capital and operating cost but it requires much smaller land areas.

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Sewerage

PROJECT TYPE: Specialized Treatment for Industrial and Other Wastes

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I: Time Required for Impact to Occur:

Six months or more -- depending on nature of specialized treatment equipment required.

II: Project Elements:

Installation of special equipment to treat industrial and other wastes that place heavy demands on existing conventional treatment facilities.

Installation of collection network to connect industrial and other sources of special wastes.

Establishment of discharge areas and procedures for special wastes.

Training of staff for operation and maintenance of special equipment.

Education and surveillance of generators of special wastes to ensure that they discharge those wastes into the special system, rather than continuing to use the conventional system.

Repair of conventional facilities to rectify damage caused by special wastes.

III: Intermediate Purposes to be Achieved:

Increases in capacity of conventional facilities for treatment of domestic and other normal wastes.

Improved sanitation for low-income households.

Environmental improvement in areas accessible to low-income households.

IV: Specific Poverty Groups Likely to be Benefited:

All those previously served by the affected conventional facilities and those settling in areas that can be served by those facilities.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved consumption of potentially all essential goods and services (with actual changes in consumption depending on factors such as prices and individual preferences) -- as a result of improved health and higher productivity and incomes.

Capital Accumulation:

Increased personal capacities of members of groups receiving improved services -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased access to credit -- as a result of greater credit worthiness.

Increased property ownership and tenancy rights -- as a result of higher incomes and increased access to credit.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sewerage

Sub-Group: Sewerage

PROJECT TYPE: Introduction of New Non-Water-Borne Technologies

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I: Time Required for Impact to Occur:

Relatively long-term, requiring local production and/or importing of equipment.

II: Project Elements:

Installation of household and/or communal equipment such as simplified version of Clivus Multrum.

User education.

Installation of tanker collection system to transport treated wastes to agricultural areas.

Agricultural user training.

Publicity campaign to encourage use of new systems.

(Subsidization of low-income household installations may be necessary.)

III: Intermediate Purposes to be Achieved:

Improved sanitation for low-income households.

Environmental improvement in areas accessible to low-income households.

Increased agricultural output.

Conservation of water.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Tenents or owners in stable locations with access to informal or formal credit.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved consumption of potentially all essential goods and services (with actual changes in consumption depending on factors such as prices and individual preferences) -- as a result of improved health and higher productivity and incomes. (The potential for improved food consumption would be increased also through the potential for using solid waste outputs as a fertilizer and soil conditioner.)

Capital Accumulation:

Increased personal capacities of members of groups receiving improved services -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased access to credit -- as a result of greater credit worthiness.

Increased property ownership and tenancy rights -- as a result of higher incomes and increased access to credit.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

Increased cost of services because of relatively high capital cost for household.

Increased pressure for slum clearance.

Loss of income for night soil collectors.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Drainage

PROJECT TYPE: Optimization of Existing Systems

I: Time Required for Impact to Occur:

Almost immediate.

II: Project Elements:

Replacement of manhole covers.

Repair and maintenance of existing drains.

Regular clearance schedules related to climatic conditions (pre-monsoon, etc.).

Removal of fixed obstructions (pipes or structures suspended above, or placed in, open drainage channels, etc.).

Regulation of street sweeping and dumping of solid wastes in drains.

Management and maintenance staff training.

Household education.

III: Intermediate Purposes to be Achieved:

Improved environmental sanitation in low-income areas.

Reduced cost of environmental sanitation.

Protection of lower-income areas from flooding and water logging.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

All those in areas with malfunctioning drainage systems.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased opportunities for the enjoyment of an attractive physical environment -- as a result of environmental upgrading.

Increased consumption of potentially all other essential goods and services -- as a result of improved health and higher productivity and incomes.[1]

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[1] Very often, where a water-borne sewerage system does not exist or one exists but does not function properly, improvements in drainage will be of critical importance to health because poorly-drained areas will be subject to frequent flooding with waters that are heavily contaminated with human and other wastes.

Capital Accumulation:

Increased personal capacities of members of low-income groups -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased land ownership and tenancy rights -- as a result of higher incomes and as a result of stronger incentives to ownership that result from environmental improvements.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced physical risk -- as a result of reduced exposure to the flood damage and inundation associated previously with inadequate drainage.

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

Increased costs of drainage reflected in increased property taxes and/or increases in consolidated charges for water supply and sanitation.

Increased pressures for slum clearance.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Drainage

PROJECT TYPE: Additions to Drainage Network

I: Time Required for Impact to Occur:

Almost immediate and long-term -- dependent on nature and scale of additions.

II: Project Elements:

Installation of open channels and drainage pits.

Installation of storm sewers and, where necessary, pumps.

Regulation of dumping of solid wastes in storm drains.

Installation of protective levees.

Poldering and pumping.

III: Intermediate Purposes to be Achieved:

Improved environmental sanitation in existing low-income areas.

Increase in supply of land suitable for low-income settlement.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all types except those in unstable areas where the installation of drainage is unjustified.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased opportunities for the enjoyment of an attractive physical environment -- as a result of environmental upgrading.

Increased consumption of potentially all other essential goods and services -- as a result of improved health and higher productivity and incomes.[1]

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[1] Very often, where a water-borne sewerage system does not exist or one exists but does not function properly, improvements in drainage will be of critical importance to health because poorly-drained areas will be subject to frequent flooding with waters that are heavily contaminated with human and other wastes.

Capital Accumulation:

Increased personal capacities of members of low-income groups -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased land ownership and tenancy rights -- as a result of higher incomes and as a result of stronger incentives to ownership that result from environmental improvements.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced physical risk -- as a result of reduced exposure to the flood damage and inundation associated previously with inadequate drainage.

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

Increased costs of drainage reflected in increased property taxes and/or increases in consolidated charges for water supply and sanitation.

Increased pressures for slum clearance.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Drainage

PROJECT TYPE: River Management and Flood Protection

I: Time Required for Impact to Occur:

Ranging from almost immediate to several years, depending on the nature and scale of the works required.

II: Project Elements:

Protective levees.

Dams.

Re-direction of river beds.

Stabilization of stream beds.

Poldering.

Culverting.

Installation of check dams.

Installation of revettements to stabilize steep slopes.

Regulation of dumping of solid wastes in natural drainage channels.

III: Intermediate Purposes to be Achieved:

Protection of existing low-income areas.

Increased supply of land for low-income settlements.

Reduced capital and operating costs for drainage.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all those in flood-prone areas, including very low-income groups squatting in river-beds and low-lying areas.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased opportunities for the enjoyment of an attractive physical environment -- as a result of environmental upgrading.

Increased consumption of potentially all other essential goods and services -- as a result of improved health and higher productivity and incomes.[1]

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[1] Very often, where a water-borne sewerage system does not exist or one exists but does not function properly, improvements in drainage will be of critical importance to health because poorly-drained areas will be subject to frequent flooding with waters that are heavily contaminated with human and other wastes.

Capital Accumulation:

Increased personal capacities of members of low-income groups -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased land ownership and tenancy rights -- as a result of higher incomes and as a result of stronger incentives to ownership that result from environmental improvements; also as a result of an increased supply of habitable land available to the poor.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced physical risk -- as a result of reduced exposure to the flood damage and inundation associated previously with inadequate drainage.

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Drainage

PROJECT TYPE: Long-Term Erosion Control

I: Time Required for Impact to Occur:

Long-term, but with early benefits where present damage from wash-outs, etc., is severe.

II: Project Elements:

Installation of check dams to control run-off.

Culverting.

Installation of revettements to stabilize steep slopes.

Redirection of natural drainage channels.

Stabilization of stream beds.

Regulation of dumping of solid wastes in natural drainage channels.

Re-afforestation or introduction of other soil-stabilizing plant life.

III: Intermediate Purposes to be Achieved:

Protection of existing low-income areas.

Increased supply of land for low-income settlements.

Protection of existing agricultural areas and increased future supply of land for agriculture.

Reduced unit cost of environmental sanitation.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all types and, in particular, those living in areas subject to severe erosion or areas receiving debris from eroding areas during heavy rains and flooding.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased enjoyment of an attractive physical environment.

Increased consumption of potentially all essential goods and services (or increased savings) -- as a result of reduced household expenditures or recovery from the damage caused by erosion.

Capital Accumulation:

Increased personal capacities of members of groups in improved areas -- as a result of improved consumption of essential goods and services.

Increased household savings (or improved consumption -- see above) -- as a result of reduced expenditures on recovery from damage caused by erosion.

Increased property values.

Reduced Risk:

Reduced physical risk -- as a result of reduced exposure to the damage resulting from erosion.

Reduced economic risk -- as a result of higher earning capacities associated with improved consumption and health and/or as a result of increased savings.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Solid Wastes

PROJECT TYPE: Upgrading, Regulation and/or Expansion of Traditional Systems

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I: Time Required for Impact to Occur:

Almost immediate.

II: Project Elements:

Household education on generation and dumping of solid wastes.

Upgrading and/or expansion of small-scale street sweeping and refuse collection with hand carts.

Regulation of small-scale sweeper dumping.

III: Intermediate Purposes to be Achieved:

Improved environmental sanitation in low-income areas.

Reduced unit cost of environmental sanitation (including reductions in the cost of maintaining drainage systems where these have been used to dispose of solid wastes).

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all types except those living in river beds or other areas where even traditional services are not available.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased opportunities for the enjoyment of an attractive physical environment -- as a result of environmental upgrading.

Increased consumption of potentially all other essential goods and services -- as a result of improved health and higher productivity and incomes.

Capital Accumulation:

Increased personal capacities of members of low-income groups -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased land ownership and tenancy rights -- as a result of higher incomes and as a result of stronger incentives to ownership that result from environmental improvements.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Solid Wastes

PROJECT TYPE: Upgrading and Improved Maintenance of Conventional Collection, Processing and Disposal Systems.

I: Time Required for Impact to Occur:

Almost immediate.

II: Project Elements:

Repair and additional installation of communal collection stations (bins).

Upgrading and maintenance of truck collection systems, and expansion of truck fleets.

Upgrading and maintenance of existing incinerators.

Introduction or improvement of sanitary landfill to replace open dumping and burning.

Management and staff training.

Household education.

III: Intermediate Purposes to be Achieved:

Improved environmental sanitation in low-income areas.

Reduced unit cost of environmental sanitation.

Increase in supply of land for low-income settlements.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Relatively secure squatters, tenants and owners.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased opportunities for the enjoyment of an attractive physical environment -- as a result of environmental upgrading.

Increased consumption of potentially all other essential goods and services -- as a result of improved health and higher productivity and incomes.

Capital Accumulation:

Increased personal capacities of members of low-income groups -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased land ownership and tenancy rights -- as a result of higher incomes and as a result of stronger incentives to ownership that result from environmental improvements.

Increased property values -- as a result of environmental upgrading.

Increased supply of land for low-income households -- as a result of improved sanitary landfill.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

Loss of income for refuse collectors and scavengers.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Solid Wastes

PROJECT TYPE: Expansion (or Installation) of Conventional Systems

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I: Time Required for Impact to Occur:

Dependent on nature and scale of installations.

II: Project Elements:

Sanitary landfill.

Incineration (if use of heat generated or other factors make this economically justifiable).

Management and staff training.

III: Intermediate Purposes to be Achieved:

Improved environmental sanitation in low-income areas.

Increase in supply of land for low-income settlement.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all types in areas accessible by truck.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased opportunities for the enjoyment of an attractive physical environment -- as a result of environmental upgrading.

Increased consumption of potentially all other essential goods and services -- as a result of improved health and higher productivity and incomes.

Capital Accumulation:

Increased personal capacities of members of low-income groups -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased land ownership and tenancy rights -- as a result of higher incomes and as a result of stronger incentives to ownership that result from environmental improvements.

Increased property values -- as a result of environmental upgrading.

Increased supply of land for low-income households -- as a result of improved sanitary landfill.

Reduced Risk:

Reduced economic risk -- as a result of higher earning capacities associated with improved health.

Reduced social risk -- as a result of higher incomes, improved consumption and higher property values.

Disbenefits:

Higher costs for sanitation services.

Increased pressures for slum clearance.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Water Supply and Sanitation

Sub-Group: Solid Wastes

PROJECT TYPE: Installation of Resource-Conserving Recovery and Re-Use Systems

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I: Time Required for Impact to Occur:

Dependent on nature and scale of installation.

II: Project Elements:

Manual and/or mechanical separation of re-usable wastes at point of generation and/or initial collection.

Installation of processing plants for treatment of re-usable wastes.

Establishment of marketing and distribution of re-usable wastes.

Incineration of otherwise unusable (or less environmentally usable) combustibles.

Sanitary landfill for otherwise unusable (or less economically usable) solids.

Management and staff training.

Household education.

III: Intermediate Purposes to be Achieved:

Improved environmental sanitation in low-income areas.

Increase in supply of land for low-income settlement.

Increased availability and reduced costs of essential output.

Generation of employment.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all -- with the possible exception of vulnerable squatters.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of those essential goods whose production is increased and/or price decreased through the re-use of solid wastes in their production (e.g., some household utensils, glassware and paper products).

Increased opportunities for the enjoyment of an attractive physical environment -- as a result of the environmental upgrading achievable through additions to treatment capacity.

Increased consumption of other goods and services -- as a result of the improved health, extra employment and higher incomes made possible by additions to treatment capacity and corresponding improvements in sanitation.

Capital Accumulation:

Increased personal capacities of members of low-income groups -- as a result of improved health and increased consumption of essential goods and services.

Increased household savings -- as a result of higher productivity and incomes.

Increased profits for low-income enterprises engaged in waste collection and/or processing and for other low-income enterprises benefiting from general increases in worker productivity.

Increased land ownership and tenancy rights -- as a result of higher incomes and as a result of increases in land availability achievable through sanitary landfill.

Increased property values -- as a result of environmental upgrading.

Reduced Risk:

Reduced economic risk -- as a result of higher wages and more stable employment associated with improved health and productivity and as a result of additional jobs created through waste collection and processing itself.

Reduced social risk -- as a result of higher incomes, improved consumption, higher property values and a greater sense of the possibility of an improved environment.

Disbenefits:

Increased user charges for waste collection to cover costs of additional processing -- but the impact of this on low-income groups can be minimized by appropriately graduated pricing with cross-subsidies.

VI: Case References:

GROUP 3: PROJECTS IN URBAN HEALTH SERVICES

GROUP CHARACTERISTICS GROUP: Projects in Health

I: GOALS[1] TO WHICH PROJECTS IN THE GROUP ARE LIKELY TO CONTRIBUTE

CURRENT CONSUMPTION GOALS

Increased levels of consumption for essential goods and services -- such as food, clothing, education and shelter -- as a result of higher incomes achieved with improvements in health and productivity and as a result of higher productivity and lower costs in industries and businesses benefiting from improved worker productivity.

Increases in environmental satisfaction as a result of the upgrading achieved through improved health services.

CAPITAL ACCUMULATION

Increased personal capacity for future employment and the employment of future consumption.

Increased property values resulting from environmental upgrading and for increased incomes resulting from increased productivity.

Improved access to credit for low-income groups as a result of greater job stability and productivity.

REDUCED RISK

Reduced physical risk as a result of reduced exposure to health hazards.

Reduced economic risk as a result of higher earning capacities associated with improved health and productivity.

Reduced social risk as a result of the stabilization of areas with upgraded health services.

[1]Note that improvements in the supply of goods and services and increases in potentials demand (resulting from increased employment and higher incomes, better information, etc.) are treated as intermediate purposes to be served by projects and therefore are shown in tables of Summary Project Characteristics; the goals shown in the present table are the improvements in the actual consumption and/or capital accumulation and reductions in risk that are expected to occur.

II: POLICY IMPLICATIONS

Policies should be established to ensure adequate funding and personnel for preventive programs and to ensure that such programs are closely coordinated with curative services.

Clear policies should be established for the training and utilization of the personnel needed for effective health projects. As part of this, salary levels and employment policies should encourage trained personnel at all levels to remain and work in the areas of greatest need. It may be appropriate also to establish policies for the mobilization of the military, the educated unemployed, and others with appropriate skills to provide paramedical services.

It is important to establish basic strategies and resource allocations for rural and urban health services that reflect national priorities for productivity, equity and the relief of suffering.

Productivity, equity and humanitarian criteria should shape those aspects of health policy which determine the extent to which the private sector is to be encouraged to provide services for the poor and how those services are to be coordinated with public efforts.

III: COMPLEMENTARY ACTIONS WHICH MAY BE NEEDED

Development of opportunities for increased employment and productivity of the urban poor.

Upgrading of water supply and environmental sanitation for low-income areas.

Improvement of communications and transportation for the poor in order to provide better access to upgraded health services.

Land use planning to provide adequate sites for community health facilities; as well as to achieve densities which will help to reduce the incidence of air-borne diseases.

Improvements in agriculture and food distribution to increase the supply of essential food stuffs for the poor so that poor nutrition does not undermine the benefits of improved health services.

SUMMARY GROUP CHARACTERISTICS GROUP: Projects in Health

IV: OTHER LIKELY IMPACTS[1]

BENEFITS	DISBENEFITS
Reduced health hazards for other members of the urban community. Increases in total urban productivity due to increases in worker productivity associated with improved health. Higher profits and incomes for the middle and upper-income groups who employ low-income workers. Increased public revenues through the impact of improved health on personal incomes, corporate profits and land values.	Decreased availability of public health services for middle and upper-income groups; but this may not be very significant where these groups already rely primarily on the private sector for their health services.

[1]The benefits and disbenefits listed here are those that may impact groups other than low-income households.

PROJECT CHARACTERISTICS GROUP: Projects in Health

PROJECT TYPE: Expansion and Upgrading of Preventive Services

I: Time Required for Impact to Occur:

Varies depending on project element. Many impacts can occur almost immediately.

II: Project Elements:

Community and neighborhood clinics with modest equipment and staff.

Mobile service delivery units.

Staff training program.

Regular health surveillance (school, community).

Regular dissemination of information on health measures and health services available.

Inoculation and vaccination.

Personal hygiene instruction.

Assistance in improving nutrition.

Mother and child health care.

Family planning.

III: Intermediate Purposes to be Achieved:

Increase in the supply of paramedical personnel to permit increased coverage of preventive health services for the poor.

Increased supply of vaccines and other supplies and equipment for the delivery of expanded preventive services.

Increased employment for members of low-income groups through their participation as aides to paramedical personnel and, in some cases, as paramedics themselves.

Improved geographic distribution of services available.

Increased awareness by the poor of the benefits of health care and the services available.

Reduced family size, reinforcing the effect of increased incomes.

Reductions in per capita expenditures on curative health services.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all groups.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of potentially all essential goods and services -- as a result of higher productivity and incomes resulting from improved health.

Capital Accumulation:

Increased health, knowledge, skills and sensibilities of members of low-income groups -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher incomes.

Increased land ownership and tenancy -- as a result of higher incomes and greater credit worthiness.

Reduced Risk:

Reduced economic risk -- as a result of higher productivity and more stable employment.

Reduced social risk -- as a result of improved health, improved consumption of essential goods and services and higher incomes.

Disbenefits:

No major negative impacts unless lower infant mortality and overall death rates outpace increases in income and decreases in family size.

VI: Case References:

PROJECT TYPE: Expansion of Simple Curative Services

I: Time Required for Impact to Occur:

Almost immediately.

II: Project Elements:

Curative facilities, equipment, supplies and staff.

Staff training programs.

Dissemination of information on health hazards and alternative sources, and costs of curative services -- linked with encouragement to take preventive measures.

III: Intermediate Purposes to be Achieved:

Increased supply of semi-skilled medical personnel for the delivery of simple curative services.

Increased supply of medicines and equipment for simple curative services.

Increased employment for low-income groups as aides and support staff in curative services.

Improved geographic distribution of service availability.

Increased awareness by the poor of the importance of early curative treatment and of the services available (and the advantages of preventive practices).

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all poverty groups, but it is likely to be relatively difficult to reach lowest-income illiterates, squatters with no secure tenure, and others who do not have good access to mass media or well-established informal communication "grapevines".

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of potentially all essential goods and services -- as a result of higher productivity and incomes achieved through reduction of time lost because of illness and injury.

Capital Accumulation:

Increased health, knowledge, skills and sensibilities of members of low-income groups -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher incomes.

Increased land ownership and tenancy -- as a result of higher incomes and greater credit worthiness.

Reduced Risk:

Reduced economic risk -- as a result of higher productivity and more stable employment.

Reduced social risk -- as a result of improved health, improved consumption of essential goods and services and higher incomes.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT TYPE: Expansion of Specialized Curative Services That Are Especially Relevant for the Poor

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I: Time Required for Impact to Occur:

Almost immediately.

II: Project Elements:

Specialized facilities, equipment, supplies and trained staff.

Specialized staff training programs.

Aggressive information programs -- identifying advantages of early diagnosis and treatment.

Identification and referral with very active surveillance.

Diagnosis.

Treatment:
- Outpatient
- Inpatient

Follow-up.

III: Intermediate Purposes to be Achieved:

Increased supply of specialized facilities, equipment, supplies and staff for curative treatment of problems to which low-income groups are especially prone (such as tuberculosis, venereal disease, pneumonia, cholera, smallpox, typhoid, diptheria, meningitis, tetanus and leprosy).

Increased awareness by the poor of the importance of early diagnosis and treatment and of the services available.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all low-income groups; in particular, the lowest-income groups living in worst environmental conditions, those subject to most severe nutritional problems and single-person migrant "households".

V: Potential Impacts on Poverty Groups:

<u>Benefits</u>:

Current Consumption:

Increased consumption of potentially all essential goods and services -- as a result of higher productivity and incomes resulting from improved health.

Capital Accumulation:

Increased health, knowledge, skills and sensibilities of members of low-income groups -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher incomes.

Increased land ownership and tenancy -- as a result of higher incomes and greater credit worthiness.

Reduced Risk:

Reduced economic risk -- as a result of higher productivity and more stable employment.

Reduced social risk -- as a result of improved health, improved consumption of essential goods and services and higher incomes.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS GROUP: Projects in Health

PROJECT TYPE: Environmental Measures

I: Time Required for Impact to Occur:

Dependent on project element selected. Both immediate (for example, with malaria control and solid waste disposal) and longer-term (for example, with improvements in water supply, drainage and sanitation).

II: Project Elements:

Specialized equipment, supplies and staff.

Informal programs to alert low-income groups to environmental health hazards and their consequences, the importance of early diagnosis and treatment, and the services available.

Vector control programs:
- Drainage and sanitation improvement
- Solid waste
    - disposal improvement projects
    - recovery and re-use projects
- Insecticide spraying

Surveillance to enforce/encourage improved private environmental hygiene.

III: Intermediate Purposes to be Achieved:

Reduction of fecally-related vector-borne and air-borne health hazards for low-income population through public action.

Increased awareness among the poor of environmental health hazards and their consequences, measures for their reduction and the public support available to reinforce private action.

Increased employment for members of low-income groups through public environmental sanitation programs.

Reduced per capita public expenditures (relative to the degree of control achieved) on curative and other preventive health measures.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all poverty groups; most immediately and most markedly, those living in areas subject to water logging and flooding, unsewered areas, areas without adequate solid waste collection and disposal and other areas where the prevalence of disease-bearing vectors is high.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of potentially all essential goods and services -- as a result of higher productivity and incomes resulting from improved health.

Capital Accumulation:

Increased health, knowledge, skills and sensibilities of members of low-income groups -- as a result of improved health and improved consumption of essential goods and services.

Increased household savings -- as a result of higher incomes.

Increased land ownership and tenancy -- as a result of higher incomes and greater credit worthiness.

Reduced Risk:

Reduced economic risk -- as a result of higher productivity and more stable employment.

Reduced social risk -- as a result of improved health, improved consumption of essential goods and services and higher incomes.

Disbenefits:

Damaging effects of insecticides on health.

VI: Case References:

I: GOALS[1] TO WHICH PROJECTS IN THE GROUP ARE LIKELY TO CONTRIBUTE

CURRENT CONSUMPTION GOALS

Improvements in quality of education, increases of effective consumption of educational opportunities.

Increased levels of consumption for other essential goods and services -- such as food, clothing, health and shelter -- as a result of higher incomes achieved with improvements in education, skills and productivity and as a result of higher productivity and lower costs in industries and businesses benefiting from employment of low-income persons.

Increases in urban participation and satisfaction as a result of the upgrading of skills and knowledge achieved through improved effective opportunities for education.

CAPITAL ACCUMULATION

Increased personal capacity for future employment and the enjoyment of future consumption -- resulting from formal and non-formal education projects and/or increased incomes and demand for additional goods and services in low-income settlement areas.

Increased personal capacity for social interaction and participation in the urban environment.

REDUCED RISK

Reduced physical risk -- as a result of increased knowledge about health hazards, etc.

Reduced economic risk -- as a result of higher earning capacities associated with improved skills, knowledge and productivity.

Reduced social risk -- as a result of the stabilization and upgrading of the productive capacity of members of low-income groups.

[1]Note that improvements in the supply of goods and services and increases in potentials demand (resulting from increased employment and higher incomes, better information, etc.) are treated as intermediate purposes to be served by projects and therefore are shown in tables of Summary Project Characteristics; the goals shown in the present table are the improvements in the actual consumption and/or capital accumulation and reductions in risk that are expected to occur.

II: POLICY IMPLICATIONS

Consideration should be given to changes in curricula policies and systems in order to produce a broader, more usable education for those who will have to work outside the modern sector.

Changes in administrative policy should be considered which can provide decentralized local community mechanisms for linking institutions, administrators, teachers and parents as active agents in designing and implementing educational programs which are relevant to local needs.

Financial policies which increase the contribution and fees paid by major recipients of educational benefits, particularly at the secondary and university levels, should be considered.

Changes in rural education policies and programs to make rural education more relevant to rural needs may be of help in limiting the tendency to migrate to urban areas.

Complementary labor market policies to eliminate basic structural imbalances should be considered and coordinated with changes in educational policies.

III: COMPLEMENTARY ACTIONS WHICH MAY BE NEEDED

Properly scheduled provision of essential infrastructure such as power, waste supply and sanitation, and transportation.

Coordination will be required between work and educational scheduling to facilitate upgrading for adults or children who must work to support their families to obtain at least part-time education.

Job analysis and redefinition should be undertaken in both the public and private sectors in order to redefine legitimate low-skill roles for the urban poor whose skills and education are limited.

Economic assistance, both direct and indirect, should be given to the school-supply industries at all levels. Particular emphasis might be given to the development of small-scale cottage industries run by low-income residents.

Health and nutrition programs should be integrated into educational projects in order to facilitate full participation and maximum educational benefit for the target population.

Land use planning and management should provide appropriate sites throughout low-income communities for basic education facilities as well as for future expansion and upgrading.

Transportation services should be provided to low-income groups to achieve effective and efficient access to educational programs and facilities.

IV: OTHER LIKELY IMPACTS[1]

BENEFITS	DISBENEFITS
Improved productivity and incomes for the urban poor. Lower unit costs for urban services through more effective utilization and maintenance of existing and new urban services. Improved health and welfare, improved child care and family planning for low-income groups. Reduced health hazards for other segments of the urban population. Increased public revenues through increases in productivity. Higher profits for middle- and upper-income entrepreneurs who employ low-income persons whose skills and knowledge are increased. Reduced balance of payments problems through increases in the use of labor-intensive technologies which can result from the upgrading of the skills of the low-income labor force. Improved participation of low-income groups in the urban decision-making processes and programs which affect their well-being.	Reduced resources for conventional education programs may generate negative political reactions from middle- and upper-income groups which will be of considerable concern to many governments. Increases in the general levels of education and skills of the urban poor and greater participation in the daily urban decision-making processes may be objected to by those groups who have normally controlled such urban processes. Resistance may develop from those groups who must pay the costs of increases in educational opportunities for the urban poor which weaken their own political dominance.

[1]The benefits and disbenefits listed here are those that may impact groups other than low-income households.

PROJECT TYPE: Non-Formal Education in Nutrition, Health, Sanitation, Family Planning and Household Management

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I: Time Required for Impact to Occur:

Within a few months to a year or more -- depending on initial condition of client group.

II: Project Elements:

Training in nutrition.

Training in family planning.

Training in child care.

Training in pre-natal and post-natal care.

Training in environmental sanitation and household hygiene.

Training in family budgeting and household management.

Training in vector control.

A. Methods:

1. Group Situation
   a. Lectures
   b. Meetings
   c. Conferences
   d. Small group classes
2. Individualized situation:
   a. Home visit
   b. Personal contact
   c. Counselling
   d. Individual help
3. Mass situation:
   a. Speech
   b. Community campaign

B. Materials and Equipment

1. Films and film slides
2. Written information
3. Photographs
4. Puppet theater
5. Mobile and fixed classrooms
6. Displays and exhibitions
7. Tape recorder
8. Posters and charts

C. Facilities

1. Dispensaries
2. Mobile and fixed classrooms
3. Community health centers
4. Puppet theater
5. Hospitals

D. Kinds of services which can have education components

1. Blood testing and vaccination
2. Health club organizations
3. Therapeutic treatment
4. Preventive and curative
5. Medical practices
6. Health and sanitation practices
7. Health check-ups
8. Treatments and rehabilitation
9. Environmental sanitation
10. Distribution of milk and cereals.

III: Intermediate Purposes to be Achieved:

Increased knowledge of the poor concerning nutrition, family planning, pre-natal and post-natal care, child care, environmental sanitation and other aspects of health maintenance and disease prevention, and household management.

Increased knowledge of the poor concerning the public health services available and procedures for using them.

Development of continuing evaluative information to assess the impact of informal health education on the poor.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all groups, especially new in-migrants.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved consumption of food and other essential items -- as a result of better information on nutrition, health, family planning and household budgeting.

Capital Accumulation:

Increased capacity of individuals for enjoyment of a fuller life and increased productivity -- as a result of improved consumption patterns and better information.

Increased household savings -- as a result of better information on household budgeting and increased incomes resulting from higher productivity.

Increased access to capital -- as a result of increased credit worthiness.

Increased ownership and secure tenancy -- as a result of higher incomes and increased access to credit.

Reduced Risk:

Reduced economic risk -- as a result of increased capabilities and credit worthiness.

Reduced social risk -- as a result of higher incomes and greater household stability.

Disbenefits:

VI: Case References:

PROJECT CHARACTERISTICS GROUP: Projects in Urban Education

PROJECT TYPE: Vocational Education

I: Time Required for Impact to Occur:

Almost immediately, depending on the degree to which training is job-related.

II: Project Elements:

Pre-vocational training.

On-the-job training.

Career-long training.

Counseling and supportive services.

Job placement and follow-up.

III: Intermediate Purposes to be Achieved:

Increased relevant vocational and job skills.

Upgrading of job functions and performance levels.

Increased employment opportunities.

Increased community-based industry and commerce.

IV: Specific Poverty Groups Likely to be Benefited:

The unemployed.

Low-productivity workers in unstable jobs needing basic skills and on-the-job training to obtain stable employment.

Small-scale entrepreneurs.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved consumption of potentially all essential goods and services -- as a result of higher productivity and increased incomes.

Capital Accumulation:

Increased capacity of individuals for enjoying a fuller life -- as a result of improved consumption.

Increased household savings -- as a result of higher incomes.

Increased access to credit -- as a result of increased incomes and credit worthiness consequent upon increased productivity.

Increased ownership and secure tenancy rights -- as a result of increased incomes and increased access to credit.

Reduced Risk:

Reduced economic risk -- as a result of higher productivity, potential for more stable employment, and increased credit worthiness.

Reduced social risk -- as a result of reduced unemployment and underemployment.

Disbenefits:

No major disbenefits, provided that training is related realistically to employment opportunities.

PROJECT CHARACTERISTICS GROUP: Projects in Urban Education

PROJECT TYPE: Literacy Programs

I: Time Required for Impact to Occur:

Generally one year or more, although minimal functional literacy may be achievable in shorter periods of the order of three months with intensive programs.

II: Project Elements:

Literacy programs related to work:
- Employer-sponsored work-oriented literacy programs
- Education for job seeking.

Functional literacy:
- Home economics and management education
- Budgeting and financial management
- Housing and community upgrading training.

Mass media literacy programs:
- Sustained dissemination of information through:
  - Public advertising
  - Radio and television literacy training
  - Community campaigns.

III: Intermediate Purposes to be Achieved:

Motivation of individuals to improve their capacities for productive employment and satisfying individual lifestyles.

Increased work-oriented capacity.

Increased capacity for household functioning in an urban context.

IV: Specific Poverty Groups Likely to be Benefited:

Recent in-migrants in squatter settlements and staging areas.

Vulnerable and relatively immobile (stagnating) adults needing basic education.

Individuals (in some cases including women specifically) for whom cultural barriers have resulted in low levels of literacy.

V: Potential Impacts on Poverty Groups:

<u>Benefits</u>:

Current Consumption:

At least limited improvements in the consumption of essential goods and services -- as a result of better access to relevant information.

Increased opportunities to participate in and influence decisions affecting one's own well-being.

Capital Accumulation:

Increased capacity of individuals for enjoying a full life; as part of this, increases in productivity and income potential and increased credit worthiness.

Increased household savings -- as a result of better access to information on consumption options, reasonable rates of interest, borrowers' legal rights, etc.

Increased ownership and secure tenancy -- as a result of increased incomes, increased credit worthiness and increased access to information on ownership and tenancy opportunities and rights.

Reduced Risk:

Reduced economic risk -- as a result of increased employability.

Reduced social risk -- as a result of improved health, increased incomes and access to credit, improvements in the distribution of ownership and tenancy and greater ability to participate in social and political activity.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS GROUP: Projects in Urban Education

PROJECT TYPE: Education in Civic Participation

I: Time Required for Impact to Occur:

Almost immediately -- dependent on exact type of action anticipated.

II: Project Elements:

Types of education:
- Consumer education
- Cooperative education
- Education in the political process
- Education for community action in environmental improvement, etc.
- Education for self-help housing.

Media:
- Household visits
- Meetings at community and religious centers
- Public advertising
- Mass media.

III: Intermediate Purposes to be Achieved:

Development and training of community leaders.

Increased community capacity for improving their own condition.

Development of relevant community organizations.

IV: Specific Poverty Groups Likely to be Benefited:

Dependent on the type of civic action being encouraged -- potentially all groups are accessible through a variety of media. Impact likely to be especially marked for recent in-migrants and established but vulnerable low-income groups, including groups that have been immobile. These groups are likely to have been exposed to high levels of risk; they are unlikely to have had secure property rights and they are likely to have had access to only informal credit, if any.

V: Potential Impacts on Poverty Groups:

<u>Benefits</u>:

Current Consumption:

Improved consumption of social services such as water supply, sanitation, education and health services -- as a result of better information on the availability and pricing of these services.

Capital Accumulation:

Increased capacity of individuals to influence decisions affecting their own well-being.

Increased access to ownership and tenancy -- as a result of better information on opportunities, rights and responsibilities.

Slower depreciation rates for public facilities -- as a result of fuller private participation in their proper use and maintenance.

Increased land values -- as a result of better-maintained public facilities.

Reduced Risk:

Reduced physical risk -- as a result of better-maintained sewerage, drainage, transportation and other public facilities.

Reduced social risk -- as a result of fuller civic participation.

Disbenefits:

Increased tax outlays and household expenditures on public facilities and services -- as a result of fuller information on responsibilities, a greater sense of civic responsibility and greater social pressure to meet civic responsibilities.

VI: Case References:

I: GOALS[1] TO WHICH PROJECTS IN THE GROUP ARE LIKELY TO CONTRIBUTE

CURRENT CONSUMPTION GOALS

Improvements in shelter quality, increases in utility consumption and improvements in environmental conditions.

Increased levels of consumption for other essential goods and services -- such as food, clothing, education and health -- as a result of higher incomes and credit access achieved with improvements in housing and productivity and as a result of higher productivity and lower costs in industries benefiting from improvements in housing and supportive urban services.

Increases in environmental satisfaction as a result of the upgrading achieved through improved levels of housing and supportive services.

CAPITAL ACCUMULATION

Increased personal capacity for future employment and the enjoyment of future consumption -- as a result of improved health and motivation associated with improvements in housing.

Increased property ownership and tenancy for low-income households -- and increased property values resulting from shelter and environmental upgrading and/or increased incomes and demand for property in low-income settlement areas.

Greater access to formal credit for low-income households.

REDUCED RISK

Reduced economic risk -- as a result of higher earning capacities associated with improved health, credit access and productivity.

Reduced physical risk -- as a result of reduced exposure to health hazards and reduced exposure to the dangers of flooding, etc. and formal clarification of tenure rights.

Reduced social risk -- as a result of the stabilization of physically-upgraded areas and increased long-term tenure possibilities.

[1]Note that improvements in the supply of goods and services and increases in potentials demand (resulting from increased employment and higher incomes, better information, etc.) are treated as intermediate purposes to be served by projects and therefore are shown in tables of Summary Project Characteristics; the goals shown in the present table are the improvements in the actual consumption and/or capital accumulation and reductions in risk that are expected to occur.

II: POLICY IMPLICATIONS

Basic housing policy should emphasize preservation and upgrading of the existing housing stock as fully as possible, with minimal dislocation of existing households.

The low-income settlement component of housing policy should emphasize public support for private development, including self-help, housing initiative -- support in the form of developed plots of land in good locations close to job opportunities, water, sanitation, and other essential services, good access to social services including health and education, and good transportation services.

Low-income housing support policies should aim at keeping the subsidy component of projects as low as possible and standards should be made realistic enough to achieve this.

Where there is justification for providing some public housing, that housing should result in an efficient net addition to the housing stock for low-income groups (rather than decreasing the stock, as often happens when high density slums are cleared and high-standard low density public housing is built in their place).

Improvements in housing technology should emphasize the use of indigenous materials and an upgrading of local skills in construction.

The legal, financial and administrative machinery affecting housing should encourage the active participation of the private sector (at all scales -- large contractors, small contractors, cooperatives and individual households) in the provision of improved housing for low-income households.

III: COMPLEMENTARY ACTIONS WHICH MAY BE NEEDED

Increases in employment and productivity to raise the incomes of the poor so that they can afford better housing.

Land development programs to limit the effects of land speculation in the developing countries and lower the price of land to the urban poor through land taxation measures.

Provision of secure land tenure or some reasonable guaranty of tenure as an incentive for investment.

Water supply and sanitation, used to focus new urban development activities in ways which provide more equitable land use patterns.

Housing construction materials projects to increase the quantity and quality of locally-produced materials to contribute to local employment and to decrease dependence on imported materials.

The development of transportation to provide access to jobs and essential urban services, to facilitate the distribution of essential goods, and the social interaction of low-income households.

SUMMARY GROUP CHARACTERISTICS

GROUP: Projects in Housing

IV: OTHER LIKELY IMPACTS[1]

BENEFITS	DISBENEFITS
Increased total output through incremental activities in the field of low-income housing development. Increased income for upper- and middle-income groups associated with the housing industry. Increased tax revenues, through the upgrading of housing and increases in land values. Increased social and economic stability through increases in the capital assets which are controlled by the target population. Strengthened capital markets through the institutionalization of the mobilization of capital and through credit regulation. Higher savings rates in the economy through increased levels of capital investment and savings for housing. Reduced health hazards for the larger urban population in their daily interaction with target groups within the urban area. General environmental upgrading is possible through the development and implementation of broad-based housing projects aimed at the urban poor.	Reduced housing supply for middle- and upper-income groups because of capacity constraints within the housing industry and the increased emphasis on low-income housing. Reduced construction in non-housing sectors -- because of capacity constraints in the construction sector. Reduced short-term growth might result because of lower rates of return on investment in housing compared to investment in other sectors.

[1]The benefits and disbenefits listed here are those that may impact groups other than low-income households.

PROJECT CHARACTERISTICS GROUP: Projects in Housing

PROJECT TYPE: Projects to Provide Basic Facilities and Services in Staging Areas

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I: Time Required for Impact to Occur:

Almost immediate -- dependent on scale of additions.

II: Project Elements:

Employment information services.

Water:
- Installation of distribution lines and communal connections
- User education.

Sanitation:
- Installation of communal sanitary facilities and septic tanks
- User education.

Food distribution facilities.

Electric power for household use.

Public transportation services.

Basic health and nutrition services.

Education:
- Adult literacy.
- Non-formal education related to health and nutrition, family planning, the urban environment, job seeking, community facilities and services.
- Vocational training.

Recreation space.

Project management offices.

III: Intermediate Purposes to be Achieved:

To provide a temporary territorial and service base for individuals and households who need support while seeking appropriate permanent locations in which to settle in an urban area (or in the case of externally-oriented target groups, support while they are generating income for investment and operating expenditure elsewhere). The aim should be to invest as little as possible in the territories involved and as much as possible in people -- to help them to help themselves to become mobile. The specific purposes of such projects will include:

- Provision of plots for temporary rental (or subsidized) occupancy;
- Provision of adequate but minimal water supply and sanitation;
- Provision for essential food distribution;
- Provision of electricity for essential household purposes;

- Provision of public transportation links with job opportunities (where projects cannot be located within walking distance of appropriate job opportunities);
- Provision of minimal recreation space;
- Delivery of health services designed to increase productivity and reinforce the household's mobility as quickly as possible;
- Delivery of education services to increase productivity and provide a foundation for mobility as quickly as possible;
- Provision of information on job opportunities and assistance in obtaining stable employment.

IV: Specific Poverty Groups Likely to be Benefited:

Recent arrivals to urban areas with limited assets. Some will be young, single men or heads of households living apart from their families.

Longer-established urban households who have been stagnating but have a chance of becoming upwardly mobile.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improvement in consumption of food, water, sanitation services, electricity for household use and recreation services, together with a modest improvement in environmental quality.

Capital Accumulation:

Improved health and increased knowledge, skills, productivity and sensibilities of project populations -- as a result of improved water and sanitation and, in particular, the services that are designed to increase the quality of human capital.

Increased household savings -- as a result of increased productivity and incomes.

Increased access to credit -- as a result of increased credit worthiness.

Reduced Risk:

Reduced economic risk -- as a result of increased productivity and incomes.

Reduced physical risk -- as a result of relative stability and security of project environments, compared to the previous locations of project populations (in urban river beds, in flood-prone rural areas,etc.).

Reduced social risk -- as a result of improved health and increased job stability and incomes.

Disbenefits:

Rental and services charges that were not incurred in previous locations.

Conversion of staging areas that are not really suitable for permanent settlement into settlements -- if standards of facilities and services are made too high relative to other opportunities and/or if mobility is not actively encouraged.

VI: Case References:

PROJECT CHARACTERISTICS GROUP: Projects in Housing

PROJECT TYPE: Slum Upgrading

I: Time Required for Impact to Occur:

From a few months to five years or more -- dependent on the nature and scale of services to be provided. If initial project is a success there is likely to be a continuing stream of new benefits generated by households themselves.

II: Project Elements:

Generation of employment in project construction, maintenance and management.

Provision of infrastructure and other support for medium-scale enterprises.

Technical assistance, credit and other support for small enterprises.

Water supply, sanitation and drainage.

Food distribution facilities.

Transportation.

Health services.

Education (formal and non-formal).

Roads and walkways.

Electricity.

Community facilities.

Open space and recreation services.

Technical assistance in housing.

Land tenure legalization.

Land use regulations.

Building codes (related realistically to what is feasible for low-income groups).

Credit mechanisms.

Changes in tax structures.

Improved urban management.

III: Intermediate Purposes to be Achieved:

Generation of employment.

Increased productivity and earning capacity.

Better access to off-site employment.

Environmental improvement.

Increased community stability.

Increased levels of community participation and self-help.

IV: Specific Poverty Groups Likely to be Benefited:

Relatively secure squatters with basic consumption deficiencies who are interested in consolidating.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption and improved quality of potentially all essential goods and services, including improved environmental quality -- as a result of improvements in the supply of essential facilities and services and increases in productivity and incomes.

Capital Accumulation:

Improved health and increased knowledge, skills and sensibilities -- as a result of improved consumption.

Increased household savings -- as a result of increased incomes.

Increased access to credit -- as a result of greater credit worthiness.

Increased residential ownership and tenancy -- as a result of higher incomes, increased credit worthiness, and legalization of previously unauthorized settlement.

Increased land values -- as a result of environmental upgrading.

Increased ownership of commercial capital equipment -- as a result of increased credit worthiness and technical assistance to low-income enterprises.

Reduced Risk:

Reduced economic risk -- as a result of increased productivity and incomes and greater job stability.

Reduced physical risk -- as a result of environmental upgrading.

Reduced social risk -- as a result of improved health, education, increased incomes, increased property ownership and increased land values.

Disbenefits:

Increased cost of services.

Tax liability -- where none existed before (or where taxes are easy to evade). (But the higher levels of service available may mean that higher costs and taxes are not net disbenefits.)

VI: Case References:

PROJECT CHARACTERISTICS GROUP: Projects in Housing

PROJECT TYPE: New Low-Income Settlements

I: Time Required for Impact to Occur:

Almost immediately upon completion of basic project.

Incremental additions by residents and government are likely to bring additional longer-term benefits also.

II: Project Elements:

Physical development programs:
- Land plots
- Roads and walkways
- Water supply
- Sanitation
- Drainage
- Electricity
- Public facilities:
  - Transportation
  - Schools
  - Health clinics
  - Community centers
  - Open space for recreation.

Social development programs:
- Health services
- Education -- formal and non-formal
- Family counselling:
  - Stimulation and coordination of voluntary agency effort
- Citizen participation and civic development
- Recreation
- Coordination and effective implementation of existing public and private social development programs.

Economic development programs:
- Development of small industry and commerce
- Casual labor and marginal employment programs
- Coordination of existing public and private economic development programs.

Credit.

Urban management and finance:
- Tax reforms
- Upgrading of urban management skills.

III: Intermediate Purposes to be Achieved:

Increased employment.

Increased productivity and incomes as a result of improved health and motivation.

Improved access to off-site employment.

Reduced environmental health hazards.

Increased individual motivation.

Higher levels of information available to the poor concerning opportunities available to them and means for taking advantage of those opportunities.

Greater political access for low-income groups in decisions affecting their welfare.

IV: Specific Poverty Groups Likely to be Benefited:

New in-migrants, other low-income households with no secure tenure, and more mobile relatively high-asset households seeking improved environment and tenure. Unlikely to include externally-oriented households or households in transit. It may be difficult to reach lowest-income households.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption and improved quality of potentially all essential goods and services, including improved environmental quality -- as a result of improvements in the supply of essential facilities and services and increases in productivity and incomes.

Capital Accumulation:

Improved health and increased knowledge, skills and sensibilities -- as a result of improved consumption.

Increased household savings -- as a result of increased incomes.

Increased access to credit -- as a result of greater credit worthiness.

Increased residential ownership and tenancy rights -- as a result of land policy, higher incomes and increased credit worthiness.

Increased land values -- as a result of environmental upgrading.

Increased ownership of commercial capital equipment -- as a result of increased credit worthiness and technical assistance to low-income enterprises.

Reduced Risk:

Reduced economic risk -- as a result of increased productivity and incomes and greater job stability.

Reduced physical risk -- as a result of environmental upgrading.

Reduced social risk -- as a result of improved health, education, increased incomes, increased property ownership and increased land values.

Disbenefits:

Increased expenditures for services and facilities.

Increased tax liability.

(But both of these additional cost items may not be net disadvantages because higher levels of services will be available.)

VI: Case References:

PROJECT CHARACTERISTICS GROUP: Projects in Housing

PROJECT TYPE: Multi-Occupancy Structures

I: Time Required for Impact to Occur:

Six months or longer, depending on nature of structures.

II: Project Elements:

Multi-occupancy structures for households.

In some situations, multi-occupancy structures for single workers.

Supporting utility systems -- water supply and sanitation, drainage, electricity and, in some cases, communal telephones.

Food distribution facilities.

Transportation.

Health services.

Education services.

Community center facilities and services, including family counselling.

Open space for recreation.

Employment information services.

Credit, technical assistance and other support for small enterprises -- including provision for the use of space in the multi-occupancy structures for commercial purposes.

III: Intermediate Purposes to be Achieved:

Increased employment -- through the provision of and/or support for on-site employment.

Improved access to off-site job opportunities.

Higher household incomes -- as a result of additional employment opportunities and higher productivity.

Improved access to safe, potable water and proper sanitation.

Improved access to electricity for household use and small-scale commercial use.

Improved access to communications facilities.

Improved food distribution (with easier control of quality, reduced losses from spoilage, etc.).

Improved access to basic health and education services.

Increased access to individual and family counselling.

Improved access to recreation facilities and services.

Heightened sense of community -- through community organization services and, to some extent, through the physical design of buildings, open spaces and communal facilities.

IV: Specific Poverty Groups Likely to be Benefited:

Many types but, in particular, those without titles to property and with little or no access to credit, including single individuals and heads of households who have left their families back in the rural areas and townships from which they have come. It is unlikely, however, that projects of this type can serve households with very low incomes economically.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption and improved quality of shelter and linked services -- as a result of improvements in the supply of shelter and linked services and as a result of increases in productivity and incomes.

Capital Accumulation:

Improved health and increased knowledge, skills and sensibilities -- as a result of improved consumption.

Increased household savings -- as a result of increased incomes (unless these are offset by higher rents and service charges).

Reduced Risk:

Reduced economic risk -- as a result of increased productivity and incomes and greater job stability.

Reduced physical risk -- as a result of improved shelter and environment.

Reduced social risk -- as a result of improved health and education, higher incomes and the greater involvement of single workers without families in organized social programs.

Disbenefits:

Higher rents and service charges (unless these are offset by subsidies).

VI: Case References:

GROUP 6: PROJECTS IN URBAN MANAGEMENT AND FINANCE

GROUP CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

I: GOALS[1] TO WHICH PROJECTS IN THE GROUP ARE LIKELY TO CONTRIBUTE

CURRENT CONSUMPTION GOALS

Increased consumption of potentially all essential goods and services and improved quality in those goods and services -- as a result of improvements in the supply of those goods and services and as a result of employment generated in urban management and finance.

CAPITAL ACCUMULATION

Greater economic productive potential and greater capacity for enjoying a full life for members of low-income groups -- as a result of improved consumption.

Increased household savings -- as a result of higher incomes and reductions in some operating costs (for example, transportation costs).

Increased access to credit -- as a result of increased credit worthiness and improved credit mechanisms.

Increased property ownership and tenancy rights for the poor -- as a result of higher incomes, increased credit worthiness, better information on opportunities for ownership and tenancy, and land and tenancy policies and legislation.

REDUCED RISK

Reduced economic risk -- as a result of higher and more stable incomes and a wider distribution of ownership and tenancy rights.

Reduced physical risk -- as a result of improved land use planning and increased coordination in the provision and management of public facilities and services.

Reduced social risk -- as a result of higher incomes, a wider distribution of ownership and tenancy rights and a more rigorous and equitable enforcement of regulations.

[1]Note that improvements in the supply of goods and services and increases in potentials demand (resulting from increased employment and higher incomes, better information, etc.) are treated as intermediate purposes to be served by projects and therefore are shown in tables of Summary Project Characteristics; the goals shown in the present table are the improvements in the actual consumption and/or capital accumulation and reductions in risk that are expected to occur.

SUMMARY GROUP CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

II: POLICY IMPLICATIONS

Need for high-level policy directives to give priority to the urban poor in all aspects of public management and finance.

Need for higher status for urban management.

Need for inter-governmental coordination.

Need for the engagement of private capital.

Need for international funding.

SUMMARY GROUP CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

III: COMPLEMENTARY ACTIONS WHICH MAY BE NEEDED

Improvements in planning, budgeting, financing and implementation practices in individual sectors to complement and reinforce improvements in overall management and finance.

SUMMARY GROUP CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

IV: OTHER LIKELY IMPACTS[1]

BENEFITS	DISBENEFITS
Increased public revenues. Improved urban services for upper- and middle-income households, as well as low-income households. Decreased costs of general urban administration, relative to output. Decreased capital and operating costs for public services and facilities, relative to output. More efficient use of urban land. Increased benefits from projects in individual sectors -- as a result of improved coordination. Increases in the supply of essential commodities for middle- and upper-income groups as well as low-income groups. Increased access to credit for middle- and upper-income groups, as well as low-income groups.	Reduced capital gains from land speculation by upper- and middle-income households. Reduced incomes for some middle- and upper-income groups -- and political resistance from these groups. Higher tax payments by middle- and upper-income groups -- and political reaction from these groups. Higher interest rates for middle- and upper-income groups. Higher prices for non-essential items.

[1]The benefits and disbenefits listed here are those that may impact groups other than low-income households.

PROJECT CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

Sub-Group: Management

PROJECT TYPE: Creation of an Institutional Framework for Integrated Planning, Budgeting and Implementation

---

I: Time Required for Impact to Occur:

The impact of some improvements in management may be felt within a few months (for example, immediate improvements in the coordination of implementation); many will take several years to occur.

II: Project Elements:

Adoption of improved techniques for planning, budgeting and monitoring.

Intergovernmental integration.

Local integration.

Upgrading and/or training of a cadre of urban management specialists.

Dissemination of better information on urban poverty.

Action-oriented research.

Enabling legislation at the national and provincial (or state) levels.

Legislation at the local level.

III: Intermediate Purposes to be Achieved:

Increased capacity and competence in the integrated urban and regional development planning, in the establishment of intersectoral priorities, in overall budgeting, in the coordination and surveillance of implementation and in the evaluation of results.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all groups.

V: Potential Impacts on Poverty Groups:

<u>Benefits</u>:

Current Consumption:

Increased consumption of potentially all essential goods and services and improved quality in those goods and services -- as a result of improvements in the supply of those goods and services and as a result of employment generated in urban management and finance.

Capital Accumulation:

Greater economic productive potential and greater capacity for enjoying a full life for members of low-income groups -- as a result of improved consumption.

Increased household savings -- as a result of higher incomes and reductions in some operating costs (for example, transportation costs).

Increased access to credit -- as a result of increased credit worthiness and improved credit mechanisms.

Increased property ownership and tenancy rights for the poor -- as a result of higher incomes, increased credit worthiness, better information on opportunities for ownership and tenancy, and land and tenancy policies and legislation.

Reduced Risk:

Reduced economic risk -- as a result of higher and more stable incomes and a wider distribution of ownership and tenancy rights.

Reduced physical risk -- as a result of improved land use planning and increased coordination in the provision and management of public facilities and services.

Reduced social risk -- as a result of higher incomes, a wider distribution of ownership and tenancy rights and a more rigorous and equitable enforcement of regulations.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

Sub-Group: Management

PROJECT TYPE: Establishment of Urban Land Management Agencies

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I: Time Required for Impact to Occur:

At least one year; usually two to three years.

II: Project Elements:

Enabling legislation providing for land management agencies to acquire, develop and dispose of urban land.

Establishment of agency management and staffing.

Establishment of a funding base for agency operations.

Staff training.

Land acquisition.

Land development.

Leasing of land.

Sale of land.

Interim use of land prior to sale or lease to private entities or transfer to other public entities for their use.

III: Intermediate Purposes to be Achieved:

Establishment of an urban "land bank" under public control to facilitate the achievement of more efficient land use and a more equitable distribution of land ownership and tenancy rights.

Generation of public revenues for urban development.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all groups.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Enjoyment of an improved physical environment for those gaining ownership or tenancy rights through the project.

Increased consumption of potentially all essential goods and services for all those whose incomes are increased as a result of more efficient land use and for those employed directly or indirectly in land management.

Capital Accumulation:

Greater economic productive potential and greater capacity for enjoying a fuller life for all those whose consumption of essential goods and services is improved as a result of the project.

Increased households for those whose incomes are increased.

Increased access to credit for those whose credit worthiness is increased.

Increased access to property ownership and tenancy rights -- as a direct result of the activities of the land management agency.

Reduced Risk:

Reduced economic risk for those whose incomes are increased and/or stabilized and for those whose access to credit is increased.

Reduced physical risk -- as a result of environmental upgrading.

Reduced social risk -- as a result of higher incomes, improved consumption and a wider distribution of ownership and tenancy rights.

Disbenefits:

Higher household costs associated with settlement -- but the improvements achieved may mean that these costs should not be considered as net disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

Sub-Group: Management

PROJECT TYPE: Upgrading of Court Procedures and Legal Instruments Affecting the Poor

---

I: Time Required for Impact to Occur:

Dependent on the time required to effect changes -- may range from a few months to several years.

II: Project Elements:

Establishment of simplified forms and procedures for such things as land titles.

Upgrading of court procedures to improve and accelerate procedures in cases of the types most frequently involving members of low-income groups.

Establishment of special courts for improved and faster processing of petty cases.

Creation of public or publicly-scrutinized "para-legal" services to help low-income individuals and groups in legal matters and to reduce extortion.

Stronger public regulation of the legal profession.

Special training for members of the legal profession.

Dissemination of information on legal rights and responsibilities of individuals and groups.

III: Intermediate Purposes to be Achieved:

Reduced time and out-of-pocket costs in legal procedures.

Greater fairness and equity in legal processes affecting the poor.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all groups.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of essential goods and services for those involved in legal procedures -- as a result of reduced out-of-pocket costs and reduced opportunity costs in those procedures.

Capital Accumulation:

Greater economic productive potential and greater capacity for enjoying a fuller life -- as a result of improved consumption.

Increased household savings -- as a result of reduced legal costs.

Improved access to credit -- as a result of simplified procedures for establishing security for loans.

Increased ownership and tenancy rights -- as a result of more widespread knowledge of rights and simplified legal procedures. for exercising those rights.

Reduced Risk:

Reduced economic risk -- as a result of reduced costs.

Reduced physical risk (of harassment, etc.) -- as a result of fuller knowledge of rights and simplified procedures for seeking redress.

Reduced social risk -- as a result of fuller knowledge of rights and responsibilities, improved procedures for seeking redress for the infringement of rights and improved procedures for resolving conflicts.

Disbenefits:

No major disbenefits.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

Sub-Group: Management

PROJECT TYPE: Upgrading of Security

I: Time Required for Impact to Occur:

Almost immediate.

II: Project Elements:

Upgrading and expansion of policy and other security staffs.

Improved scrutiny of performance of security staff and increased sanctions for poor performance.

Fuller dissemination of information on rights and responsibilities of individuals and groups.

III: Intermediate Purposes to be Achieved:

Improved and expanded security services, accompanied by greater security for low-income individuals and groups.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all groups.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of essential goods and services -- as a result of fuller access to them (for example, free access to community water pipes without harassment or bribes).

Capital Accumulation:

Increased household savings -- as a result of reduced extortion.

More secure ownership and tenancy rights -- as a result of improved security services.

Reduced Risk:

Reduced economic risk -- as a result of reduced extortion and losses of income through harassment.

Reduced physical risk -- as a result of improved security services.

Reduced social risk -- as a result of improved security services.

Disbenefits:

Loss of some illegal incomes and assets.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

Sub-Group: Finance

PROJECT TYPE: Fiscal Reforms

I: Time Required for Impact to Occur:

Usually at least a year; often several years.

II: Project Elements:[1]

Changes in central government revenue sources and fuller utilization of existing sources.

Changes in state (or provincial) revenue sources and fuller utilization of existing sources.

Changes in local revenue sources and fuller utilization of existing sources -- for example, improvements in urban property taxation, the introduction of site value taxation, the introduction of metropolitan income and corporate taxes, and local sharing of the funds generated in national compulsory savings systems.

Training of agency staffs to make the necessary reforms possible.

Dissemination of public information on reforms.

III: Intermediate Purposes to be Achieved:

Increased public revenues for urban development and the operation of urban facilities and services.

Greater equity in the distribution of the burden of public revenues.

Greater efficiency and equity in the allocation and use of basic resources, including urban land.

Increased equity in opportunities for the consumption of essential goods and services.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all groups.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of essential goods and services -- as a result of redistributive pricing associated with fiscal reforms.

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[1] To an even greater extent than in some other cases, the elements listed here are illustrative, rather than exhaustive.

Capital Accumulation:

Greater economic productive potential and greater capacity for enjoying a fuller life -- as a result of improved consumption.

Increased household savings -- as a result of reduced tax burdens for the poor.

Increased property ownership and tenancy rights -- as a result of increased savings, the impact of fiscal reforms on land being held out of use for speculative purposes and the impact of fiscal reforms on rent levels.

Increased ownership of commercial capital equipment -- as a result of fiscal changes affecting equipment prices.

Reduced Risk:

Reduced economic risk -- as a result of increased productivity and incomes and a wider distribution of ownership and tenancy rights.

Reduced physical risk -- as a result of the impact of fiscal reforms on land use patterns.

Reduced social risk -- as a result of improved consumption and a wider distribution of ownership and tenancy rights.

Disbenefits:

Increased tax liability -- but because of the benefits yielded, this may not be a net disbenefit.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

Sub-Group: Finance

PROJECT TYPE: Public Land Leases

I: Time Required for Impact to Occur:

Sometimes as little as a few months; often a year or more -- dependent on the nature of present land ownership and political and administrative processes.

II: Project Elements:

Establishment of agency responsibility for leasing.

Land acquisition.

Leasing -- establishment of legal agreements, establishment and periodic revision of leasing fees, maintenance of records, collection of fees, monitoring of use and conformity with lease terms.

Exercise of sanctions for violations of lease terms.

Staff training.

Dissemination of public information on leasing policies and procedures.

III: Intermediate Purposes to be Achieved:

Efficient and equitable allocation of urban land use opportunities.

The generation of public revenues for urban development and operating expenditures.

IV: Specific Poverty Groups Likely to be Benefited:

Potentially all groups except those already owning land and very low income groups unable to pay rents and beyond the reach of feasible subsidies.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Improved consumption of essential goods and services for some groups as a result of the increased incomes they achieve through their productive use of leased land.

Capital Accumulation:

Greater economic productive potential and greater capacity for enjoying a fuller life for those whose current consumption is improved.

Increased household savings for those whose incomes are increased.

More widespread and equitable distribution of tenancy rights.

Increased access to credit for those whose incomes and credit worthiness are increased.

Increased control of commercially productive capital equipment for those low-income entrepreneurs whose incomes and credit worthiness are increased.

Reduced Risk:

Reduced economic risk -- as a result of increased incomes and/or increased credit worthiness.

Reduced physical risk -- as a result of improved land use patterns.

Reduced social risk -- as a result of higher incomes, improved consumption and more widespread tenancy rights.

Disbenefits:

Increased costs of occupying land for those households who were squatting and/or not paying rent previously -- but as in other cases where benefits are yielded, this may not be a net disbenefit.

VI: Case References:

PROJECT CHARACTERISTICS

GROUP: Projects in Urban Management and Finance

Sub-Group: Finance

PROJECT TYPE: Upgrading and Expansion of Credit Mechanisms

I: Time Required for Impact to Occur:

Ranging from almost immediate to several years, depending on the nature of the institutional changes required.

II: Project Elements:

Changes in terms of existing lines of credit.

Establishment of special-purpose lending entities oriented to the poor, or special "windows" in existing credit entities.

Provision of facilities and services to increase the credit worthiness of the poor.

Training of management and staff.

Dissemination of public information on credit availability.

International borrowing.

III: Intermediate Purposes to be Achieved:

Increased access to credit for the urban poor and, thereby, access to land ownership and the ownership of commercial capital equipment.

Increased output of essential goods and services for the urban poor.

More efficient allocation of resources, including urban land.

Generation of public revenues, in the form of interest and taxes on lending entities, for urban development and operating expenditures.

IV: Specific Poverty Groups Likely to be Benefited:

Those who are considered credit worthy. Unlikely to include members of very low-income groups, those who are in transit or those who are externally oriented.

V: Potential Impacts on Poverty Groups:

Benefits:

Current Consumption:

Increased consumption of essential goods and services -- as a result of increased output of those goods and services and increased incomes for those who receive credit.

Capital Accumulation:

Greater economic productive potential and greater capacity for enjoying a fuller life -- as a result of improved consumption.

Increased households savings -- as a result of incentives to save and as a result of higher incomes achieved through improved consumption.

Increased access to credit for the poor.

Increased residential property ownership and tenancy -- as a result of increased access to credit.

Increased control of commercial capital equipment by low-income entrepreneurs -- as a result of increased access to credit.

Reduced Risk:

Reduced economic risk -- as a result of higher and more stable incomes and increased access to credit.

Reduced physical risk -- as a result of improved land use guided through the use of credit.

Reduced social risk -- as a result of higher incomes and a wider distribution of ownership and property rights.

Disbenefits:

Increased costs for those receiving credit -- but the benefits yielded should mean that these should not be considered net disbenefits.

Increased relative disadvantage of those not able to receive credit because of their being considered uncredit-worthy or because of limitations on total funds -- unless this relative disadvantage can be offset by other measures to benefit these groups.

VI: Case References:

INTRODUCTION

It is intended that case study materials be built up gradually in Part V by individual users of the Guidelines to suit their own needs. The specific data and other information thus built up can be used jointly with the generic project material of Part IV and the background materials of Parts I and II.

The types of information assembled in Part V will depend upon the interests of the individual user. It is suggested that they be selected to complement, but not provide a substitute for, the more complex and detailed kinds of information called for in the various manuals and memoranda of individual agencies for project identification, project preparation, project review and appraisal and project evaluation. 1/ This will be consistent with the purposes and content of the other sections of the present Guidelines.

To indicate the types of information that could be assembled in Part V an illustrative set of hypothetical case material is included as a reference to assist in the assembly of actual case materials by individual users. The format used is intentionally a flexible one -- to allow for the variety of types of information that will be relevant and available in individual countries and cases and to facilitate the use of the materials of Part V as inputs for the variety of formats used by individual agencies in the assemblages of information they require for project identification, project preparation, review and appraisal and project evaluation.

1/ See, for example: Agency for International Development. The Logical Framework -- Modifications Based on Experience (second printing). Washington, D.C.: Agency for International Development. November 1973; -----. Handbook 3, Project Assistance. Washington, D.C.: A.I.D., September 1, 1975; and -----. Evaluation Handbook. (second edition, third printing). Washington, D.C.: A.I.D. May 1974.

ILLUSTRATIVE CASE STUDY

GROUP: Housing

SUB GROUP: New low-income settlement

REFERENCE:

Project Name: 'X' District Basic Settlement Project

Year of Project Identification: 1971

Year of Identification of Project Implementation: 1971

Year of Completion of Project Implementation: 1975 (but not fully functional -- see project schedule)

Region: I

Country: A

Urban Area: B

I: Country Data: 1976[1/]

Area: 806,000 sq. km.

Population:	Total	Urban	Non-urban
Size	70 million	17 million	53 million
Annual compound growth 1971-1976	3.3%	5%	2.8%
Crude birth rate (per 1,000)	47	•	•
Crude death rate (per 1,000)	14	•	•
Infant mortality (per 1,000 live births)	113	•	•
Access to piped water (% of population):	11%	30%	5%
Nutrition:			
Calorie intake as % of requirement	80%	75%	85%
Per capita daily protein intake	40 gm.	45 gm.	38.4 gm.
Health:			
Population per physician	4,600	2,000	7,900
Population per hospital bed	2,000	800	3,850
Education:			
Adult literacy rate (%)	40%	55%	35%
Primary school enrollment (%)	50%	60%	47%
Access to electricity:			
Percent of population	13%	45%	3%

1/ •Indicates not available

Income distribution:

Percentage of households at monthly income levels:

Less than $30	75%	50%	83%
$30-49	18%	35%	12%
$50-99	5%	10%	4%
$100-199	1%	3%	0.7%
$200 and more	1%	2%	0.3%
Per capita GDP:	$72	$140	$50

Output, labor force and productivity (current factor costs):

	Value added		Labor force		Value added per worker	
	Million$	%	Million	%	$	% of average
Agriculture	1,814	36	11.2	56	162	64
Industry	1,109	22	3.6	18	308	122
Services	2,117	42	4.4	22	481	191
Unallocated	--	-	0.8	4	-	-
Total/Average	5,040	100	20	100	252	100

Government finance (central and state consolidated):

	Million $	% of GDP
Current receipts	756	15
Current expenditure	857	17
Current surplus (deficit)	(-101)	(-2)
Capital expenditure	428	8.5
Extend assistance	252	5.0

Balance of payments:

Exports of goods, NFS	$650 million
Imports of goods, NFS	1,000 million
Revenue gap	$350 million

Extend debt:

Public debt, incl. guaranteed	$3,800 million
Debt service ratio 2/	17%

Major Exports:	%
Raw cotton	17
Cotton yarn	18
Cotton cloth	14
Rice	11
Leather	5
All other	35
TOTAL	100

Major Imports:	%
Consumer goods	
food	24
non-food	5
Raw material for consumer goods	
petroleum	6
animal & veg. oil	4
fertilizer	5
other	16

2/ Ratio of debt service to exports of goods and non-factor services plus workers remittances.

PADCO

Major Exports:	%

Major Imports:	%
Raw material for capital goods	
wood	1
coal & coke	0.4
billets of ingots	1.6
other	7
Capital goods	
Machinery	14.3
Non-machinery & transport	15.7
TOTAL	100

II: Data for the Urban Area in Which Project Is Located: 1976

Function: Port and industrial center

Population:

Size:	4.5 million
Compound annual growth rate 1971-1976:	5.5%
Natural increase	2.8%
In-migration	2.7%
Average household size	5.2 persons

Access to piped water (% of population): 35%

Nutrition:

Calorie intake as % of requirement	85%
Per capita daily protein intake	50 gm.

Health:

Population per physician	1,000
Population per hospital bed	650

Education:

Adult literacy rate (%)	62%
Primary school enrollment (% of age group)	70%

Access to electricity (% of population): 50%

Per capita urban product: $172

Income distribution:

Percentage of households at monthly income levels:

	%
Less than $30	45
30-49	35
50-99	14
100-199	4
200 and more	2
TOTAL	100

Output, labor force and productivity (non-agricultural) (current factor costs):

	Value added		Labor force		Value added per worker	
	Million $	%	Thousands	%	$	% of average
Manufacturing & mining:						
Large-scale	237	33	202	16.2	1,173	203
Small-scale	34	6	150	12	226	39
Construction	85	12	72	5.7	1,180	205
Public utilities	16	2	16	1.3	1,000	173
Trade	120	17	214	17.1	560	97
Banking, insurance & real estate	45	6	20	1.6	2,250	390
Transportation	89	12	126	10.1	706	122
Services (formal & informal)	98	14	450	36.0	217	38
	722	100	1,250	100	577	100

Local government finances:

Current receipts	$19.3 million
Current expenditures	19.8 million
Current surplus (deficit)	0.5 million
Capital expenditure	6.2 million
Capital expenditure per capita	2.50 million
Intergovernmental loans & grants	3.0 million

III. Project Information:

1. Program Goals:

a. Current consumption goals:

- Improvements in shelter quality, increases in utility consumption and improvements in environmental conditions.
- Increased levels of consumption for other essential goods and services -- such as food, clothing, education and health -- as a result of higher incomes and credit access achieved with improvements in housing and productivity and as a result of higher productivity and lower costs in industries benefiting from improvements in housing and supportive urban services.
- Increases in environmental satisfaction as a result of the upgrading achieved through improved levels of housing and supportive services.

b. Capital accumulation:

- Increased personal capacity for future employment and the enjoyment of future consumption -- as a result of improved health and motivation associated with improvements in housing.
- Increased property ownership and tenancy for low-income households -- and increased property values resulting from shelter and environmental upgrading and/or increased incomes and demand for property in low-income settlement areas.
- Greater access to formal credit for low-income households.

c. Reduced risk:

- Reduced economic risk -- as a result of higher earning capacities associated with improved health, credit access and productivity.
- Reduced physical risk -- as a result of reduced exposure to health hazards and reduced exposure to the dangers of flooding, etc. and formal clarification of tenure rights.
- Reduced social risk -- as a result of the stabilization of physically-upgraded areas and increased long-term tenure possibilities.

2. Intermediate Project Purposes:

- Provision of employment for the labor force in the project population -- partly through supporting the creation of employment opportunities in the project area and partly through high accessibility to nearby job opportunities.
- As part of the support for the generation of employment, provision of serviced plots for manufacturing and trade and service enterprises, together with technical assistance and credit for small-scale enterpreneurs who would otherwise have difficulty in gaining access to adequate credit.
- Provision of space and facilities for proper food distribution and enforcement of public health regulations to encourage sound food distribution practices.
- Provision of opportunities for acquiring titles to serviced residential plots to at least two-thirds of project households; as part of this, simplification of procedures for obtaining titles.
- Delivery of adequate levels of water supply and sanitation to the project population.
- Provision of adequate drainage for the project area.
- Provision of opportunities for use of electricity by all individual households.
- Provision of good public transportation access to other parts of the urban area and, in particular, to off-site job opportunities.
- Provision of adequate preventive medicine and simple curative medical services for the project population.
- Provision of literacy programs and adult education services to the project population.
- Provision of vocational training linked to the actual demand for labor -- in collaboration with stable medium and large-scale enterprises.
- Provision of primary education services for 100 percent of the primary school age population in the project.
- Provision of household counselling services to encourage sound nutrition, family planning and sound household budgeting.
- Provision of community development services to encourage community organization for cooperative development and maintenance in the project, to encourage the development of a sense of civic responsibility in the project population and to facilitate sustained participation in decision-making affecting the well-being of the project population.

- Provision of access to credit for households who would otherwise have difficulty in gaining access to adequate credit.
- Legal provision for plot owners to rent space to tenants on the plots they occupy -- to increase opportunities for secure tenancy and to increase the incomes and credit-worthiness of low-income land owners.
- Provision of technical assistance in housebuilding and maintenance to project households.
- Provision of adequate recreation space designed to reflect actual behavior patterns of the project population.
- Provision of adequate serviced plots for religious and other essential social activities.
- Provision of institutional arrangements for the sustained management of public facilities and services in the project area and, as part of this, provision for coordination among the various public agencies concerned at each level of government

3. Basic Project Elements:

Planned		Actual	Comments/Explanation
Population:	37,000	26,400 in 1976; potential is 33,000	Part of original site transferred to nearby squatter community for institutional uses as result of political pressure.
			Revised layout neglected some topographic features and resulted in some areas being unbuildable.
Land Use (Acres):			See comments on population, above.
Residential	114	93	
Commercial	5	5	
Industrial	7	-	Subsequent desire for higher (in some cases unnecessarily high) standards for streets and park space.
Parks	2	10	
Institutional	13	17	
Streets & Plazas	54	76	Industrial space lost as result of insistance on higher standards for other uses.
Other	6	-	
TOTAL	201	201	
			Changes affected expected cash flow detrimentally.

Planned			Actual	Comments/Explanation
Residential Plot Sizes:				
Type	Unit size (sq. yds.)	% of total res. area	% of total res. area	
Open	80	36.1	3	Subsequent desire for higher standards led to substantial upgrading of mix of plot sizes and infrastructure standards.
Open	120	5.8	9	
Open	240	9.1	10	
Open	400	4.1	6	
Flats	20	1.0	6	
Utility	80	22.4	44	
Utility	120	21.5	22	
		100.0	100	
Water Supply:				
Percent of households with individual connections		80%	100%	Subsequent desire for higher standards. Cost of intial connection absorbed in basic housing loans.
Sewerage:				
Percent of household's with individual water borne connections		60%	100%	Subsequent desire for higher standards. Cost of initial connection absorbed in basic housing loan.
Treatment - conventional			Stabilization ponding	Made substantial reductions in capital operating costs for sewerage possible. Used results of experimentation by local university.
Drainage:		60% of area	100% of area	Subsequent desire for higher standards.
Electricity:				
Percent of households with individual connections		100%	100%	Cost of initial connection absorbed in basic housing loan.
Food Markets:				
Provision of main market and small local market space			Serviced and covered space provided	Locations of markets well-related to pedestrian and bus movement; profitability facilitates public management.
Enforcement of public health regulations			Rents being collected	
			Enforcement of regulations achieved	

Planned	Actual	Comments/Explanation
Transportation:		
Explicit provision for substantial pedestrian movement.	Arterial road and local street widths and construction standards increased substantially because of local engineering traditions & contracting procedures.	Increases in standards unnecessary from a transport point of view and resulted in loss of residential land, loss of project revenue potential and waste of construction materials.
Provision for traditional modes in layout of streets and lanes.		
Provision of bus services.		
Provision for commercial manufacturing, social & other non-transport use of some street and lane space.		
Health Services:		
Emphasis on preventive medicine & simple curative services.	Same	
One health center with a maternity wing.	Same Utilized bilateral funding assistance.	
Education Services:		
Literacy program	Same	Utilized national T.V. system very efficiently.
Vocational training program	Not yet established	Difficult to link government services with private sector activities.
6 primary schools operating on two shifts.	4 schools; utilized bilateral funding assistance.	Visibility and promise of project attracted bilateral assistance.
4 secondary schools operating on two shifts.	4 schools; utilized bilateral funding assistance.	

Planned	Actual	Comments/Explanation
Community Development Services:		
One community center with integrated counseling, employment service, credit service & community organization programs.	Facility built but used for only project management & community organization programs as yet. Utilized bilateral funding assistance.	Use of local branches of commercial banks for credit judged superior. Difficult to staff employment service program. Visibility & promise of project attracted bilateral assistance.
Credit & Technical Assistance for Low-Income Entrepreneurs:	Not yet established	Dependent on state agency; limited resources at state level have led to delays.
Credit for Households:	Partially established; loan terms more severe than planned.	Still dependent on commercial banks. Institutional difficulties have resulted in national housing bank not yet being involved. Substantial percentage of borrowing through trade unions & cooperatives which are accessible to only some of the project's households. Consequent lowering of construction standards for individually-financed units although plot service standards remain high; defaults in payments for serviced plots now 20%.
Legal Provision for Households Owning Plots They Occupy to Rent Part of Space to Other Households:	20% of households renting space to others; 50% rental expected within 2 more years.	Expected desirability of this provision has been substantiated.
Provision of Technical Assistance in House-Building:	Not yet developed; some innovative prototypes built but households prefer to use own initiative. International assistance being sought.	Local institutional capacity limited and still too "research"-oriented.

Planned	Actual	Comments/Explanation
Recreation Space:		
See Land Use	See Land Use	See Land Use
Serviced Plots for Religious & Other Essential Social Activities:		
See Land Use	See Land Use	See Land Use
Institutional Program for Sustained Management of Public Facilities and Services:	Not yet fully established.	Local government capacity limited. Not adequate involvement of local government in intial planning, financing & management preparations. Capacities of relevant state agencies limited & budget demands from rural areas & other urban centers in the state make project support very difficult. Burden of management falling on capital development agency & project residents.

4. Project Schedule

Expected	Actual	Comments/Explanation
Year 1:		
Trunk infrastructure complete	Completed	
15% of plots fully serviced	Completed	
10% of residential plots occupied	Achieved	
10% of commercial space occupied	Achieved	
10% of industrial space occupied	None	Industrial site deleted because of higher residential, infrastructure and open space standards.
One local food market built & occupied	Completed	
Health center built & functioning	Completed	
One primary school built & functioning	Completed	
Credit system for households established	Not yet established	Institutional support at national level not achieved.
Year 2:		
40% of plots fully serviced	30% serviced	Inflation, increasing costs & failure to mobilize full funding.
25% of residential plots occupied	20% occupied	Costs higher than expected & credit not yet available.
25% of commercial space occupied	20% occupied	Reduced demand for goods & services as a result of slower residential growth.
20% of industrial space occupied	Deleted	
Part of main market built & functioning	Achieved	
One secondary school built & functioning	Achieved	
Bus service initiated	Achieved	

Expected	Actual	Comments/Explanation
Community center established	Achieved	
Credit & technical assistance for low-income entrepreneurs established	Not yet established	Limited institutional capacity at the state level.
Technical assistance in house-building established	Only prototpyes built	Limited institutional capacity & excessive "research" orientation.
One park space established & used	Achieved	
Serviced plots for religious & other essential social services beginning to be utilized	Achieved	
Local government assumes responsibility for continued management of facilities & services	Not achieved	Limited local government resources & insufficient involvement of local government in initial decisions on planning, finance & management.
Year 3:		
100% of plots fully serviced	80%	Continuing high costs & increasing difficulty in obtaining domestic funding.
60% of residential plots occupied	50%	Costs higher than anticipated. Credit system not fully established.
60% of commercial space occupied	50%	Growth in consumer demand slower than expected.
40% of industrial space occupied	Deleted	
Two local food market built & functioning	Achieved	
Continued development of main market	Achieved	
Two primary schools built & functioning	Achieved	
Two secondary schools built & functioning	Achieved	
Continuing development of park spaces	Achieved	

Expected	Actual	Comments/Explanation
Year 4:		
80% residential plots occupied	60%	Same comment as for Year 3.
15% plots have tenants as well as owners occupying them	Achieved	
80% commercial space occupied	60%	Same comment as for Year 3.
60% industrial space occupied	Deleted	
Construction of main market complete	Achieved	Not fully occupied because level of consumer demand lower than expected.
Three primary schools built & functioning	Three built but only two fully staffed.	Demand not fully developed; staffing shortages.
Three secondary schools built & functioning	Three built but only two fully staffed.	Same comment as for primary schools.
Year 5:		
100% residential plots occupied	80%	Same comment as for Year 3. This leading to increasingly severe cash flow problems.
30% plots have tenants as well as owners occupying them	Achieved	
100% of commercial plots occupied	80%	Same comment as for Year 3.
100% industrial space occupied	Deleted	
Main market fully functional	Construction complete but only 80% occupancy.	Growth in consumer demand slower than expected.
Four primary schools functioning	Four built; three functioning.	Same comment as for Year 4.
Four secondary schools functioning	Four built; three functioning.	Same comment as for Year 4.

5. Specific Poverty Groups Benefited

Expected		Actual	Comments/Explanation
Percent of Households at Each Monthly Income Level:			Substantial upward shift in income distribution of project population resulted from increased costs caused by price increases & substantial upward revision of project standards.
Income	% Households	Percentage of Households	
$0-29	22.7	0.0	This means that the lower-income target groups originally intended to benefit will not do so, even though the percentage of the total urban population they constitute has not changed markedly.
30-49	52.5	2.9	
50-99	20.7	70.8	
100-199	3.1	22.0	
200 & more	1.0	4.3	
	100.0	100.0	Standards in projects with similar purposes & goals will therefore have to be reduced markedly if those projects are to benefit the range of target groups intended originally.

6. Impacts on Poverty Groups

Expected	Actual	Comments/Explanation
a. Benefits		General Comment: Income levels benefited were generally higher than those targeted because project standards & costs were generally higher than originally planned.
Current consumption:		
Consumption of an average of at least 25 gallons of safe potable water per person per day by the target population groups.	Consumption of an average of 35 gallons per capita per day.	See general comment.
	Improved consumption was achieved primarily by higher income groups than those originally targeted.	Unnecessarily high consumption & wastage. Meters were to be installed but were not. Water rate was levied on property value instead.

Expected	Actual	Comments/Explanation
Consumption of food with an average protein content of 60 gm. per person per day & with 100% of the calorie & vitamin & mineral requirements for sound nutrition.	Achieved 80% of project households but income levels benefited were higher than those targeted.	See general comment. Achievement of less than 100% impact largely because of personal consumption preferences favoring consumer durables & semi-durables & because quality of food supply did not improve significantly during the period.
Use of sanitary water-borne sewerage by 60% of the target households and pit latrines & communal cesspools by the rest.	Use of sanitary water-borne sewerage achieved by all project households but income groups were higher than those targeted.	See general comment. Unnecessarily high level of achievement and consequent waste of resources.
Use of electricity for lighting by all households.	Achieved, but income group higher than those targeted.	See general comment.
Enjoyment of markedly improved shelter in the targeted population.	Achieved, but income groups higher than those targeted.	See general comment.
Increased & improved social interaction in the targeted population (increased in terms of social transactions of various kinds & reductions in conflict).	Achieved, but income groups higher than those targeted.	See general comment.
Increased enjoyment of the immediate physical environment by members of the targeted population (measured by observed use of physical facilities & results of interviews).	Partly achieved, but by income groups higher than those targeted.	See general comment. Achievement was less than originally expected because physical layout was changed from innovative layout to more conventional layout compatible with previous site engineering practices.

Expected	Actual	Comments/Explanation
Increased recreational activity in members of targeted population group.	Achieved, but by income groups higher than those targeted.	See general comment. Excessively high space standards for recreation resulted in loss of residential space & less than optimal use of recreation space itself.
Increased participation of members of targeted population group in decisions affecting their welfare.	Achieved, but by income groups higher than those targeted.	See general comment. Lower income groups were additionally disadvantaged because of aggressive organization & initiative of higher income groups.
Capital Accumulation:		
Improved health of targeted population (measured by incidence of specified illnesses & diseases & periods of inactivity caused by those illnesses & diseases).	Achieved, but by generally higher income groups than those targeted.	See general comment.
Increases in skills, knowledge & sensibilities of targeted population.	Achieved, but by generally higher income groups than those targeted.	See general comment.
Increased household savings in targeted population.	Achieved, but by generally higher income groups than those targeted.	See general comment.
Increased use of sound credit for essential purposes by targeted households.	Achieved, but by generally higher income groups than those targeted.	See general comment.
Increased residential property ownership & secure tenancy rights in targeted households.	Achieved, but by generally higher income groups than those targeted.	See general comment.

Expected	Actual	Comments/Explanation
Increased ownership of commercial capital equipment by low-income entrepreneurs in the targeted population.	Achieved, but by generally higher income groups than those targeted.	See general comment.
Increases in the value of land owned by members of the targeted population in the project area.	Achieved, but by generally higher income groups than those targeted.	See general comment.
Reduced Risk:		
Reduced economic risk for households in the targeted population - measured by income & essential expenditure flows over a "typical year".	Risks reduced, but in general for higher income groups than those originally targeted.	See general comment.
Reduced physical risk for households in the targeted population -- measured by incidence & costs of accidents & property damage resulting from environmental hazards.	Risks reduced, but in general for higher income groups than those originally targeted.	See general comment.
Reduced social risk -- measured by incidence & types of social conflict & results of interview.	Risks reduced, but in general for higher income groups than those originally targeted.	See general comment.
b. Disbenefits		
Increased expenditures on essential facilities & services by households in the targeted population.	Increased expenditures & tax payments incurred but offset by project benefits; increases were primarily for higher income groups than those originally targeted.	This helped the smaller-than-expected members of low-income households who were able to participate in the project because pressures for payment were reduced for them & some defaults could be tolerated.

Expected	Actual	Comments/Explanation
	Disbenefits not Foreseen: Increased political pressure from near-by squatters at income levels similar to those originally targeted--because they were denied participation & because highly visible public project clearly was benefiting higher income groups.	
	Visibility of relatively high standards in first project is making it politically harder to achieve standards appropriate for original target groups in subsequent projects.	
	Weakened cash flow as a result of higher standards and increased costs together with failure to establish mechanisms for sound financing are making it difficult to get high-level political support for continuation of low-income settlement program with similar projects.	
	Downgrading of innovations in physical design, coupled with inability to engage local government fully in sustained management, are resulting in less-than-expected maintenance of public & semi-public sapces and facilities, which may bring whole concept into disrepute.	

Expected	Actual	Comments/Explanation
	Inability to engage local government fully in sustained management is resulting in deterioration which is affecting the lowest-income groups in the project most adversely.	

7. Other Impacts[3]

Expected	Actual	Comments/Explanations
Benefits		
Contribution to increased Gross Local Product.	Achieved	
Increased income for middle and upper-income groups associated with the Construction Industry.	Achieved	Higher impact than expected because of higher standards and costs.
Increased tax revenues -- as a result of increases in land values and incomes.	Partly achieved	Not fully achieved because necessary upgrading of assessment and collection has not yet occurred.
Increased general social and economic stability -- as a result of improved health, improved consumption and increased control of capital assets by the target groups.	Not changed significantly.	This single project is too limited to have marked impact on general stability; it is also benefiting higher income groups than those originally expected.
Strengthened capital markets through the increased mobilization of capital for shelter.	Not changed significantly.	This single project is too limited to have a significant impact.
Higher savings rates in the economy through increased levels of savings and increased investment in housing.	Achieved to a very limited extent -- for the households and enterprises in or otherwise benefiting from the project.	This single project is too limited to have a significant impact.
Reduced health hazards for the larger urban population as a result of the improved health of the target groups.	Cannot yet be measured.	This single project is too limited to have a significant impact.

[3] Impacts on groups other than the urban poor.

Expected	Actual	Comments/Explanations
General environmental upgrading.	Not changed markedly but some autonomous upgrading has occurred in neighboring areas as part of a "bandwagon effect".	This single project is too limited to have a significant impact.
Disbenefits		
Reduced housing supply for middle and upper-income groups because of capacity constraints in the housing industry and an increased emphasis on low-income settlement.	Not changed significantly.	This single project is too limited to have a marked impact.
Reduced construction in non-housing sectors because of capacity constraints in the construction industry.	Not changed significantly.	This single project is too limited to have a marked impact.
Reduced short-term economic growth because of lower rates of return on investment in housing compared to investment in other sectors.	Not changed significantly.	This single project is too limited to have a marked impact.
	Disbenefits Not Anticipated	
	Increased burden on local finances because of cash flow problems associated with higher standards and costs.	

Expected	Actual	Comments/Explanation
	Decreased capacity of planning and implementing agency's ability to undertake other types of work -- because implications of project were not fully realized and staff was not augmented to service it properly.	

8. Policy Implications

Expected	Actual	Comments/Explanation
Policy support at all levels for giving high priority to lower-income groups & for adoption of standards which are relatively low enough to achieve substantial benefits for those lower-income groups within the severe constraints improved by current public revenues.	This support not yet established.	Result has been that standards adopted have been too high to reach a large proportion of the original target groups who are most in need of support.
Need for policy endorsement at each level of government for strategy of supporting private sector initiative & self-help capacities in all aspects of project implementation.	No active endorsement - in particular, no endorsement resulting in funding of technical assistance & mobilization of credit to reinforce self-help capacities.	Lack of active endorsement has resulted in underutilization of self-help potential, but there has been no active interference with self-help activity.
Policy support at all levels for keeping the subsidy component of such projects as low as possible.	Not established.	Has resulted in excessively high standards & costs which call for subsidies if lower-income groups are to be reached; but public resources are not sufficient for subsidies on an adequate scale.
Policy support at all levels for using technologies that utilize local materials & skills as fully as possible.	No active support; but not active opposition either.	Result has been unnecessary use of some imported materials and relatively high-cost materials.

9. Complementary Actions

Expected	Actual	Comments/Explanation
Increases in employment opportunities & productivity generally to help to raise the incomes of the poor so that they can afford improved shelter.	Occurring to a limited extent.	Limited scale of general improvement has reinforced the tendency of the project to benefit higher-income groups than those originally targeted.
Land development programs to limit the effects of land speculation & keep land costs down for low-income groups.	The project itself constitutes part of such a program but no such overall program has yet been established in the urban area.	Failure to establish an areawide program of this kind is making it difficult to acquire sites suitable for similar projects. A number of appropriate sites are being preempted for private speculation.
Provision of secure land tenure or some reasonable guarantee of tenure as an incentive for investment.	Not yet approved.	Difficulties in providing clear titles to land have been among the causes of slower-than-expected occupancy and difficulties in engaging support of private lenders.
Development of off-site infrastructure to serve such projects directly & to encourage the development of efficient land use patterns which help to make land for such projects readily available.	Off-site infrastructure for the project has been developed but no areawide infrastructure program has yet been adopted to support similar projects.	See comment on land development programs, above.
Projects to support the development and improved use of local materials throughout the construction industry.	Not yet established.	This has been one of the causes of the continuing use of conventional technologies and unnecessarily high standards.

IV: General Comments

A. Overall Evaluation

In spite of its shortcomings the project is a considerable success relative to previous efforts in low-income, or relatively low-income, settlement. The decisions made to upgrade standards were probably needed to get the political support necessary to take the risks associated with project implementation.

B. Preconditions for the Sustained Success of Projects of this Type

1) The existence of strong local project leadership at a senior administrative level -- which was present in this case and made it possible to undertake implementation in spite of the absence of some other desirable preconditions.

2) Strong policy support at all levels of government for an emphasis on projects for the urban poor. The absence of such policy support has not made it impossible to undertake this first project but will make it almost impossible to expand into a continuing program for low-income settlement if policies do not change.

3) Land development policies and regulations and area-wide infrastructure programs designed to encourage efficient land use, curb speculation and make sites available for projects of this type.

4) Provision for secure title and tenancy rights.

5) Mobilization of credit on a large scale.

6) Early and full engagement of the local and other government entities needed for effective planning, initial implementation and sustained project management.

   As part of this, policy support for standards realistically low enough to make it possible for such projects to be largely internally-financed.

7) Willingness and ability to mobilize and train the substantial staff groups needed for proper project planning, implementation and sustained management -- and a willingness to give these staff groups high enough status to attract skilled staff and facilitate their collaboration with the senior staff members of other agencies.

8) The incorporation or simultaneous undertaking of programs designed to increase employment opportunities and incomes for the urban poor to enable them to be largely responsible for achieving project viability.

INTRODUCTION

The present Guidelines are intended for the use of a variety of international agencies and developing-area agency staffs. Each of these groups will have its own specific requirements for project identification, project preparation, project review and appraisal and project evaluation.

Because U.S. AID has sponsored the preparation of the Guidelines and because AID staff are expected to be prime users of the document, the diagram on the following page has been prepared to indicate specifically how the Guidelines can be used in relation to current AID procedures and documentation requirements.[1]

The principal documentation required in the AID procedures is as follows:

PID: Project Identification Document

PRP: Project Review Paper

PP: Project Paper

ER: Evaluation Report (Revised PAR)

The requirements for the first three of these documents are identified in Handbook 3, Project Assistance.[1] Recommendations for evaluation are contained in the Evaluation Handbook.[1]

The intended uses of the present Guidelines in the preparation of these documents and in the review, approval and evaluation processes with which they are associated are shown in Diagram A.1.

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[1]The U.S. AID sources from which those procedures and documentation requirements have been drawn are: An Integrated System for Planning, Budgeting, Accounting and Reporting (PBAR). 4 October 1974; Development of an Integrated System for Planning, Budgeting, Accounting and Reporting (PBAR): Progress Report by the PBAR Task Force. 15 July 1975; Handbook 3, Project Assistance. 1 September 1975; The Logical Framework: Modifications Based on Experience. (Second Printing) November 1973; and Evaluation Handbook (Second Edition, Third Printing). May 1974.

DIAGRAM A.1

Intended Uses of the Guidelines in Relation to U.S. AID Procedures

AID PROCESSES AND DOCUMENTATION		INTENDED USES OF THE GUIDELINES	
DOCUMENTS	PROCESSES	RELEVANT SECTIONS	USES
PID Description Total Cost Duration		PART I PART II PART III PART IV PART V APPENDIX	Analysis of causes of problems (Part I). Formulation of sector and project goals (Part I). Selection of target groups (Part I). Identification of possible projects, their basic elements, their intermediate purposes, their likely impacts on the urban poor, other likely impacts, policy implications, and complementary actions likely to be needed (Parts II,III,IV,V). Establishment of prelimary dimensions and feasible scheduling, based on comparable cases (Part V).
	Bureau/PPC Review Budget Submission	PART I PART II PART III PART IV PART V APPENDIX	Determination of whether goals and project purposes are appropriate (Parts I,II,IV). Determination of whether target groups are appropriate (Part I). Determination of whether relevant alternative projects have been considered (Parts II, IV and V). Determination of whether all relevant project elements have been included (Parts II,III, IV and V). Determination of whether all likely impacts on the urban poor have been considered (Parts II,IV and V). Determination of whether other likely impacts, policy implications and complementary actions likely to be needed have been considered (Parts II,IV and V). Determination of whether preliminary dimensioning and scheduling is realistic -- based on case studies in Part V.
PRP Logical Framework Financial Plan Development Schedule		PART II PART III PART IV PART V APPENDIX	More complete specification of project content (Parts II,III,IV and V). More complete analysis of likely impacts on the urban poor (Parts II,IV and V). More complete analysis of other likely impacts, policy implications, and complementary actions likely to be needed (Parts II,IV and V). Fuller dimensioning and scheduling (Part V).
	Bureau/PPC Review Congressional Presentation	PART I PART II PART III PART IV PART V APPENDIX	Similar to uses in previous Bureau/PPC Review, but in more depth.
PP Logical Framework Implementation Plan Planned Performance Chart Financial Plan Evaluation Plan		PART II PART III PART IV PART V APPENDIX	Similar to uses in review of PRP but in more depth.
	Approval Obligation Implementation		Note: Guidelines of only limited use here because materials needed will be primarily detailed technical materials for expansion of the PRP.
ER		PART I PART II PART III PART IV PART V APPENDIX	Review of possible goals, intermediate purposes, possible target groups, likely impacts on urban poverty groups and other likely impacts to see if evaluation criteria have been specified appropriately (Parts I,II,III,IV and V). Identification of possible sources of discrepancies between actual and expected performance (Parts I and V). Identification of potential corrective action -- on basis of case studies in Part V.
	Feedback		