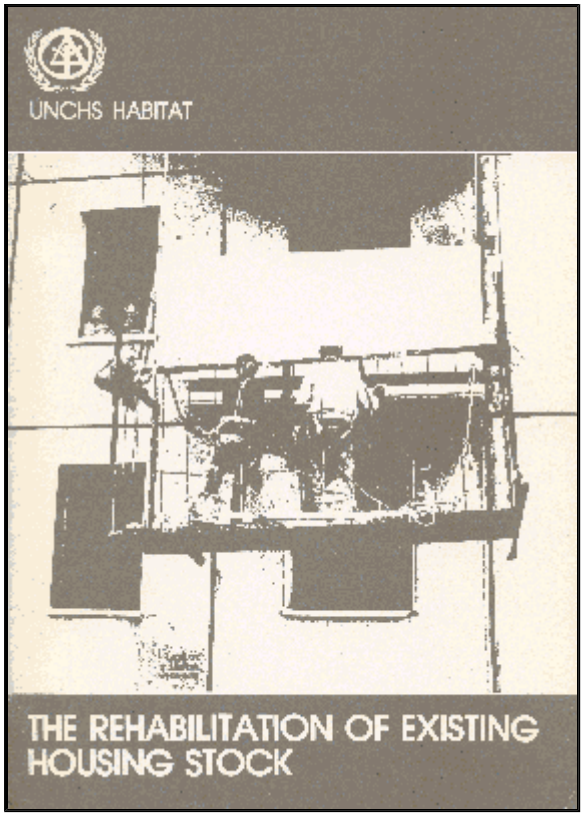


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New Delhi, 1 - 8 February 1982.

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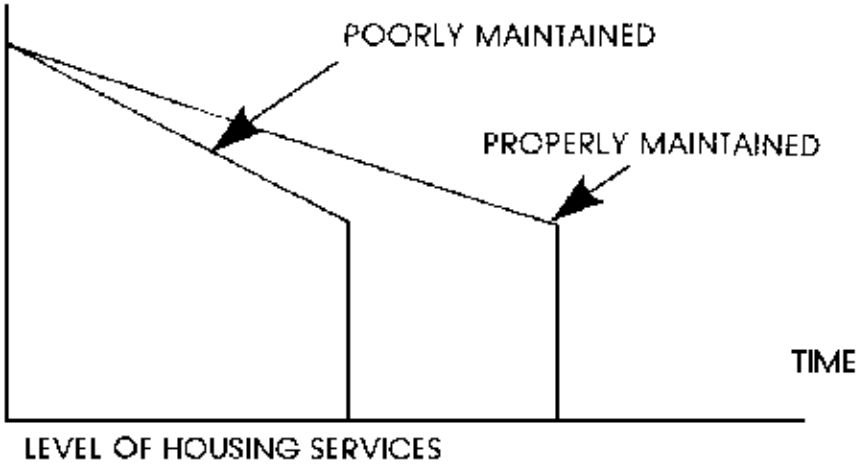

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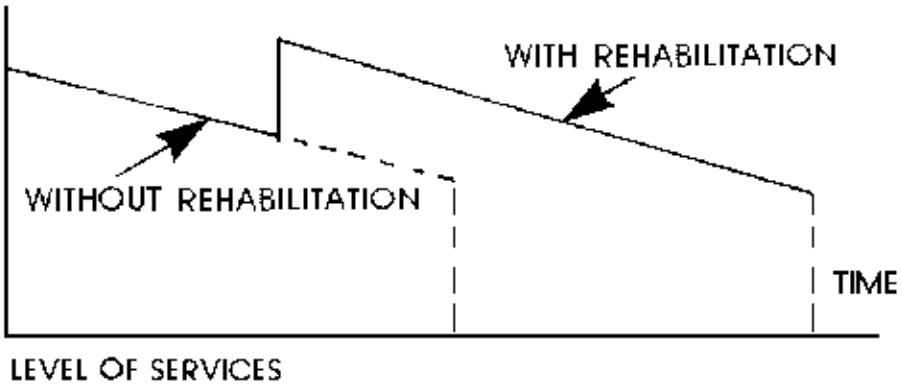

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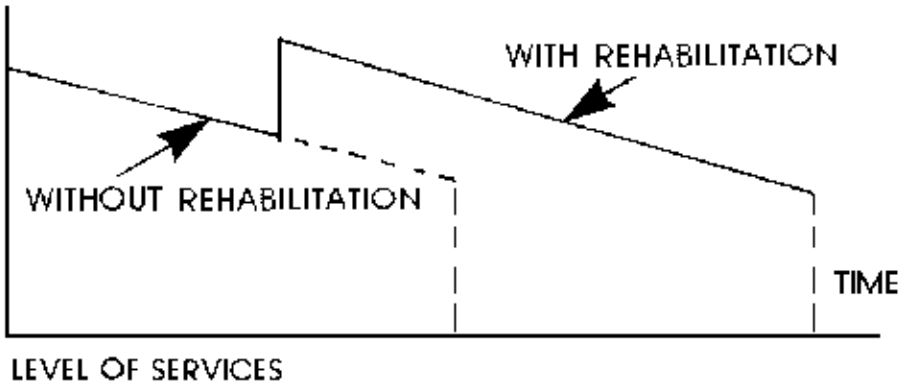

ABOUT

THE REHABILITATION OF EXISTING HOUSING STOCK.
REPORT OF THE EXPERT GROUP MEETING ON HUMAN SETTLEMENTS MANAGEMENT, WITH SPECIAL REFERENCE TO THE REHABILITATION OF EXISTING HOUSING STOCK.
NEW DELHI, 1 - 8 FEBRUARY 1982

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## Foreword

An acute shortage of housing and an increase in the number of unauthorized settlements lacking adequate sanitary provisions are a common reality in developing countries. The parallel phenomenon of deterioration of the existing housing stock, particularly in the inner city areas of developing countries, has reached alarming proportions. Inaction in this field can only accelerate the process of decay, resulting in the loss of valuable assets and making the housing shortage even more serious.

However, the complexity of the strategies needed for tackling the problem, together with the heavy financial commitments implied in programmes of urban rehabilitation have so far deterred Governments from initiating comprehensive schemes to preserve the existing housing stock.

The urgency of the problem is now universally felt. The United Nations Centre for Human Settlements (Habitat) considers the rehabilitation of existing housing stock to be one of the crucial areas in its programme of activities for human settlements development. As part of those activities, the Centre convened the Ad Hoc Expert Group Meeting on Human Settlements Management, with Special Reference to the Rehabilitation of Existing Housing Stock, at New Delhi in February 1982. I am pleased to introduce the report of that Expert Group Meeting, which contributes to the exchange of knowledge on techniques for the improvement of inner city areas, a task which the Centre is actively pursuing.

I hope that this report will help to focus the attention of the international community on the issue of the rapid deterioration of inner cities and increase awareness by policy makers, planners and implementors of the necessity urgently to enact remedial measures to preserve the existing housing stock.

Dr. A. Ramachandran
Executive Director
Nairobi, December 1982

## Chapter I. Introduction

The improvement of the living conditions of the urban and rural poor through the provision of adequate shelter, infrastructure and community services is one of the priority areas of activity of the United Nations Centre for Human Settlements (Habitat). The activities of the Centre address a large variety of problem areas, including settlement policies and strategies, slum and squatter upgrading, sites-and-services projects, the development of appropriate building technologies, building materials, institutions and management for human settlements development. In this context, problems related to housing arrangements in inner-city areas cannot be ignored, and under the Centre's work programme for the biennium 1982-1983, special attention will be given to the improvement of inner-city slums. The Centre's goal is to design strategies to strengthen the capacity of individual nations to solve their respective problems related to the rehabilitation and maintenance of the existing housing stock in inner-city areas. It is for that reason that the Centre organized, in collaboration with the National Buildings Organization, Ministry of Works and Housing, Government of India, the *Ad Hoc* Expert Group Meeting on Human Settlements Management with Special Reference to the Rehabilitation of Existing Housing Stock, held at New Delhi, India, from 1 to 8 February 1982. The report of the meeting should be considered as a first step towards the design and implementation of effective strategies aimed at tackling the serious decay of housing arrangements in inner-city areas.

Urban growth, especially in the developing world, is taking place at an alarming rate. The reasons are well known: rural/urban migration combined with the natural increase in population. It is expected that, in developing countries, urban growth rates will remain high for a considerable period of time. The consequences of this "over-urbanization" have become manifest in different respects - e.g., the development of slum and squatter settlements, insufficient infrastructure, high densities and lack of community facilities.

Confronted with the enormous task of addressing these problems, development efforts have been devoted largely to the creation of new assets, quite often to the detriment of the existing stock, be it in the field of housing, infrastructure or services. Lack of maintenance of the existing housing stock has resulted in serious decay, especially in the older central areas of large cities.

Governments are beginning to realize that preventive and remedial action is needed, not only in order to ensure the safety of residents but also to preserve an important part of the available housing stock. In addition, it is important to note that the cost of rehabilitating existing housing stock is considerably less than the cost of constructing new dwellings, and this is of special importance for developing countries with scarce financial resources.

The discussion during the Meeting focused in the first place on different types of formal housing arrangements in central areas of large cities: single-storeyed and double-storeyed buildings, some with multiple uses. The presence of squatter settlements in inner-city areas was not ignored, but it was felt that strategies for squatter upgrading should not be a main topic of discussion during this particular Meeting.

The presentation of experience in the rehabilitation of existing housing stock in different regions of the world clearly indicated the large variety of situations in which rehabilitation programmes have to be realized. The differences that exist, for instance in terms of available financial resources, sociocultural practices and institutional arrangements, have significant consequences for the design and implementation of rehabilitation programmes. General principles therefore have to be adjusted to suite often unique circumstances.

The rehabilitation of the housing stock in inner-city areas is not easy. Successful programmes have to tackle different and often complicated problems related to, for example, finance, legal frameworks, social problems, institutional arrangements and available technical resources. The structure of this report reflects the multi-sectoral approach needed to arrive at effective policies, plans, programmes and projects aiming at the rehabilitation of the existing housing stock in central areas of large cities. Chapter I covers the reasons why the existing housing stock has deteriorated and why rehabilitation can provide an important contribution to the improvement of housing arrangements for lower-income and middle-income groups. Chapter II provides an overview of the different mechanisms needed to initiate and guide rehabilitation

processes. Chapter III contains recommendations which apply to the local, national and international levels of activity and which are expected to serve as guidelines for further action.

During the opening ceremony on 1 February 1982, Mr. A. Ramachandran, Executive Director, United Nations Centre for Human Settlements (Habitat), delivered the opening address. Shri Bhishma Narain Singh, Minister for Works and Housing and Parlimentary Affairs, inaugurated the Meeting. Shri. M. K. Mukharji, Secretary, Ministry of Works and Housing, delivered the Chairman's address.

The Expert Group Meeting was chaired by Mr. G. C. Mathur, Director, National Buildings Organization, and Mr. J. H. de Goede, Chief, Shelter and Community Services, United Nations Centre for Human Settlements (Habitat). UNCHS (Habitat) was represented also by Mr. Roberto Ottolenghi, Human Settlements Officer. Mr. Iqbal Kalim was elected rapporteur of the Meeting.

## Chapter II. The case for the rehabilitation of the existing housing stock

In general, the quality of life in large urban centres of the world is based on the interaction between complex social, economic, political and physical factors. As a result, the decay of certain urban areas can be attributed to a variety of reasons, not only poor physical conditions. Generally speaking, inner-city areas contain the oldest structures and, above all, display the characteristics typical of lack of maintenance leading to the degeneration of the existing housing stock.

## Chapter II. The case for the rehabilitation of the existing housing stock

### A. Causes of decay

The Meeting identified a number of specific reasons leading to the progressive decay of existing housing stock, some of which are listed below:

- The absence or inadequacy of periodic maintenance, and inherent defects in the original construction. Poor maintenance and poor construction, for example the use of substandard materials and building techniques, accelerate the process of decay. Materials such as wood, steel, concrete, bricks, etc. have different life spans: concrete buildings have an average life span of 60-80 years. The process of decay is also dependent on the specific ways in which materials are used for structural purposes. Defects in plumbing systems cause seepage of water into walls, roofs and floors, accelerating the decomposition of materials. The presence of rodents often undermines the structure of foundations and walls;
- Climate and natural calamities. Natural calamities involving such phenomena as earthquakes, floods, heavy rains and high winds can act as catalysts for decaying processes. At the same time, humid and warm climatic conditions have a negative effect on the durability of physical structures;
- Types and changes of uses. Changes in the use of buildings, for example from residential to commercial or industrial uses; will, in most cases, accelerate the process of decay, especially if structural stresses for which the buildings have not been designed are generated. Multiple ownership often leads to a lack of co-operative feeling and an absence of shared identity. This frequently results in neglect of maintenance of the main structural components of the building. In the case of "absentee house owners", maintenance and repairs are often deliberately avoided. This situation is encouraged by the fact that the reconstruction of buildings often involves lucrative redevelopment. In addition, the tenants have no incentive to invest their own resources to prevent further decay. When tenants expect to be rehoused by public authorities, in cases where dwellings deteriorate beyond a certain state of repair, there is an incentive not to prevent or even to accelerate decay;
- Government intervention. In some cases, maintenance and rehabilitation programmes are prohibited by law in areas designated as slums. In many developing countries, no appropriate agencies exist to undertake the repair and maintenance of old buildings, and in addition there is frequently no source of financing for repairs and maintenance. The absence of legal requirements to meet specific standards for repairs to old buildings also contributes to decay. Rent control, as applied in many developed countries, definitely accelerates the pace of decay. With rents remaining constant and repair and maintenance costs rising continuously, it becomes impracticable for owners to repair or maintain buildings properly. This is a major cause of neglect of buildings and their eventual decay.

The deterioration of services such as water supply, sewage, garbage collection and sanitation, together with decay in the existing housing stock and a lack of community services, leads to unacceptable living conditions for residents living in inner-city neighbourhoods.

Two types of rehabilitation programmes can be identified: the rehabilitation of buildings; and the integrated rehabilitation of areas or neighbourhoods.

## Chapter II. The case for the rehabilitation of the existing housing stock

### B. Rehabilitation concepts

#### 1. Rehabilitation of buildings

Housing stock in inner-city areas, in the strict sense, consists of dwelling units grouped in individual buildings. The acceptability of the housing accommodation provided by those dwelling units is a function of their initial quality and of the rate of maintenance, as shown in figure 1. A properly maintained unit will provide a fairly high level of housing accommodation for a considerable period, depending upon the initial quality of the unit. The level of acceptable housing accommodation provided by a poorly maintained unit will decrease more rapidly.

The rehabilitation of an individual building generally has two different objectives. First, it can prevent dilapidation and/or prolong the life of the building, as shown in figure 2. By upgrading the building, it is possible to retard the process of decay and prolong the building's life span. Naturally, the number of years that can be added will vary according to the type of building, the type of rehabilitation undertaken and the ensuing rate of maintenance.

Secondly, the rehabilitation of individual buildings can aim primarily at improving the quality of the dwelling, as is shown in figure 3. Dwelling units can be generally improved with amenities such as running water, bath, toilet, etc. That type of rehabilitation is implemented on a large scale in developed countries as a result of market forces and/or government intervention. In less developed countries, the emphasis is more on providing a minimal level of housing accommodation due to a lack of public funds.

Although the rehabilitation of individual buildings is feasible and practiced in different countries, the housing stock in inner-city areas should not be considered as a collection of individual buildings. Individual buildings form part of streets, blocks and neighbourhoods inhabited by communities. It is for this reason that emphasis should be placed on a broader concept of rehabilitation aimed at upgrading entire areas. Dwelling units which become substandard over a period of time are often inhabited by families in need of better education, employment, health care, etc., and providing those families with-improved dwellings, without at the same time ensuring access to additional opportunities, would be futile and self-deceiving. Finally, certain inner-city areas are of historic or architectural importance and give the inhabitants of a city or country a sense of cultural or political identity. The preservation of such areas should not be considered as a misallocation of resources, which developing countries cannot afford, but rather as a means of mobilizing resources.

There are two points of view concerning the costs and benefits of rehabilitation. One is the narrow point of view which considers only the return on investment to the investor. The other involves a broader concept encompassing costs and benefits to society as a whole.

Both of the approaches are important. The rate of return on investment is the main - if not the only - motive for the private owner to rehabilitate a building (whether owner-occupied or let), and since a large part of the housing stock is privately owned, the profit motive cannot be ignored. In fact, that motive should be well understood and exploited in the interests of society. The broader concept, often referred to as social costs and benefits, is important from the public sector's point of view, for obvious reasons.

Actual costs and benefits will not be enumerated here, as that would require reference to a specific rehabilitation project. Instead, the likely costs and benefits will be grouped into categories for analytical purposes, thereby focusing attention on the major effects and the more sensitive parameters of rehabilitation.

There are a number of direct costs involved in any rehabilitation project, whether the property involved is publicly or privately owned:

- Inventories and surveys;
- Planning and design;
- Construction and (partial) demolition;
- Administration;
- Finance.

Similarly, the corresponding "narrow" benefits can be grouped into two main categories - namely, rental income and capital appreciation.

Whereas rental income may not be of direct concern to owner-occupiers, it still has relevance in terms of the "user value" or "saved rent" of comparable accommodation. Capital appreciation, of course, only benefits owners, whether occupiers or absentee landlords.

Another kind of cost, known as "opportunity cost", is more indirect, but applies equally to private and public-sector owners. It can briefly be described as the cost of not using the funds invested in a particular rehabilitation project for something else which might yield a higher return - or, to put it differently, the extra income from a better investment. This concept would be useful when comparing rehabilitation to demolition and building.

Several country cases were presented to the Meeting. All of them compared the direct cost of rehabilitation to the cost of rebuilding (excluding the cost of demolition and temporary rehousing). Such comparisons can only be made if rents are assumed to remain unchanged and to be the same in rehabilitated houses as in rebuilt ones. If that indeed were the case, there would be a strong argument for rehabilitation, even if direct costs were the same for the two options, because of the saved indirect costs in terms of disruption, transport, etc.. However, there is a tendency in some countries to say that if the cost of rehabilitation is more than one sixth the cost of rebuilding, rebuilding is to be preferred. In other countries the ratio is nearer to one half, and in one country (the United Kingdom), it is argued that it is worth spending up to 75 per cent of the cost of rebuilding, owing to the reduced time of loss to the housing stock. In order to make a rational decision, benefit ratios are as necessary to the calculations as cost ratios.

Opportunity cost could therefore be decisive for deciding on the best approach. It is, therefore, important to keep in mind that it is not only the direct cost of rehabilitation that counts but also the "cost" of not mobilizing extra income.

The concept of opportunity cost leads to a closer look at the benefits which flow from a new project, whether involving rehabilitation or rebuilding. A preliminary study made by the National Building Organization in respect of the city of Delhi has shown that an expenditure of Rs 100,000 on structural repairs of old buildings will provide shelter for 18.4 households for a period of 15 years, a total of 275 "household years". The same investment on the construction of

four two-bedroomed housing units (at Rs 25,000 each) will provide shelter to four households for 50 years - i.e., 200 "household years".

Apart from the direct benefits of rental income and capital appreciation, a number of indirect benefits flow from any housing project:

- Improved new space and service facilities;
- Improved health and social attitudes;
- Reduced risk of eviction;
- Increased opportunities for capital formation;
- Saved cost of transportation and less disruption of social fabric.

Compared with those indirect benefits, which are mainly of concern to society as a whole, there is a similar set of indirect costs, including opportunity costs, connected with rehabilitation projects, for example:

- Increased rents for (poor) tenants;
- Temporary displacement;
- (Possible) loss of some dwellings;
- Temporary extension of tenure only.

If it is assumed that market rent (price) is a direct reflection of the relative utility of a dwelling, then it follows that rental income will be a measure of the net benefits of a new as opposed to a rehabilitated dwelling. That income or revenue must then be compared with the cost of the alternatives - namely, rehabilitation and removal/rebuilding. However, since one of the objectives of rehabilitation is to cater to the needs of the existing occupants, the indirect costs of removal must of course be evaluated and included in the overall cost/benefit analysis.

There exists a definite need for easily applicable methods for use in choosing between rehabilitation and replacement by new dwellings, and much more research is needed in this area. The section on mobilization of financial resources in chapter II will return to the subject of cost and cost recovery and attempt to reconcile them with willingness. and ability to pay for the benefits of rehabilitation as seen by the users.

## Chapter III. Strategies and mechanisms for the rehabilitation of the existing housing stock

### A. The need for an area approach

Inner-city areas affected by a process of structural and infrastructural decay may vary substantially from the point of view of the degree of concentration of socio-economic activities. A broad categorization may be useful in view of the need to devise appropriate planning strategies for urban renewal.

The first category comprises inner-city areas which are affected by structural and environmental decay but which are nevertheless characterized by a very high concentration of economic activities ranging from business concerns and market transactions to crafts and artisan workshops. They normally provide a wide range of employment opportunities and are characterized by steadily increasing densities, which cannot but accelerate the existing process of structural and infrastructural decay. Land values in such areas are potentially very high, and the residential pattern is normally mixed in terms of income groups. It would be erroneous to classify such areas as slums, irrespective of the state of decay of the physical environment.

Slums are by definition economically depressed sections of the city whose social components are deprived of the means of sustaining the socio-economic fabric of the area. They are, therefore, characterized by an almost total lack of employment opportunities and economic activity. The existing forms of social organization may also undergo a process of disintegration. Such inner-city areas in western countries, where alternative residential accommodation is more easily available, are experiencing a steady loss of population.

In devising appropriate planning strategies for the rehabilitation of inner-city areas and of the existing housing stock, the distinction between economically active areas and slums should be taken into consideration. For the former, the immediate concern of planners should be to identify the administrative and legislative constraints that prevent existing financial resources from being directed towards the maintenance and upkeep of the housing stock. For the latter, the main concern should be to find measures to promote economic recovery, which might result in a gradual upgrading of the built environment.

One of the characteristics of many inner-city areas, even those in decay, is their mixed use and the interrelationship - if not symbiosis - between different functions. Dwellings, shops, workshops and small factories are often functionally intermingled. Workshops may sell their output of nearby factories, or they may attract a wider range of clients because of their location in an inner-city area. Many shops could not survive if a considerable number of the residents were to be moved elsewhere. Often residents work in establishments within the inner city, and removal of either the residents or of the employment opportunities results in a considerable increase in travel, which in turn leads to increases in the cost of transport beyond the economic capacity of the people concerned.

An area approach is the only one for dealing with environmental and infrastructural deficiencies, and the successful upgrading of both the environment and infrastructure is often vital to the viability and success of rehabilitation programmes.

In addition, the diversity of existing standards should be recognized. The conditions of buildings and infrastructure in a given area are seldom homogeneous, and it is thus necessary to identify adequate standards for the various parts of the social and physical structure. They can be brought into harmony only through an area approach.

Residents will be disappointed and lose interest if certain issues, possibly of extreme relevance to them, cannot be dealt with because too narrow an approach is taken. The area-directed approach is a must, since interests will often clash, making trade-offs necessary in the process of participation. Clashes of interest may occur, for instance, between residents or between economic opportunities and the desire to preserve certain buildings because of their cultural value. It is easier to permit departures from prevailing standards when an area-oriented approach is taken.

Since the value of a building depends also on the value of the site, and since the latter depends on, among other things, the quality of the surrounding buildings, the resulting increase in

value per unit will be higher if a group of buildings rather than a single building is improved. The cost per dwelling can be lowered if several houses are improved in a single operation. Individual owners will be more inclined to invest money in rehabilitation or improvement if they know that other buildings in the vicinity are also to be upgraded. With combined efforts, the chance of improvement in the street and other public spaces may also be enhanced.

As far as the institutional framework is concerned, efficient co-operation between different government departments is extremely difficult to obtain in the case of *ad hoc* arrangements. Governments planning to undertake comprehensive area-redevelopment projects in inner-city areas often enact legislative measures aiming at preventing individual building-repair projects by the private sector during the period prior to the implementation of the redevelopment plan. It should be noted that a prolonged period of forced prevention of private action aimed at the repair and amelioration of buildings by individual owners can only accelerate and worsen the process of decay of the city area concerned. Hence, Governments should establish a time limit for the preparation of the comprehensive plans.

With regard to the need to undertake housing rehabilitation programmes within broader redevelopment planning strategies, no specific physical area can be regarded as an optimal target area. In each case, that area has to be determined in the light of functional and social homogeneity, which may justify treating particular sections of a city as a single urban unit.

In order to formulate area plans, surveys are needed concerning users, owners, buildings and infrastructure, and their interrelationships. Such surveys should also cover legal matters such as the identification of unauthorized buildings and unauthorized activities within buildings (for example, workshops in buildings legally earmarked for residential purposes only).

In many developing countries a network of existing institutions has to be adapted in order to be able to handle the rehabilitation of the existing housing stock on the required scale. However, there may be many legal obstacles involved. In some South American countries, none of the existing agencies has been commissioned to handle rehabilitation. Elsewhere, the existence of gaps and overlaps in the field of rehabilitation has been brought to light.

At the national level, the ultimate responsibility for rehabilitation has to rest with the ministry that deals with housing, building and physical planning. However, a policy of rehabilitation cannot be effected without the co-operation of other ministries or of agencies not falling under the jurisdiction of the ministry of housing, building and physical planning. Mention can be made here of the national economic planning body, the ministry of finance and the ministry of the interior. Some kind of inter-ministerial consultation may be necessary, and the participation of institutions at lower levels will also often be useful - for instance, in the setting of definite targets concerning the number of houses to be rehabilitated.

In many developing countries, building codes still have to be revised in order to bring them into line with available economic and financial means. The adaptation of such codes should be a matter of high priority and can be done by grading standards into a number of classes, with the supervising agency probably having the authority to lower the standards when necessary. The adaptation of provincial or municipal building codes often cannot be arranged until a corresponding adaptation of national legislation has been effected. Making available one or more models for local codes will help avoid costly duplication of work at the level of local authorities.

In situations where there are doubts or difficulties about property rights or rights of use, it will be extremely difficult to obtain sufficient co-operation for rehabilitation from the people concerned or from financial institutions. In such situations, arrangements have to be made providing for individual or co-operative ownership or right of use, and legislation at the national level may be necessary to prevent the introduction of such arrangements from being too time consuming. The transfer of ownership to tenants will in many situations facilitate rehabilitation. New or adapted legislation at the national level may be necessary, particularly to facilitate co-operative ownership and condominium arrangements.

There is need to adapt saving and credit facilities to the needs of owner-occupiers in areas to be rehabilitated. Financial institutions, even if they have been specially founded to provide housing finance for low-income groups, seldom have suitable schemes for people with very low incomes in areas to be rehabilitated. They may also be inadequately staffed to handle saving and loan schemes for that type of client or to administer loans in the case of self-help projects. Adapting existing organizations may be more efficient than founding new ones specifically equipped for that type of transaction. The inclusion of the traditional saving and credit systems of the informal sector also deserves attention.

Since costly rehabilitation is often necessary because of lack of maintenance, consideration might be given to making maintenance fiscally attractive for landlords and owner-occupiers. Legislation at the national level or suggestions by the national Government to lower levels of government may be feasible in that respect.

In situations where provincial or local government is not equipped to handle rehabilitation operations and administration, the creation of a national agency for the preparation and realization of rehabilitation programmes may be advisable.

Within the framework of the national housing policy, provincial governments may perform tasks corresponding to those mentioned above in connection with national Government. The task of the provincial government will often be to determine targets for the region and to take measures for their attainment. Provincial government may delegate such tasks to local governments, confining itself to testing decisions of local government against the principles set down at the national or provincial level. Provincial governments may, however, also fulfil tasks which elsewhere fall under the competence of local government. The intermediate role of provincial government implies that the relevant functions resemble in part those of the national

government and in part those, to be discussed below, of local governments.

Rehabilitation on the required scale can only succeed with a maximum of self reliance, with a realistic assessment of market forces and without widespread subsidies. Government at all levels, but particularly agencies dealing with problems connected with rehabilitation at the local level, have to establish suitable conditions and provide legal, technical, organizational and operational assistance.

In a number of countries, there are no institutions with a clear mandate for the rehabilitation of existing inner-city housing stock. In such a situation, the creation of a separate institution working at the municipal, provincial or national level has to be considered. Such an institution should promote participation, take care of surveys for the preparation and execution of plans and secure the co-operation of other agencies such as those responsible for the supply of water and electricity and saving and loan institutions.

Rehabilitation is a complicated process making demands on existing organizations that transcend those organizations' regular way of working. Rehabilitation confronts different city departments with problems and situations that they are not used to handling. Technical and social problems are intermingled, and there is often considerable mistrust between residents and government bodies. It is therefore advisable to consider the formation of project teams at the local level in which specialists from different agencies work together.

In order to gain experience with the team approach, renewal schemes should not be started on a large scale immediately, nor should a project be handled by too large a team. An initial scheme involving 100-200 houses appears manageable, but that will depend on particular conditions. It is not necessary always to staff teams with civil servants; architects and building engineers outside the civil service may well be engaged for contracts relating to specific projects.

This section deals with the management requirements for the operational stage of a specific area rehabilitation project undertaken by government. The operational stage begins when all participants know and agree upon the area to be rehabilitated, the objectives and scope of action, the methods to be used and the resources needed. Operational activities are activities required to quantify, specify and programme, to commission builders, support production, supervise and monitor, and to complete, evaluate and provide feedback.

The complexity of rehabilitation work - inherent in the technical processes involved and the diversity of participants and interests - is well known. The work is highly susceptible to management failure, which can have serious financial, social and political repercussions. Accordingly, and contrary to common belief, rehabilitation often demands greater input in terms of management resources, skill and experience than new construction.

It is useful to identify, for each operational activity, the characteristic problems to be met, since that helps to identify where key management inputs are needed.

*Quantifying* is the process of identifying more specifically the location and scope of work needed. It is often difficult to achieve certainty or precision because, almost inevitably, the properties involved are occupied and the structure concealed; there may be no records to provide information about unfamiliar methods and materials used. Also, even in adjacent and apparently identical properties, both the concealed structural problems and the more apparent fabric deficiencies may vary immensely.

Management skill and experience may be critical in deciding:

- The risk to be accepted in limiting "opening-up" inspection (to reduce disturbance of residents);
- The dwellings sample to be surveyed;
- The interpretation of data obtained;
- The reserves assumed for contingencies.

Wrong management decisions at that stage represent the first step towards subsequent budget problems, *ad hoc* reductions in work scope, and standards and structural failure.

*Specifying* is the process of selecting the materials and methods to be used. The function is susceptible to the problems that result from inadequate information and experience. There is high risk of failure, first, through the use of new materials and techniques ill-suited to their context and, secondly, through inexpert evaluation of unfamiliar structural systems and of the possible effects of new disturbance. Thus, the adequacy of professional management is again under critical test.

*Programming* is a critical process, for rehabilitation work has several, closely associated production characteristics that need special consideration. Normal patterns of trade sequence and balance do not apply. There is particular vulnerability to the effects of trade demarcations; operations are labour-intensive (arguably not a disadvantage in some areas, but significantly so in others); the work is often carried out in occupied properties, under cramped conditions; and there are few opportunities to standardize solutions or use mechanization.

Those characteristics can result in very low productivity (often less than half that of new construction) and very high cost. It is essential (and possible) to minimize those effects by skilful programming aimed at allowing optimum work flow, but, in view of the problems of "quantification", it is also essential to allow flexibility to deal with contingencies. This is another field, then, where professional skill is paramount and where the absence of such skill leads to failure and poor value for money.

*Commissioning* which entails the selection, appointment and briefing of the building contractor, also gives rise to problems. The same factors that can impede productivity and economy also make rehabilitation work less popular than new construction - particularly with larger firms which (theoretically at least) have more efficient management. Accordingly, during periods of high demand on, the industry, it can be extremely difficult to obtain competitive pricing to support the cost-benefits predicted for rehabilitation. It is therefore not easy during the initial stages of a programme to find willing builders with adequately skilled management and labour. However, those problems tend to be overcome later if effective programming and collaboration have made possible successful working and profitability and if continuity can then be offered within a rolling programme. This allows developed skills and experience to be retained and cost, quality and production targets to be attained.

*Production*, key aspects of which require special management understanding and input - from both the client and contracting sides, include the following:

- In a first project (but not necessarily later in a rolling programme), there is a long run-in

period before full output and quality are achieved. Management must ensure that such a period is catered for within the programme;

- The need to maintain a work-flow inevitably requires immediate on-the-spot decisions to be taken and solutions to be found to resolve unexpected problems. Initially, at least, this calls for the full-time presence of professionals able to assume the responsibilities involved. It is also essential, from the outset, to have efficient, well co-ordinated documentation systems to deal with the communication and recording of technical instructions and with work-measurement and cost-control processes;
- Inevitably, day-to-day liaison with residents (owners or tenants) is an important element of the rehabilitation process. Such liaison must be well coordinated with the building operations, but, except in rare cases, it is essential to separate responsibility for the two functions.

*Supervising and monitoring*, which involve difficult access and operating conditions, plus the tendency for work to consist of many small, widespread operations (with the product rapidly covered up), make quality control extremely difficult. Where repetitive operations are involved, it is important to agree on the acceptability of sample work at an early stage, but this does not remove the need for a high level of day-to-day supervision - by the contractor as well as by the client's agent. The fragmented nature of the work also means that monitoring output in relation to production targets and financial payments demands a high management input.

*Completing* has an essential role to play in improving efficiency within a rolling programme or at the completion of a pilot scheme. During a rehabilitation project, opportunities occur to test alternative solutions and techniques - either to improve quality or productivity or to reduce disturbance to residents - but the evaluation of those solutions and techniques and the provision of feedback for the next phase will only occur if the functions are formally recognized and assured. Of no less importance, of course, is feedback on performance as seen by the residents.

It has been shown that a variety of essential management inputs is required throughout the operational stages of a project, and responsibility for those inputs falls equally on the client, his professional agent and the contractor. Success depends partly on each operating to full effect within his own sphere of control, but the individual effectiveness of each party also depends on that of the other parties. Accordingly, there is a crucial management function to be carried out - namely, that of co-ordination, and, once again, the need for co-ordination is greater in rehabilitation programmes than in new construction programmes: there are more participants and there are more interfaces at which delayed decisions or actions by one party can destroy smooth working and continuity.

In major projects, the co-ordination function will require the use of networks to identify interrelationships, activities, critical paths and key events clearly. Beyond that, experience has also shown the benefit of plans-of-work which define, in easily understood terms, exactly what is required of each participant.

In larger, complex rehabilitation programmes, the co-ordination function may also require the full-time services of a person experienced in project-control techniques; there are dangers in delegating that activity to someone for whom it will be only a secondary task (to be undertaken when time allows).

Other specialist management techniques successfully applied in rehabilitation schemes have been concerned with overcoming productivity problems and improving work-flow The feasibility of using such techniques depends on the character and scale of the work involved.

Effective management of the operational stage is therefore vital to success in any terms. It requires overall co-ordination and control to deal with the complexity of the operations themselves and with participants. Rehabilitation thus requires a high input of management resources and the development of specialist skills and experience. There are specific management techniques and procedures which can be of positive value, but care must be taken to select those which suit the characteristics of each particular project.

In many developing countries, standards have often been imported from developed countries and create difficulties. They often raise the cost of construction and/or rehabilitation beyond the means of prospective residents, and they do not prevent substandard houses from being constructed - they only prevent them from being constructed legally. Illegal houses cannot then benefit from public aid or from safety of tenure, or they can only do so illegally, usually at extra cost.

Generally speaking, the use of standards should be limited to externalities - that is to say, to situations in which the actions of private parties inflict costs or benefits upon other parties. Fire safety is a case in point: the failure to take appropriate action to prevent the occurrence of fire in a house is a hazard not only to the inhabitants of the house but also to inhabitants of neighbouring houses, and it therefore should not be allowed. In such situations, the establishment of standards is appropriate.

In addition, most of the regulatory processes in many countries, especially in the third world, are not oriented towards the maintenance and rehabilitation of buildings and infrastructure, the main focus being on the construction of new assets. Financial and institutional systems are also directed mainly towards the development of new construction.

It is, therefore, necessary to establish a strategy to facilitate the legal development of rehabilitation projects, and local authorities have to promote and control efforts in that respect. Projects implemented by government agencies are often not confronted with problems related to regulations, because the agencies themselves can approve suitable proposals for planning and building, but in the case of private initiative, it is often difficult to define a proper way of obtaining approval for projects.

The establishment of regulations is a very time-consuming matter and requires a relatively large input from competent staff. The introduction of a separate set of building regulations for rehabilitation is therefore a cumbersome process and is rarely attempted. One way of establishing the regulations for rehabilitation is to make amendments to the regulations for new buildings, and such amendments should specify exceptions and acceptable standards for rehabilitation. The risk level and level of standards chosen in the regulations must be in line with national resources and with the general income level. Guarantees or insurance for rehabilitation work should be provided by the contractor for a specific period. That kind of insurance is, for instance, provided in France.

When the rehabilitation of an area is proposed, it has to be kept in mind that two basic issues should be addressed: first, health, and secondly, safety, both for the neighbourhood and the dwellings. Health conditions relate, for example, to water supply, sewage and garbage disposal at the neighbourhood level and to sanitary installations (toilet), natural illumination and ventilation at the level of individual dwellings. Safety conditions relate to the dimensions and location of open space, paths and roads, which have a very important role to play in the event of fire, earthquakes or other emergencies, and the reinforcement of structures to avoid possible collapse.

Urban planning regulations and standards are designed mainly for new developments, and those relating to zoning, densities, plot size, frontage, percentage of vacant space, cross section of path ways and streets, etc. are very often inappropriate in the light of actual conditions in a settlement. In such cases, therefore, it is necessary to provide for waivers of the standards and regulations, while at the same time ensuring that the solutions proposed satisfy the minimum requirements in terms of health and safety.

Building regulations usually set minimum standards for safety, hygiene and fire, and in some countries they also set standards for energy consumption. However, most countries have no regulations for rehabilitation. The problem is that regulations for new buildings often specify standards which are unachievable in old housing if rehabilitation is to be economically viable. Building regulations should therefore be concerned with the performance expected from buildings, building elements and building materials, and regulations specifying the use of particular materials and dimensions should be avoided.

It would be misleading to attempt to set out a general approach for the implementation of rehabilitation programmes, since conditions vary, not only from country to country but even within a particular country. Nevertheless, the experience presented at the Meeting indicates that it is possible to identify certain recurrent types of problems associated with tenure and building type. Leaving aside squatter settlements, which were not a main concern of the Meeting, the various types of tenure and buildings can be categorized as follows:

- One-storey or two-storey houses occupied by the owners;
- One-storey or two-storey houses rented by single families;
- Houses (possibly multistoreyed) rented by a number of families.

Clearly, the approaches taken to the rehabilitation of the three types must be different, and appropriate techniques must be sought. Although more detailed work needs to be done in that connection, the approaches discussed below deserve consideration.

Experience generally tends to show that houses in this category are well maintained (for obvious reasons), but in those cases where serious deterioration is found, the causes may include the following:

- The family income is so low that repairs cannot be afforded, even though continued neglect may result in further loss of value;
- The neighbourhood in which the house is situated is in decay and property values do not warrant expenditure on major repairs;
- The occupants may be old or otherwise unable to cope with the difficulties of rehabilitation.

Where problems of this kind are identified, it will be necessary to consider an area-wide environmental improvement project to improve the attractiveness (and therefore the market value) of the houses. This could be coupled with a programme of grants or low-interest loans and, in cases where the owners cannot cope, technical assistance in carrying out repairs. It can reasonably be assumed that, in such an area, there will be many other problems, such as poor transport to places of employment and lack of local facilities (shops, schools, social services), and attention should if possible be directed to them. The local authority's team will be faced with the need to attempt to co-ordinate the programmes of other implementing agencies to achieve area-wide improvement.

An area of small houses will almost certainly contain many rented properties, and the reasons for their neglect are likely to be somewhat different from those cited above. Rent control may reduce income to the point where the landlord sees no point in spending money on repairs, and tenants are naturally unwilling to invest in a house where they have no security of tenure. This is a more difficult situation and will require imaginative solutions, including, possibly the following:

- Incentives to landlords. It should be possible to devise a system of property tax relief conditional on repairs being made;
- Grants or loans for landlords to make repairs with a prior agreement concerning increased rent. This probably carries with it the danger that the existing tenants may not be able to afford the increased rent and that they may be forced to move. Such a scheme would require careful control, but, provided that both landlord and tenant can appreciate the advantages, it would be a viable solution in some cases;
- Negotiated or compulsory purchase of the house by the local authority which would then improve the house and either lease it or sell it to the occupants, charging them for the improvements through rent or repayments.

The most notable example of this type of dwelling presented at the Meeting concerns Bombay, where old multistorey buildings are occupied by 35 or 40 families. The return to the landlord is so low that neglect has resulted in structural deterioration and danger. Such problems are of a high order of complexity and present a local authority with extremely difficulty issues to tackle. If the number of residents represents gross overcrowding, should the authority try to rehouse some of them and increase the space available to each remaining family? If that is done, will the remaining families be able to afford a greater share of the increased rent after improvement? Will new families simply move into the vacated space, thus nullifying the advantages gained? If the authority has building regulations or by-laws which require a certain minimum space for habitation in new private development, how can the same authority justify the use of public funds on prolonging the life of overcrowded properties? Although these questions are difficult to answer, a responsible local authority cannot close its eyes to a situation where people may die when a building collapses, as has happened in Bombay.

The answers lie in seeking a compromise solution based on a humane approach to the problems and a flexible approach to existing regulations and standards. If the tenants have not already formed an association, it will be necessary to identify leaders and to encourage them to do so in order to determine the extent of rehabilitation desirable. Experience in Bombay has led the Bombay Buildings Repairs and Reconstruction Board to conclude that its efforts would have been more successful had there been a greater degree of tenant involvement. In the Bombay case, costs up to a certain limit were recovered from the landlord through a Repairs Cess Tax, and any costs over that limit were recovered from the tenants. The Board also concludes that a more direct form of financing would have been more suitable than taxation. In some cases, it may be possible, with guidance from the local authority, to persuade owners to sell properties to tenants' co-operatives which would assume responsibility for maintenance. In the last resort, compulsory purchase may be the only solution, with the owner being compensated on the basis of the capitalized value of existing rents. A major disadvantage of this approach is that the local authority would, in time, become a major landlord, with all the attendant management problems.

Repair and reconstruction programmes for the rehabilitation of existing houses involve a number of complexities. Each project may have unique characteristics which have to be considered when appropriate materials, techniques, equipment, tools and skills are being selected for rehabilitation work.

Basically, what must be determined is the existing condition of the building, its structural soundness, the peculiar characteristics of the building, the nature and extent of the rehabilitation work involved, the degree to which the building can be restored and the estimated cost of undertaking rehabilitation work. Technical information and data about the existing building are scrutinized with a view to determining the specific characteristics of the building and technical resources, required for undertaking rehabilitation work.

An inventory of existing buildings requiring rehabilitation is an important tool providing relevant technical data relating to design parameters, construction techniques and materials used. The records of the local authority must also be consulted, with a view to obtaining relevant information and data, since local authorities are responsible for approving designs for buildings and houses submitted by the owners/designers of such buildings.

The scale of operation of rehabilitation projects needs to be established in order to facilitate the mobilization of technical resources well in advance of project operation.

Most of the materials to be used in the rehabilitation of buildings are of the same type as originally used for construction. Traditional materials should be used for the rehabilitation of existing buildings and houses, wherever possible.

The use of new materials such as precast concrete products and components has come into vogue, particularly since it increases the speed of reconstruction work. As scarcity of materials may retard the rehabilitation effort, a special quota system can be employed to ensure the availability of material when required and at reasonable cost.

Special types of products such as precast and prefabricated building components may also be required, depending on the techniques employed for reconstruction work. The use of precast concrete and other types of prefabricated building products is gaining importance, since it increases the speed of reconstruction work and is at the same time economical. In some situations, depending upon the technical requirements involved, the required type of building products or components may have to be manufactured locally.

In each housing rehabilitation project, appropriate construction techniques have to be adopted or improvised to meet specific requirements. Care must be taken to ensure safety, speed and economy in employing such construction techniques in rehabilitation projects. Preplanning is also required to determine the specific types of construction techniques which may be suitable for a given situation.

As a result of research and development work carried out in the field of building technology, different types of new construction techniques, each providing specific advantages, have been developed, and the suitability of those techniques would have to be ascertained through careful study of the requirements of the rehabilitation work to be undertaken.

A number of proprietary construction techniques and system building methods have also been developed, and they can be taken advantage of whenever they are appropriate to the type of reconstruction work involved.

### 3. Skill formation

The maintenance, repair and reconstruction of existing houses calls for specialized skills, which are acquired largely through experience and training.

Great importance is attached to training, the main objectives of which are to bring skills up to required standards of knowledge and proficiency; to improve quality and efficiency in the execution of work; to increase productivity; and to promote economical construction and speedier execution of the job.

## 5. Tools and equipment

The rehabilitation of old buildings is an intricate operation. Besides common types of tools and equipment used in building work, special types of tools and equipment are often required to undertake specific jobs, and devices have to be improvised to meet the requirements of the local situation.

The rehabilitation of buildings may involve the demolition of certain parts of them. The execution of demolition work calls for great skill and experience, particularly for ensuring the safety of the structure, its occupants and those engaged in the demolition work.

Generally speaking, the mobilization of technical resources should be backed up by the formulation of appropriate standards, economic specifications and codes of construction practice for housing rehabilitation; and by appropriate standards for ensuring or promoting structural safety, fire safety and health safety.

The importance of finance for rehabilitation cannot be overemphasized, nor should it be forgotten that rehabilitation in fact generates new resources. It is therefore important to see how available funds can and should be used to mobilize additional financial resources.

Two types of finance are involved in rehabilitation programmes: institutional; and non-institutional. The distinction is important because of the different means by which these resources are mobilized. Whereas institutional finance includes both private and public-sector sources, non-institutional finance comes entirely from the private sector. As far as rehabilitation is concerned, it is that latter source which will undoubtedly play the major role in the longer term. The public sector, nevertheless, can and should play an active role in mobilizing financial resources. By using some of its own limited funds it can create incentives for private-sector investment and thereby multiply the total amount of resources available.

If market forces were allowed to operate, rehabilitation programmes would need only guidelines and standards from the public sector, and financial resources would be provided entirely by existing or new owners. The result, however, might not be satisfactory, since present occupants might become homeless and structures of historical and other intangible value might be lost. It follows, therefore, that if the public sector intervenes in respect of rent levels, prices and environmental and other standards, it must also ensure financial support for the implementation of such guidelines.

However, rent control in general has had severe adverse effects on the mobilization of private financial resources. The dilemma for the public sector is to safeguard the interests of low-income tenants while at the same time getting private landlords to rehabilitate.

Apart from houses already owned by the public sector, there might be no need for the public sector to become directly involved in financing rehabilitation. Moreover, public housing stock can be disposed of, and this would be consistent with most Governments' policy of home ownership. Such a transfer of public housing stock to sitting tenants can conveniently take place at the time of rehabilitation. The terms of finance for such an operation can be determined on the basis of existing rents, which would possibly be sufficient to pay off rehabilitation costs over a period of - for example, 20 years at the prevailing interest rate. However, for the purpose of mobilizing additional resources - apart from saved maintenance cost – public sector owners can and should specify a gradual increase in the monthly payments for rehabilitated units. Such increases are more likely to be accepted by tenants if they are consulted on improvements and cost beforehand.

Private financial institutions have a role to play, particularly when private owners are planning to rehabilitate. If the local or central government wishes to encourage rehabilitation without having to draw on its own financial resources, a public-sector guarantee for a private-sector loan may be all that is required. Although compulsory acquisition may be justified in some exceptional cases, it should be avoided. It is also important to avoid a situation whereby rehabilitated houses become so advantageous to occupants in terms of rent that they have no incentive to move elsewhere.

It is private non-institutional finance which holds the most significant potential in terms of generating additional resources. This type of finance ranges from the funds which individual owners are willing to invest (and risk) in improving housing to the support which is often readily forthcoming from friends, employers and relatives of low-income families if the opportunity to obtain a house of their own arises.

With respect to rehabilitation, these non-institutional funds can be mobilized only if the profit motive is recognized and accepted, whether the profit is to accrue to the individual owner-occupier or to the private developer. The emphasis in this approach therefore needs to be on ensuring that those who profit are mainly those who have not had such an opportunity before. The resulting profits thus become an instrument in the generally accepted move towards income redistribution and also assist those who mobilized funds from informal sources to repay them. Conventional finance mechanisms have a tendency to view all families in the same income group

as having the same "ability to pay" for housing. This concept of affordability ignores the differences in family size, age, savings, access to loan funds etc.. But most importantly an arbitrary percentage of present income (normally 25 per cent) disregards the willingness of people to pay for what they get. In many cases this means that "willingness-to-pay" is higher than 25 per cent of present income, thus enhancing the repayment capacity of beneficiaries. In the cases where "willingness-to-pay" is lower than "affordability", as determined by the authorities, injustices and hardships are the result.

Experience shows that there is no shortage of funds for rehabilitation if the returns are high, and in inner-city areas, this is most often the case. The problem of safeguarding the interests of low-income tenants must be tackled, possibly on an individual household basis, through direct subsidies to families rather than to their dwellings, so that rents and profits are freed. The cost of individual subsidies can, in turn, be recouped through rates and user charges plus, of course, the normal tax on profits.

Research needs to be undertaken into the technical, economic and social aspects of rehabilitation work on the basis of case studies. From the technical point of view, research needs to be undertaken in the following important areas of housing rehabilitation work:

- Economic aspects of housing maintenance and rehabilitation projects;
- Criteria for modernization, rehabilitation and reconstruction;
- Cost and organization of maintenance work;
- Occupancy cost and occupants' satisfaction;
- Saving and re-use of building materials;
- Up-to-date construction technologies suitable for the renewal of obsolete buildings;
- Development of rational evaluation methods;
- Replacement of built-in installations;
- Modernization of concepts relating to comfort and building performance;
- Value engineering analysis of rehabilitation projects, techniques and execution systems.

House building, maintenance and rehabilitation in many developing countries can only be realized for the majority of the population on the basis of complete or partial self-help. Since indigenous methods of house building often cannot be continued in urban areas because of a lack of suitable materials, Governments will have to consider ways in which the necessary skills can be transmitted to the people, for instance through the inclusion of appropriate courses in the curricula of elementary or secondary schools or through programmes of adult education.

It is important to educate the tenants as well as owner-occupants of dwellings in respect of the proper upkeep, use, regular maintenance and timely repair of houses. Tenants should be made aware of the imperative need for such activities, and training should also be made available to them to motivate them to improve their dwellings with or without the willing co-operation of landlords. Technical training should be provided to families to assist them in undertaking housing repair and rehabilitation tasks. Government construction departments, housing authorities, municipalities, etc. should provide technical advice and guidance to local residents, and housing management and community participation should be organized as an integral part of housing development projects.

## Chapter III. Strategies and mechanisms for the rehabilitation of the existing housing stock

### I. Public participation in rehabilitation programmes

It is generally accepted that the participation of residents is essential in programmes and projects aimed at improving the urban habitat. This holds true not only for squatter settlement upgrading and sites-and-services projects but also for rehabilitation and repair programmes.

In old inner-city areas, often stable social patterns have developed over time, resulting in established social organizations among residents. Rehabilitation programmes affect social life in inner-city neighbourhoods: there are examples where residents have to be temporarily relocated for rehabilitation to be completed, and rehabilitation without relocation seriously disrupts family life in already overcrowded buildings. This leads to the need to involve the affected residents at an early stage in order to avoid conflicts when actual projects are executed.

Residents should participate actively in the different stages involved in the design and implementation of rehabilitation programmes. During the planning stage, residents should be involved in establishing priorities and determining the sequence of activities leading to the improvement of the habitat. Ideally, residents, especially when the housing units are owner-occupied, should participate both financially and in terms of labour. Experience has shown that residents only share responsibility when they invest their own time, energy and financial resources. This is especially important in view of the requirement that rehabilitated housing units be properly maintained after the completion of the rehabilitation programmes.

The participation of residents involves a two-way exchange of information. For project staff, it provides a feedback mechanism making it possible to identify bottlenecks at the various stages of implementation. The residents, on the other hand, are provided with essential information on the different aspects of the rehabilitation process and on the progress of the work.

Communication obviously has to be facilitated through well defined institutional arrangements. Existing social organizations have to be identified and utilized, and residents, for example those living in housing blocks with multiple ownerships, have to be encouraged to organize themselves into cooperatives or owners' associations. Local governments could also utilize community workers, who could organize meetings with residents and house visits. There have been cases where communication between local government and residents has improved considerably as a result of the production and distribution of information brochures and audio-visual materials.

A central problem in attempts to design and implement rehabilitation programmes is arriving at effective and constructive interaction between the different actors involved: residents, house owners, government officials, planners, architects, technicians and, often, politicians. This is a difficult task, as interests differ widely. In this respect, national and local governments have a crucial role to play and pilot demonstration projects may provide insights on how to bring these different groups together to act jointly in improving the living conditions of residents living in central areas of the large cities in the world.

## Chapter IV. Recommendations

National Governments are beginning to realize the importance of the rehabilitation and maintenance of the existing housing stock in inner-city areas, such housing stock being in a state of serious decay in the majority of large urban centres of the world. The reasons for this recognition of the need for rehabilitation and maintenance vary. Most obvious is the fact that, through preservation measures, the loss of valuable housing for lower-income and middle-income groups can be prevented. Other important reasons concern the safety of residents, the low cost of rehabilitation in comparison with the construction of new houses and, in some cases, the preservation of architectural and building traditions which have historical value and are often important in terms of cultural and political identity.

Measures for rehabilitation form part of a wider attempt at both the national and the international level to emphasize the need for the provision of shelter through improvement rather than through clearance and resettlement, the economic and social cost of which has proved very high. At the same time, national and local governments have become aware that effective programmes and projects aiming at rehabilitation and maintenance are difficult to implement because of a complex series of interrelated factors which have to be taken into account. A rehabilitation programme does not only interfere with well established and delicate social systems but also involves complicated legal processes and financial procedures. In addition, there is a need for co-ordination and co-operation among the various government organizations responsible for different aspects of rehabilitation. Finally, the rehabilitation of individual buildings should, as much as possible, take place within the context of comprehensive improvements at the neighbourhood level.

The recommendations listed below provide some guidelines aimed at promoting and guiding the design and implementation of projects for the improvement and maintenance of housing stock in inner-city areas. They concern the different levels at which action has to be taken: local, national and international. They are intended to provide a basis for the further development of sound and effective policies and strategies for programme and project execution.

## Chapter IV. Recommendations

### A. Action at the national and local levels

#### 1. General approach

Obsolescence affecting the existing housing stock is part of a wider physical and socioeconomic process of degradation in city areas. Rehabilitation can therefore take place only through comprehensive remedial measures which, in addition to the physical repair and upgrading of the housing stock, aim at the provision and amelioration of infrastructure and community services.

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Housing rehabilitation can be used as a mechanism to create new facilities and improve the urban environment and can therefore play a major role in strategies for urban development. In view of this:

RECOMMENDATION 1:

Governments should devise housing rehabilitation programmes within broader policies for comprehensive urban development.

To this end, emphasis should be placed on the socio-economic revitalization of city areas affected by progressive decay and neglect resulting in the deterioration of the existing housing stock. Governments should attempt to undertake rehabilitation measures at the neighbourhood level rather than at the level of individual units. Small-scale, short-term interventions confined to a limited number of units should however be encouraged in view of their inherent demonstrative potential, which may stimulate replication on a larger scale.

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Large-scale demolition followed by reconstruction has proved negative from the point of view of actual project costs and of the social costs inherent in the dislocation of residents and in the destruction of the existing residential and economic fabric of the area. In view of this:

RECOMMENDATION 2:

Governments should abstain from carrying out large-scale demolition in inner-city areas, confining that type of intervention to individual buildings beyond repair.

To this effect it is suggested that:

- Whenever demolition is inevitable, governments should try to minimize the process of dislocation by offering, as far as possible, the option of onsite relocation;
- The period of dislocation for the residents affected by reconstruction or area-redevelopment schemes should be kept to the minimum, and temporary alternative accommodation should be provided;
- Whenever relocation of all the residents on site is impossible, alternative accommodation should be provided and the selected new location should be within affordable distance from places of work.

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Legislative measures preventing improvement or redevelopment by the private sector in a city area often result in the acceleration of the process of general decay by putting an end to individual initiatives for the repair and improvement of building untis; in the past the result was that large-scale demolition became inevitable in the city areas concerned. In view of this:

RECOMMENDATION 3:

Governments which, in order to undertake programmes of urban renewal in inner-city areas, enact legislative measures to prevent improvement works by the private sector should place a time limit on the preparation of redevelopment plans.

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Characteristic features resulting from the historical development of a city and its sites stand out as an element of primary importance to be preserved in order to maintain the identity of different urban and social environments. Each type of environment may have special values as a

social habitat and historical heritage. These values may not depend exclusively on the age of the site: society is becoming increasingly aware of the importance of preserving its "recent past". In view of this:

RECOMMENDATION 4:

Governments, while undertaking housing rehabilitation programmes, should bear in mind the need to preserve the existing social fabric of the city.

This can be achieved by adopting the principle of the comprehensive conservation of the historical fabric of a city (houses, other minor structures, major monuments, urban spaces, etc.) and maintaining the structure and typological features of buildings while adapting them to meet current housing needs.

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## Chapter IV. Recommendations

### A. Action at the national and local levels

#### 2. Institutional arrangements and management

In most countries, substantial contextual differences exist within the national territory in terms of, for example, tenure, structural conditions and socio-economic characteristics. This makes necessary decentralization of the decision-making process and flexibility in the legal and institutional framework to suit different local circumstances. Accordingly:

RECOMMENDATION 5:

Governments should empower provincial and municipal administrations to undertake rehabilitation programmes by devising preventive and remedial measures at the local level.

To this end, consideration should be given to the creation at the local level of corporate bodies vested with responsibility for undertaking surveys and urban inventories, acquiring land and property and formulating and implementing schemes and programmes for rehabilitation. Such local bodies should be strengthened by national Governments through the provision of resources. Schemes should be developed for specialist training programmes and other forms of information dissemination.

Existing legislation and regulatory instruments do not specifically address the problem of rehabilitation and often generate operational constraints which accelerate the process of decay of inner-city areas and, by forcing compliance with existing standards, increase project costs.

RECOMMENDATION 6:

Existing building regulations should be reviewed and modified where necessary to ensure their appropriateness for rehabilitation work, bearing in mind the need to create affordable projects and paying more attention to the functional as well as architectural value of existing buildings.

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Building regulations, codes and standards are normally conceived for the formal building sector: this constitutes an additional constraint for construction activity by and for low-income groups.

RECOMMENDATION 7:

Building regulations, codes and standards should be diversified to suit the shelter cost levels acceptable to different income groups.

This can be achieved by developing ad hoc rehabilitation standards based on minimum acceptable conditions from the point of view of health and safety and at the levels of the neighbourhood and the dwelling unit. Provision must be made for a set of incremental standards in order to safeguard the scope for future improvement.

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Rent control, by discouraging the proper maintenance of rented buildings by landlords, has been a major factor in the deterioration of inner-city areas.

RECOMMENDATION 8:

Governments should reconsider rent control schemes with a view to removing disincentives for rehabilitation.

This can be achieved by:

- Allowing rents to rise periodically by a percentage related to costs;
- Carefully reviewing rates and property taxes and at the same time introducing other fiscal measures, for example depreciation allowances and higher taxes on developed or poorly developed residential sites, with a view to actively encouraging rehabilitation.

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## Chapter IV. Recommendations

### A. Action at the national and local levels

#### 4. Mobilization of technical resources

The mobilization of available technical resources is a fundamental prerequisite for the success of large-scale rehabilitation programmes. In view of this:

RECOMMENDATION 9:

Governments should initiate action to stimulate the development of rehabilitation techniques within the construction industry and to improve supplies of appropriate materials and components.

This can be achieved by:

- Preparing inventories of existing buildings requiring rehabilitation to obtain technical data concerning design parameters, construction techniques and materials used;
- Establishing the scale of operation of each rehabilitation project to facilitate the mobilization of technical resources well in advance of project implementation;
- Ensuring that, in addition to materials originally used, new materials, special products and components which may also be required to meet the dictates of economy, speed and safety of operation be organized well in advance of project implementation;
- Determining in advance appropriate construction techniques suited to a given set of situations to ensure good productivity and safety and to reduce the period of execution to a minimum.

## Chapter IV. Recommendations

### A. Action at the national and local levels

#### 5. Mobilization of financial resources

The ultimate aim of rehabilitation is to satisfy the needs and demands of present and future occupants of dilapidated and substandard dwellings. The value of rehabilitation can therefore be measured only by what users are willing to pay for such improvements. For these reasons the following recommendations are made.

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RECOMMENDATION 10:

The concept of "affordability" should be replaced by that of "willingness to pay" as a criterion for determining the terms and allocation of finance.

Such terms should satisfy three principal conditions, namely:

- All costs of the rehabilitation programme should be covered;
- None of the present occupants should be forced out;
- The obligation of occupants to repay costs of rehabilitation should be adjusted to their particular economic circumstances and not be determined by an arbitrary percentage of present income.

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Governments have often omitted to pay due attention to the possibility of creating revolving funds in order to ensure replicability of rehabilitation programmes. In view of this:

RECOMMENDATION 11:

The principle of full cost recovery should be considered for adoption in order to eliminate wasteful and misguided use of scarce resources.

Measures to this effect should include:

- Phasing out of existing subsidies;
- Avoidance of new subsidies.

When they are absolutely necessary to avoid displacement, subsidies should be given in cash to affected families and should not be tied to the rehabilitated dwelling. Measures to ensure cost recovery in full must, however, be flexible enough to suit the willingness of individual households to pay for improvements, especially given the informal system of cash flows which characterizes low-income families. Various finance techniques can be used in this connection, for example graduated payments, repayment in kind (self-help), equity participation (profit sharing) and early repayment discounts.

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It is advisable to minimize dislocation of residents in areas affected by rehabilitation programmes. Low-income residents can be helped to remain in their present dwelling if they so choose. In addition to the use of the finance techniques mentioned above, it is therefore recommended that:

RECOMMENDATION 12:

Cross subsidies should be considered where necessary to reduce the cost of rehabilitating dwellings with a low user value as opposed to those with a high user value.

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The scarcity of available funds for housing in general and for rehabilitation in particular has hitherto represented a severe constraint on programmes aiming at the improvement of the existing housing stock. In view of this:

RECOMMENDATION 13:

Governments and local bodies should analyse in depth the effect of the rate of interest on the channelling of funds into housing and rehabilitation programmes.

To this end:

- Resources should be increased by encouraging potential beneficiaries of rehabilitation schemes to start saving in advance of the allocation of [funds;]
- It should be ensured that capital (profits, savings) accumulates where it is most likely to be reinvested in new or dilapidated housing. (This is most likely to happen if profits accumulate in the public sector and with private developers.)

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To be effective, housing rehabilitation programmes must be designed in conjunction with appropriate schemes for the generation of income and employment opportunities for residents in order to improve affordability and ensure future proper maintenance of the improved buildings.

RECOMMENDATION 14:

Measures to improve potential for income generation should be taken in connection with rehabilitation programmes wherever possible.

Such measures include:

- Preserving and creating work places, opportunities for commerce and small-scale manufacturing;
- Maintaining and introducing accommodation for lodgers;
- Assisting sitting tenants in purchasing their dwellings individually or collectively by providing them with loans for this purpose.

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It is extremely difficult, if not impossible, to upgrade an area without the active support and participation of the existing residents, and this support and participation should be encouraged by government before, during and after the planning and implementation period.

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Participation should not be controlled by government but should be aimed at serving the best interests of the residents and improving their awareness of their responsibilities as citizens. To enable this to happen, sufficient information about projects, including costs and proposed rents and repayments, must be disseminated.

RECOMMENDATION 15:

When preparing and executing rehabilitation projects, governments should regard residents' participation as an essential component and should provide every opportunity, supplying funds where necessary, for community associations to be formed.

For these associations to prove effective, the following principles should be observed:

- In addition to meetings and consultations with the residents, other techniques such as social surveys and in-depth interviews should be used to identify problems, priorities and potential talents among residents;
- The rehabilitation programme should not end with the completion of projects; observation of social impact should continue so as to provide feedback for future projects.

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Given the scarcity of resources, it is essential to concentrate efforts in the areas of highest priority and to develop efficient techniques in small-scale projects before embarking on large programmes.

RECOMMENDATION 16:

Governments should initiate small-scale pilot projects before committing resources to larger programmes. these projects should be monitored and public reaction determined so as to ensure maximum acceptability of rehabilitation in affected communities.

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Housing rehabilitation programmes have often been hampered by shortages of specialized skills.

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The creation of specialized teams which would provide the necessary skills required for repair, reconstruction and maintenance work is recognized as a vital priority.

RECOMMENDATION 17:

Governments and local authorities should promote adequate forms of in-service skill training in order to achieve the greatest possible mobilization of resources and their optimal utilization for housing rehabilitation programmes.

Such training should include:

- Programmes for transmitting skills to the people through community work aimed at tenants and owner-occupiers;
- Adult education programmes;
- Vocational training at the primary and secondary levels of education.

In addition, Governments should strengthen or create research institutions concerned with the development of appropriate technologies for rehabilitation schemes. Governments should favour the maximum utilization of existing knowledge in the field of skill enhancement, the utilization of material resources and appropriate technology by involving all potential national sources, including municipal bodies, universities, professional associations and non-profit organizations.

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## Chapter IV. Recommendations

### B. Action at the international level

The development of effective approaches to the improvement and maintenance of existing housinq stock in inner-city areas is a difficult and time-consuming task, and it is therefore important that available knowledge and experience be organized and disseminated. International co-operation in this field will be of assistance to Governments in the formulation of long-term policies and short-term strategies adjusted to local circumstances.

RECOMMENDATION 18:

Information, experience and research results on preventive and remedial measures relating to rehabilitation and maintenance and on related problems and policies should be shared through intensified international co-operation involving UNCHS (Habitat), the regional commissions, non-governmental international organizations and bilateral contacts.

To this end:

- UNCHS (Habitat) should continue its activities related to the specific problems of inner-city areas in urban settlements through the implementation of programme sub-element 3.2.1.5 entitled "Upgrading inner-city slums for the benefit of their own residents";
- Consideration should be given to the unique experience of Bombay in the context of the need to evaluate, monitor and disseminate the results of ongoing rehabilitation programmes.

Additional cases should be identified and selected to document essential aspects of rehabilitation projects, for example:

- Basis for decision to rehabilitate rather than to demolish and rebuild;
- Comparison between projected and actual costs;
- Cost-recovery methods and possible subsidies;
- Rent levels before and after rehabilitation;
- Socio-economic changes among families affected.

Other actions that should be taken at the international level include:

- Initiation of the design and implementation of demonstration projects in the field of the rehabilitation of existing housing stock in inner-city areas; these projects will serve as a mechanism to demonstrate to Governments the viability and acceptability of rehabilitation programmes;
- The promotion by UNCHS (Habitat) of multilateral and bilateral technical assistance for developing countries in connection with rehabilitation programmes and projects and within the framework of the Buenos Aires Plan of Action for Promoting and Implementing Technical Co-operation among Developing Countries;
- Exploration of the possibility of applying the considerable experience accumulated by UNESCO and other governmental and non-governmental organizations in the restoration and preservation of artistic and historical monuments and buildings, both in matters of technology and the organization, design and implementation of rehabilitation programmes for inner-city housing stock;
- Provision of training programmes, with special reference to inner-city rehabilitation, for specific target groups such as technicians, building workers, community workers and housing management staff;
- Dissemination of the basic knowledge and results of additional research on the different aspects of rehabilitation accumulated by national and international building research institutions such as the International Council for Building Research, Studies and Documentation. In this respect, the two Regional Housing Centres of the Economic and Social Commission for Asia and the Pacific (ESCAP) at New Delhi, India, and Bandung, Indonesia, should be strengthened to enable them to increase their activities in the field of housing management with special reference to the rehabilitation of the existing housing stock.

## Annex 1: List of participants

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## Annex 2: List of documents

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|---|---|
| Chan Pak | "Rehabilitation of old public housing blocks in Hong Kong" |
| D.K. Afzulpulkar | "Rehabilitation of the old housing stock. Bombay experience" |
| R.P. Phadke | "Indian experience of rehabilitation programmes - repairs and reconstruction of old dilapidated buildings in the island city of Bombay' |
| Remy Prud'homme | "Rehabilitation of the existing housing stock: the French experience" |
| Syed Iqbal Kalim | "Rehabilitation measures and programmes in industrialized countries and their relevance to developing countries" |
| Atilla Yucel | "Historic conservation as a tool for housing rehabilitation" |
| Herald Kristiansen | "Rehabilitation measures and programmes in industrialized countries and their relevance to developing countries" |
| C.N.F. Dos Santos | "Four considerations on eradication and rehabilitation of favelas" |
| David Bland | "Experience from comprehensive, government supported rehabilitation programmes applied to older, substandard public and private sector stock in the United Kingdom, 1969-1982" |
| J.R. D'Souza | "Obsolescence in Bombay's housing stock" |
| Alan Turner | "Housing rehabilitation: the current situation in England and the relevance of the concept in India" |
| Woo-Suh Park | "An analytical study of the housing policy for the improvement of squatter settlements: a case study in Seoul, Republic of Korea" |
| Pree Buranasiri | "Slum upgrading and rehabilitation" |
| O. Jorgensen | "Some financial aspects of rehabilitation" |
| G.C. Mathur | "Rehabilitation of existing housing stock mobilization of technical resources including materials, techniques and skills for project operations" |
| Herald Kristiansen | "Vocational training" |
| Vittoria Calzolari Chio | "Urban rehabilitation policy in Italy: management of existing housing stocks in inner-city areas" |
| F.H.J. Nierstrasz | "Policy guidelines for the implementation of rehabilitation programmes' |
| Hugo Ruibal Handabaka | "Rehabilitation of existing low-income housing stock in inner-city areas of developing countries" |
| Hans Wohlin | "Public participation in rehabilitation" |