



THE INCREMENTAL DEVELOPMENT SCHEME

A CASE STUDY OF KHUDA-KI-BASTI IN HYDERABAD, PAKISTAN

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GOVERNMENTS WILL HAVE TO DEVISE ALTERNATIVES TO THE INFORMAL PROCESSES OF LAND SUPPLY THAT HAVE ASSISTED MANY LOW-INCOME FAMILIES IN THE PAST BUT THAT MAY NOT BE ABLE TO SUPPLY LAND TO MEET FUTURE NEEDS.

Informal processes of land development now play a crucial role in making land available to low-income and disadvantaged groups, particularly in the face of rapid urbanization in developing countries. The high cost to developers and individual households of acquiring land for shelter through the formal sector as well as the high standards for preparing that land have made it very difficult, if not impossible, for the poor, homeless and disadvantaged to gain access to legitimate housing on legally acquired land. There is, however, considerable doubt that established informal processes can continue to meet needs (even if it were desirable to look on informal supply as the permanent *de facto* policy of the government). Therefore, some form of intervention by government may be necessary.

The Global Strategy for Shelter to the Year 2000
UNCHS, 1990:32

PREFACE

One outcome of the International Year of Shelter for the Homeless (IYSH) 1987 has been an increased awareness that governmental and non-governmental organizations as well as the formal and informal private sector, in many countries, have successful experiences to share with others and that the global exchange of knowledge is essential to a solution of national shelter problems. The United Nations Centre for Human Settlements (Habitat) is now coordinating and monitoring the implementation of the Global Strategy for Shelter to the Year 2000, the long-term and implementation-oriented follow-up to the International Year of Shelter for the Homeless. In this context, the Centre sees the documentation and dissemination of significant experiences with innovative strategies, which seek to solve low-income housing problems in developing countries, as one of its tasks.

The incremental-development scheme, launched by the Hyderabad Development Authority in Hyderabad, Pakistan, is an example of such an innovative approach to urban low-income housing. It is based on the sites-and-services concept which, for many years, has been advanced as a crucial component of programmes to meet the housing needs of the urban low-income population. The sites-and-services approach has, however, also been strongly criticized for its inability to reach the lowest-income strata of the population and for its poor cost recovery.

The incremental-development scheme attempts to reach those most urgently in need of shelter by providing sites-without-services. Such sites are affordable and accessible to low-income households, owing to their low cost, their ease of entry without bureaucratic procedures, the provision of infrastructure after all development charges have been paid and the abolition of almost all standards for house construction. From the point of view of housing authorities, the necessity for site-holders to pay for infrastructure up-front eliminates the need for loans as well as the problems inherent in cost recovery. Bearing these factors in mind, the experiences gained in Hyderabad might be useful to housing agencies in developing countries in their search for strategies to improve the living conditions of the urban poor.

This case study has been prepared as part of a series for use in the Housing and Development workshops/seminars, jointly organized by UNCHS (Habitat) and Katholieke Universiteit Leuven (KUL), Belgium, with the collaboration of Messrs. Yap Kioe Sheng, Adnan Hameed Aliani and Mohammed Azhar Khan.

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SUMMARY

Conventional housing, whether a fully serviced plot of land with a complete house or a unit in a walk-up apartment building, is beyond the means of most urban poor in developing countries. Owing to the limited resources of governments in developing countries and to the magnitude of the urban low-income housing problem, subsidizing urban low-income housing is not a viable option. Governments, therefore, have to resort to innovative approaches to shelter low-income groups.

Sites-and-services schemes are an attempt to provide affordable and acceptable housing to the urban poor in developing countries. While providing fully serviced plots, they leave the construction of the shelter to the owner/occupant who can develop his house incrementally according to his needs, priorities and resources. Although less expensive than conventional housing, sites-and-services schemes are still beyond the means of many urban poor.

For the lowest-income groups, housing costs in sites-and-services schemes are still unaffordable, owing to high transportation costs to centres of employment, the enforcement of building standards and the costs of infrastructure. Lengthy and complex bureaucratic procedures and eligibility criteria for housing finance put the poor, who usually work in the informal sector, at a disadvantage. Cost recovery is poor, owing to delays in the installation of infrastructure, inadequate collection methods and lack of political will to enforce collection.

For the lowest-income groups, neither the modern approach, whereby a fully serviced plot with a complete house is provided to the allottees (as in conventional housing projects),

LAND — INFRASTRUCTURE — HOUSING — PEOPLE

nor the sites-and-services approach, whereby a fully serviced plot is provided, but the house has to be constructed by the allottee,

LAND — INFRASTRUCTURE — PEOPLE — HOUSING

is an appropriate sequence. John Turner has pointed out that, for housing the lowest-income groups, it is necessary to return to the traditional sequence of human settlement, whereby people settle on unserviced land and develop their housing and infrastructure incrementally, as they feel the need for the facilities and accumulate the funds to pay for them, in the following sequence:

LAND — PEOPLE — HOUSING — INFRASTRUCTURE

As in other developing countries, large portions of the urban population in Pakistan, in particular in Karachi, do not have access to formal housing. In the past three decades, local authorities in Karachi and Hyderabad have developed a large number of sites-and-services schemes, but they have been unable to reach those most in need of shelter. Owing to a lack of co-operation and co-ordination between public agencies, many of these schemes did not have infrastructure and services for a long time after the plots had been allotted.

Land in sites-and-services schemes in Karachi and other cities in the Province of Sind was generally acquired by middle-income families. They did not need to occupy their plots immediately, because they already had adequate housing elsewhere in the city. As a result, most plots in most sites-and-services schemes remain vacant. In the meantime, illegal sub-dividers (*dallal*) have sold large tracts of vacant public land to the urban poor at affordable rates. Owing to the ease of entry, their lack of standards and their low cost, such illegal subdivisions provide suitable housing opportunities for the bulk of the urban low-income population. However, they cannot be the solution to the urban low-income housing problem: the authorities need to find a formal alternative to illegal subdivisions, but such an alternative must be equally affordable and accessible for the urban poor.

A governmental programme in the 1970s to regularize and upgrade informal settlements, including illegal subdivisions, had a very limited impact. The mere announcement of the legalization of the informal settlements removed the urgency for residents to acquire a lease for their plot. As a result, cost recovery in regularization and upgrading projects was low, and this made the governments reluctant to implement the programme at a large scale. A project by a non-governmental organization in the illegal subdivision of Orangi, to encourage local communities to improve their own living conditions, has been quite successful.

The incremental development of both housing and infrastructure is a logical consequence of the sites-and-services approach, but several practical problems need to be solved to make such schemes viable. A site without shelter and infrastructure is a rather inhospitable environment, unless there are mechanisms to finance and construct infrastructure after the settlement of the population. Moreover, if there is a strong demand for land for housing, middle-income groups might try to acquire plots in such a scheme, for future occupation or for speculation. So, procedures need to be developed to create acceptable living conditions, while barring middle-income groups from the scheme.

In an attempt to reach the lowest-income groups in Hyderabad, Pakistan, the Hyderabad Development Authority (HDA) launched an incremental-development scheme. The scheme is based on the idea that people should settle before houses and infrastructure are constructed and that, once settled, they can develop their housing and the infrastructure incrementally, as and when they have the resources. The incremental-development scheme in Hyderabad imitates the approach followed by the illegal sub-dividers: it is characterized by ease of entry, immediate delivery of the plot and incremental development of the houses and the infrastructure. The Hyderabad Development Authority recruited illegal sub-dividers to assist the agency in the identification and settling of low-income families in the incremental-development scheme.

The scheme, called Khuda-ki-basti or "God's Settlement", provides initially only 80-square-yard plots and water supply through water tankers. The Hyderabad Development Authority requires a low-income family in need of shelter to spend, initially, two weeks in a reception area to prove its urgent need for shelter. Then, the HDA allocates a plot upon the payment of Rs. 1000 which covers the full cost of the plot. The family has to live on the plot permanently. The plot is repossessed if found unoccupied; this reduces absentee ownership and speculation. The Hyderabad Development Authority does not set any standards for housing, and this enables the allottees to build their houses according to their individual needs and resources. Once settled, the allottee is urged to make regular payments into a neighbourhood account, so that the provision of infrastructure can be financed, once sufficient funds have been accumulated. This eliminates the need for cost recovery.

A disadvantage of Khuda-ki-basti is its location, about half an hour from the city of Hyderabad by public transport. The industrial zone of the Sind Industrial Trading Estate is not far away, but the project's low-income families, who earned their daily income mainly from informal-sector activities in Hyderabad, faced quite some hardship when they settled in Khuda-ki-basti. Furthermore, residents of Khuda-ki-basti had to travel regularly to Hyderabad in the initial phase of the scheme, when the settlement did not have many shops and public services: this made transport one of the costliest items in their budget. Fortunately, conditions are gradually improving, with the settlement of more households and the growth of the commercial and small-industry sector.

Although there is need for improvement of the approach, the results of the first three years of the incremental-development scheme are quite encouraging. Some 2500 families, mainly in the monthly household income bracket of Rs. 500 – Rs. 1,500 (\$25-75), have settled in Khuda-ki-basti, and many have been able to construct semi-permanent houses. In those blocks which have been able to develop a strong community organization, water supply, a sewer system and electricity are already available. Other blocks have, however, not been able to develop any infrastructure, owing to a lack of leadership: if they cannot manage soon to acquire some basic infrastructure, they might demand that government provide infrastructure without an up-front payment and re-introduce the need for cost recovery.

It is essential for the success of the scheme that the population be organized at block level and be urged to make regular payments into the block account for infrastructure. An agency, such as the Hyderabad Development Authority, does not have the capacity to develop and organize communities, and to train local leaders. Therefore, for the success of such a scheme, it would probably be best to settle existing low-income communities, rather than individual families, or to organize communities before settlement. This would imply the following sequence of settlement:

PEOPLE — LAND — HOUSING — INFRASTRUCTURE

Once the allottees have been settled, the housing agency could hand over the scheme to a non-governmental organization (NGO) and the NGO could organize the communities, train leaders, assist the population to save money for infrastructure and advise the community to construct the infrastructure on a self-help basis, as is being done in the Orangi Pilot Project.

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CONVERSION TABLE			
\$US1	=	Pakistan Rs. 9.9 (1974)	
\$US1	=	Pakistan Rs. 21.3 (1990)	
1 square yard	=	0.8361 square metre	
1 acre	=	4047 square metres	

INTRODUCTION

Policies, programmes and projects aimed at housing the urban poor in developing countries have, for a long time, been and, in some cases, still are dominated by the concepts of conventional housing, where the owner/occupant buys a completed housing unit in a completely serviced neighbourhood from a public housing agency or a private developer. Such housing units have to be designed and constructed by qualified professionals, as they have to meet legally defined standards and building regulations. Experience shows that this conventional approach has not contributed to an alleviation of the shelter problems of the urban poor who still are living largely in informal or illegal settlements.

There is a growing awareness that, if governments want to improve the housing conditions of the low-income population, innovative approaches need to be developed, while many generally accepted concepts and procedures have to be discarded. This will not be easy, as several actors involved in housing supply have fixed ideas about how shelter must be provided or even have vested interests in existing housing delivery systems. However, new ideas, such as reduced housing standards, appropriate technology, incremental housing development, community participation and squatter-settlement regularization, which once seemed unrealistic and unacceptable, have now become common practice in low-income housing programmes of developing countries.

The incremental-development scheme falls into this category. At first glance, the idea of a site-without-services project and the incremental development of infrastructure seems unacceptable. However, in view of the magnitude of the low-income housing problem, the limited public resources available for housing and the problem surrounding access to land for the urban poor, incremental-development schemes might well be an inevitable approach for housing the lowest-income groups which have not benefited from formal low-income housing programmes.

While the public sector has built its unaffordable "low-cost" houses the informal sector has provided affordable housing opportunities for the urban poor at a massive scale in informal settlements. Since the 1970s, public housing agencies have been studying these informal settlements, to learn from their mechanisms of development. As a result, many housing agencies have launched squatter-settlement regularization and upgrading projects and sites-and-services schemes which are now generally recognized as the new orthodoxy of urban low-income housing.

However, neither of these two types of projects has reduced the housing problems of the urban poor.

Almost all projects have been plagued by the problem of poor cost recovery which has made many governments reluctant to embark on large-scale programmes of squatter-settlement regularization and upgrading and sites-and-services schemes. Moreover, officials have generally been dissatisfied with the (low) standards for housing and infrastructure in these projects, although such standards are necessary, to keep the schemes within the paying capacity of the target group. Finally, the limited supply of plots and the tendency to increase standards have led to an infiltration by high-income groups of low-income housing projects.

In 1986, the Hyderabad Development Authority adopted a new approach. After carefully studying the unsuccessful sites-and-services schemes of local authorities in Karachi and Hyderabad (such as the Metroville programme of the Karachi Development Authority) and the illegal subdivisions through which the informal sector has housed many hundreds of thousand of low-income families, it launched the incremental-development scheme on the outskirts of Hyderabad.

This new approach guaranteed an easy entry to the scheme for households in most urgent need of shelter; it accepted the principle of incremental development not only for housing but also for infrastructure; it stressed the need for community participation in the provision of infrastructure; and it discarded almost all standards and eliminated the need for housing loans to residents and the ensuing problem of loan recovery. The concept of incremental development of housing and infrastructure is a direct step forward from the concept of sites-and-services.

In order to explain the logic of the incremental-development scheme, chapter I reviews the concept of the sites-and-services scheme - its origin, its characteristics and the problems encountered in implementing such schemes. Chapter II, then describes the low-income housing situation in Karachi and Hyderabad, and the efforts by the public sector and the private informal sector to supply land for housing the urban poor. Chapter III outlines the principles of the incremental-development scheme, and chapter IV describes the search of the Hyderabad Development Authority for procedures and mechanisms to make land available to low-income households, in accordance with the incremental-development concept. Chapter V presents an overview of the current situation in the scheme - the physical and socio-economic conditions of the settlement and the population, respectively - and chapter VI assesses the impact of the project, its successes and its weaknesses.

The review of the incremental-development scheme in Hyderabad suggests that, despite a number of unsolved problems and despite opposition from officials and technocrats, the approach works well: after three years, the scheme provides affordable land and housing to several thousand low-income households in Hyderabad.

I. SITES-AND-SERVICES SCHEMES

The sites-and-services concept

Initial attempts to solve the housing problems of the urban poor in developing countries were copied from the approaches followed by governments in industrialized countries faced with a housing crisis after the Second World War-construction of walk-up apartments and single-family housing units. Soon, developing-country governments realized that these solutions were too expensive for low-income families and that, in view of the magnitude of the problem, public resources would be depleted quickly, if governments were to subsidize such programmes.

Governments, therefore, sought to introduce cost-saving measures. The cost of land was reduced by providing small plots and locating projects on the urban fringe where land values were low. The cost of infrastructure was reduced by lowering standards (un-paved roads, on-site waste disposal) and by providing shared facilities (public water taps, community toilets). The cost of the house itself was reduced by introducing low-cost building materials and, last but not least, by asking allottees to construct their houses using their own labour.

In order to maintain standards, projects trained allottees in construction skills, and allottees built their houses according to plans provided by the project and under project supervision. To achieve efficiency and to create a community spirit, allottees were encouraged to form groups to build their houses jointly (mutual aid). The provision of labour by allottees, in lieu of cash payment, was called "sweat equity". The approach did not produce the expected results, as it was based on several misconceptions.

Unskilled, labour (and most allottees could not provide more than that) forms a small portion of the cost of a house, and the cost of training and supervision, in particular of building groups, often outweighed the cost reductions of self-help labour. Many of the allottees considered the opportunity-cost of building their own house too high; it was financially favourable for them to go about their own business and hire skilled labourers to construct their houses for them. As a result, many of the houses, intended to be built by self-help labour, were built by small-scale contractors.

In the meantime, the informal housing sector provided low-cost housing opportunities in squatter areas around the cities of the developing countries. Land in such settlements was cheap, because land occupation was informal, if not illegal. Construction costs were low, because the squatters did not have to follow building rules and regulations, and could make use of whatever materials they wanted. However, security of tenure was low, resulting in frequent evictions, while the lack of infrastructure created environmentally hazardous situations.

In the 1970s, housing experts, such as John Turner, noted that, if security of tenure in a squatter settlement increased, residents were prepared to invest their resources in improvement of their houses, developing the settlements into decent low-income neighbourhoods. Turner and other pioneering housing experts contended that, instead of demolishing squatter settlements, authorities should grant squatters security of tenure and provide basic infrastructure. Such projects could also be called sites-and-services schemes as they provided a plot (site) and infrastructure (services).

Squatter-settlement legalization and upgrading remains, however, a reactive form of planning. It legalizes an illegal occupation of land and, thereby, creates opposition from land owners who have their land encroached upon. It is, sometimes, difficult to provide infrastructure, as settlements develop in such a haphazard manner and become so densely populated that construction of a road and water-supply network often requires large-scale demolitions. Legalization of squatter settlements even encourages further encroachments, as it can be a signal to other urban poor that the illegal occupation of vacant land will be rewarded with ownership of that land.

Realizing that squatter-settlement upgrading cannot be the solution to the low-income housing problem, housing experts proposed to imitate the development of squatter settlements. Rather than, first, allowing squatters to develop their settlements illegally and, afterwards, providing titles and infrastructure, sites-and-services schemes were to provide regular plots (sites) with infrastructure (services). The urban poor could, then, construct their houses under planned conditions, while, in principle, maintaining the same "freedom to build" they had in the squatter settlements.

The principles of sites-and-services schemes

In a sites-and-services scheme, allottees buy or lease a plot of land with basic infrastructure and services for which they pay with a loan from the project: the infrastructure includes roads, water supply, drainage, electricity and a sanitation system. The allottees construct their own houses for which they can obtain an additional loan from the project: the project supplies technical advice and type-plans of house designs for which a building permit has already been obtained. Allottees are free to build the houses they want, provided they observe certain basic regulations.

As sites-and-services projects are targeted on a specific income group, the authorities need to develop procedures to verify whether an applicant belongs to the target group; this is done mainly by determining the applicant's income. Authorities can set many criteria for the allocation of a plot, such as a minimum length of stay in the city, no ownership of another property in the city, and a fixed employment or, at least, a regular income. As the number of low-income households in search of a plot is much higher than the available number of plots, the authorities often have to resort to a lottery, to determine the lucky few who obtain a plot.

While designing a sites-and-services scheme, authorities are faced with the dilemma of whether to undertake some plot development as part of the project (so that basic standards are maintained, and initial living conditions are acceptable for the allottees) or to leave plot development completely to the allottee (so that the project remains affordable and accessible to the lowest-income groups). Different projects have resorted to different solutions, and some of the best-known examples of this attempt to strike a balance between acceptable living conditions and affordability are:

Utility wall

The installation of water supply, electricity, a latrine etc. in the house can be a complex and costly task for an allottee. To assist allottees in the installation of such facilities, some projects have a utility wall on the plot, with connections for water supply, drainage and sewerage already provided. In other projects, such a utility wall is built in the form of a sanitary core, i.e., a bathroom/toilet and/or a kitchen.

Latrine

Since provision of an adequate human-waste disposal system is critical for sanitary conditions in the settlement, some projects do not leave construction of a latrine to the allottees, but provide a latrine (e.g., with septic tank) on the plot. In other projects, the authorities require that allottees construct latrines before any other structure is erected.

Roof frame, shell house, core house

The roof is an important part of the structure; it is also the costliest and the most difficult to construct. In some schemes, the posts and roof structure are provided with the plot. As the allottee needs a place in which to live and to store construction materials while building the house, a shell or core house is, sometimes, provided on the plot. A shell house is an incomplete house, consisting of a roof and two side walls but without front and rear wall or internal partitions: a core house usually consists of one complete room.

Given the magnitude of the housing problem of the urban poor and the limited resources of governments, most sites-and-services schemes have been organized on the basis of full or partial cost recovery. To assure cost recovery as well as accessibility of the project for low-income groups, the costs for allottees have to be brought in line with the paying capacity of the target group (e.g., 20-25 per cent of total monthly household income). For the purchase of the serviced plot, allottees receive loans which they have to pay back over a certain period of time; they can obtain an additional loan for the purchase of building materials and the actual construction of the house. The loan can be in the form of building materials or of cash with which they can buy building materials themselves: sometimes, they can also use the loan to hire skilled and unskilled labour. The project might have a building-materials store where allottees can buy materials at a low (or even subsidized) price: such a store provides some guarantee that allottees will use good-quality materials.

Some problems of sites-and-services schemes

Although sites-and-services schemes differ in details, they all tend to be based on the principles described above: most sites-and-services schemes have also encountered similar problems. In addition to the high cost of entry, sites-and-services schemes are often rendered unaffordable or inaccessible for the lowest-income groups by bureaucratic procedures, institutional requirements and political problems. Some constraints have been:

Location

Since land costs form an important portion of the cost of the plot, most sites-and-services schemes are located on the urban fringe where land values are still low. However, because of the distance between the scheme and existing service networks, the cost of off-site infrastructure is high, and construction can be delayed. Moreover, transport costs to centres of employment, be they the city centre or some industrial area, can be high, and many allottees lose employment and income when they move to a sites-and-services scheme.

Bureaucratic procedures for the selection of beneficiaries

Selection procedures, designed to ascertain that applicants meet eligibility criteria, tend to be cumbersome, time-consuming and full of bureaucratic pitfalls, and provide opportunities for corruption. For the urban poor who work in the informal sector and/or on a casual basis in the formal sector, many of the requirements are impossible to meet. If the authorities do not demand a fixed employment, they, at least, want to see that applicants have a regular income, so that they can repay their loans: this disqualifies most low-income households.

Delay in the provision of infrastructure and services

Sites-and-services schemes are usually implemented by a housing agency which acquires the land and allocates the plots but is not responsible for the construction of off-site infrastructure and the provision of public services. The water-supply and sewerage agencies, the transport corporation, the ministry of education, the department of health etc. often have their own priorities and development plans which do not take into account the projects of the housing agency. As a result, a sites-and-services scheme might be without some infrastructure or services for months or years after the allocation of plots. In the meantime, allottees cannot occupy their property but have to pay for them, as well as for the houses they are occupying.

Standards

For many administrators, technocrats and politicians the idea of incremental housing is difficult to accept, as it seems to make the government responsible for the development and preservation of slums. They will only accept sites-and-services schemes, if high standards can be maintained. Many sites-and-services schemes, therefore, have higher housing standards than the target group can afford and set strict regulations for the use of the plot. Some sites-and-services schemes, for instance, prohibit income-generating activities on residential plots, including the rental of rooms: they, thereby, limit the opportunities of residents to earn an (additional) income to pay for their plot and their house.

Filtering

Owing to the difficulty of determining who is eligible for a plot and to the long bureaucratic procedures, with their opportunities for corruption, a sizable portion of the allottees in a sites-and-services scheme often belongs to an income group above the targeted one. Moreover, in view of the high standards and the distance to employment opportunities, some low-income allottees sell their property to other, usually high-income, groups. For middle-income households, a sites-and-services scheme is, in its initial stage, a rather unattractive place to live. Little infrastructure and few services are available; many plots are undeveloped; many houses are still of a low quality. As they probably already live comfortably elsewhere and do not need a plot and a house immediately, the middle-income family often leaves its plot undeveloped for a long time.

Cost recovery

An evaluation of World-Bank-funded sites-and-services schemes showed that almost all were plagued by poor cost recovery (Keare and Parris, 1982: XII-XIII). One reason for poor cost recovery is the high expenses allottees have to bear shortly after moving to the scheme. They have to pay for the plot as well as for the construction of the house, while they might be facing a loss of income due to the move to the new site. They have transport costs and regular costs for water and electricity consumption which they might not have had before.

However, low levels of cost recovery are not only or mainly caused by the low incomes of the residents. In some sites-and-services projects, the initial record on payments by allottees has been reasonably good, owing to a strong element of self-selection and of pride associated with the construction of new dwelling units. Problems have developed afterwards, when maintenance and social facilities were not provided as promised: households became disillusioned and increasingly reluctant to pay. This situation is often exacerbated by inadequate collection methods, lack of sanctions for non-payment and absence of political will to enforce collections. Allottees even seek the protection of politicians against an agency which tries too hard to recover costs: politicians are known, in fact, to have encouraged allottees not to pay.

Frequently, allottees tend to see governmental support for housing low-income families as a grant rather than a loan, and repayment is, therefore, not considered necessary. Citizens see public agencies as wasteful and corrupt, and know that a public agency will often not take action in case of default, unlike a private company which is owed money. It is significant that, in the evaluation of World-Bank-funded sites-and-services schemes, a project in El Salvador, implemented by a non-governmental organization, had the best cost-recovery record (World Bank, 1983: 26).

II. LOW -INCOME HOUSING IN KARACHI AND HYDERABAD

Housing conditions in Pakistan

Pakistan consists of four provinces - Punjab, Baluchistan North-West Frontier Province and Sind, and currently has an estimated population of over 120 million and a population growth rate of 3.1 per cent per annum. About 70 percent of the population of Pakistan lives in the rural areas. Sind is the most urbanized of the four provinces: almost half of its 20 million inhabitants live in towns and cities, The urban centres in the Province of Sind are Karachi with about 7.7 million inhabitants, and Hyderabad, a town 180 kilometres north-east of Karachi, with about 1 million inhabitants (see figure 1).

The housing conditions of the poor in Karachi are particularly serious. Since independence and the partition of the subcontinent, which led to an enormous influx of migrants from India, Karachi has faced a serious housing shortage

which has forced many low- income households to encroach and squat on vacant land in and around the city. About 40 per cent of the population lives in *katchi abadis* (literally: temporary settlements). The older *katchi abadis* are pure, unplanned squatter settlements, i.e., houses built by the urban poor on land, usually owned by a governmental agency, without permission of the authorities. Recent *katchi abadis* are mainly illegal subdivisions: a land grabber subdivides government-owned land without permission from the authorities and sells it to low-income households.

The Metroville programme

In the early 1970s, the Karachi Development Authority (KDA) developed the Metroville programme, based on the sites-and-services concept, to provide housing to the low-income population in the city. The first scheme in this programme (Metroville I) was planned in an excellent location (reflected in the presence of large *katchi abadis*, such as Baldia and Orangi) near a centre of industrial employment, the Sind Industrial Trading Estate (SITE), and large middle-income and high-income areas. The project was to cover an area of 80 hectares, with more than 4,000 plots, and was planned to accommodate 35,000 - 40,000 persons. The plot rates were initially very low, but later had to be adjusted (see tables 2 and 3).

Province	Number of <i>katchi abadis</i>	Population	Public	Area in acres		Total
				Private		
Punjab	902	1,600,000	8,875	501		9,376
Sind	1,300	3,800,000	24,300	1,700		26,000
NWFP*	55	300,000	2,826	-		2,826
Baluchistan	65	300,000	1,509	3,434		4,943
Total	2,322	6,000,000	37,510	5,635		43,145

* In a strict sense, there are no *katchi abadis* in the North-West Frontier Province, as the residents of slum areas have proprietary rights to the land (Source: Planning Commission, Government of Pakistan, n.d.: 238).

The Metroville I project was, designed to provide basically two types of plots for incremental-housing development:

- open-plot development, where individual connections of water sewerage electricity and gas were provided, and
- the innovative utility-wall development, with water, sewerage, electricity and gas connections on a wall and cemented floor in the kitchen, bath and toilet area, to which families would be encouraged to add semi-permanent or permanent structures, in accordance with their budgets and needs (see figure 3).

Although the first allottee moved to the site in 1974, the occupancy rate was, for a long time, very poor: by the end of October 1979, only 11 households were found living in Metroville.

The problems of the Metroville I project have been numerous. A water reservoir was constructed to meet the needs of the area, but owing to a general shortage of water in Karachi, water was available in only two sectors for six days a week, while other Figure sectors were completely deprived of water. Only street lights were available, while individual connections, for which allottees had already paid fully, were not provided, owing to a dispute between KDA and the Karachi Electricity Supply Corporation. Similarly, the utility wall had a connection for a gas supply, but owing to a dispute with the Karachi Gas Corporation, no gas was available. Moreover, squatters encroached on some of the land designated for Metroville I, thereby obstructing the complete development of the scheme.

An evaluation of the Metroville I project, in 1979, found that the majority of allottees in Metroville I did not have an urgent need for their plot in the scheme, as they already lived in permanent houses with all basic amenities. Moreover, the majority of the residents and allottees had a higher income than the originally planned target group. A large majority of the residents in the adjacent illegal subdivision belonged to the target group but did not want to go and live in Metroville I (Siddiqui, 1983; 103-124).

Type	Income group (Rs./ month)	Percentage of Karachi population	Plot size (sq. yd)	Price/ sq. yd. (Rs.)	Price/plot (Rs.)	Utility wall (Rs.)	Basic house (Rs.)	Total cost (Rs.)	Down payment (Rs.)	Monthly installment (Rs.)*
Open plot	0-299	44.52	80	12.0	960	-	600	1,560	235	12
Open plot	300-499	35.35	120	12.0	1,440	-	1,250	2,690	404	21
Utility wall	500-749		80	16.0	1,280	1,200	1,300	3,780	567	29
		14.42								
Utility wall	750-999		120	24.0	2,880	1,200	2,500	6,580	987	51

* Down payment: 15%; interest rate: 6.5 %; repayment period: 15 years. (Source: Master Plan Department, 1974: 178.51, 349-352)

Type	Number of plots	Plot size	Price (sq./yd.)	Price (Rs.)	Utility	Total (Rs.)
Open plot	128	80	27.50	2,200		2,200
Open plot	73	120	30.00	3,600		3,600
Utility wall	2,519	80	27.50	2,200	1,600	3,800
Utility wall	865	120	30.00	3,600	1,600	5,500

(Source: Khan and Mirza, 1981: 12)

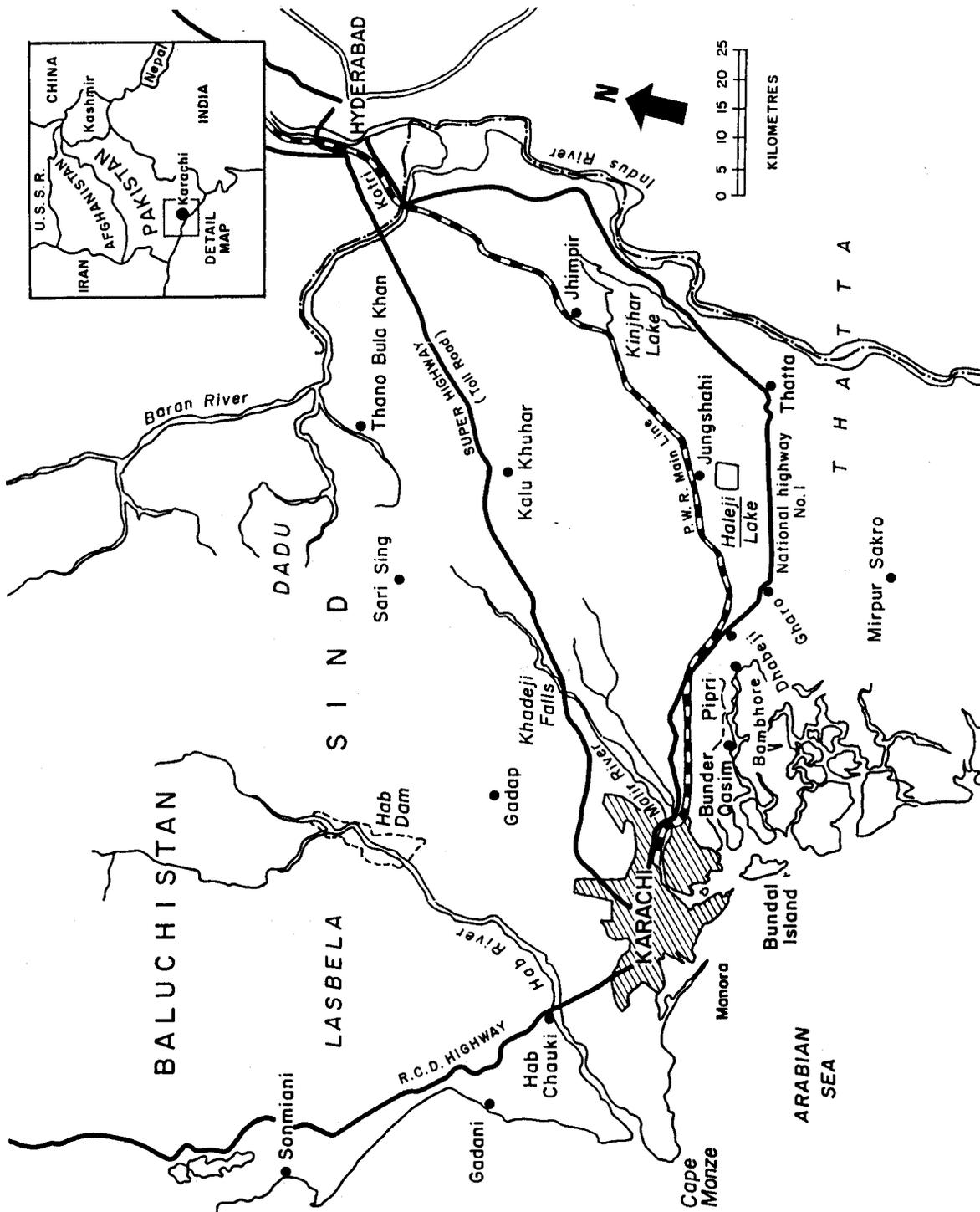


Figure 1. The Karachi region

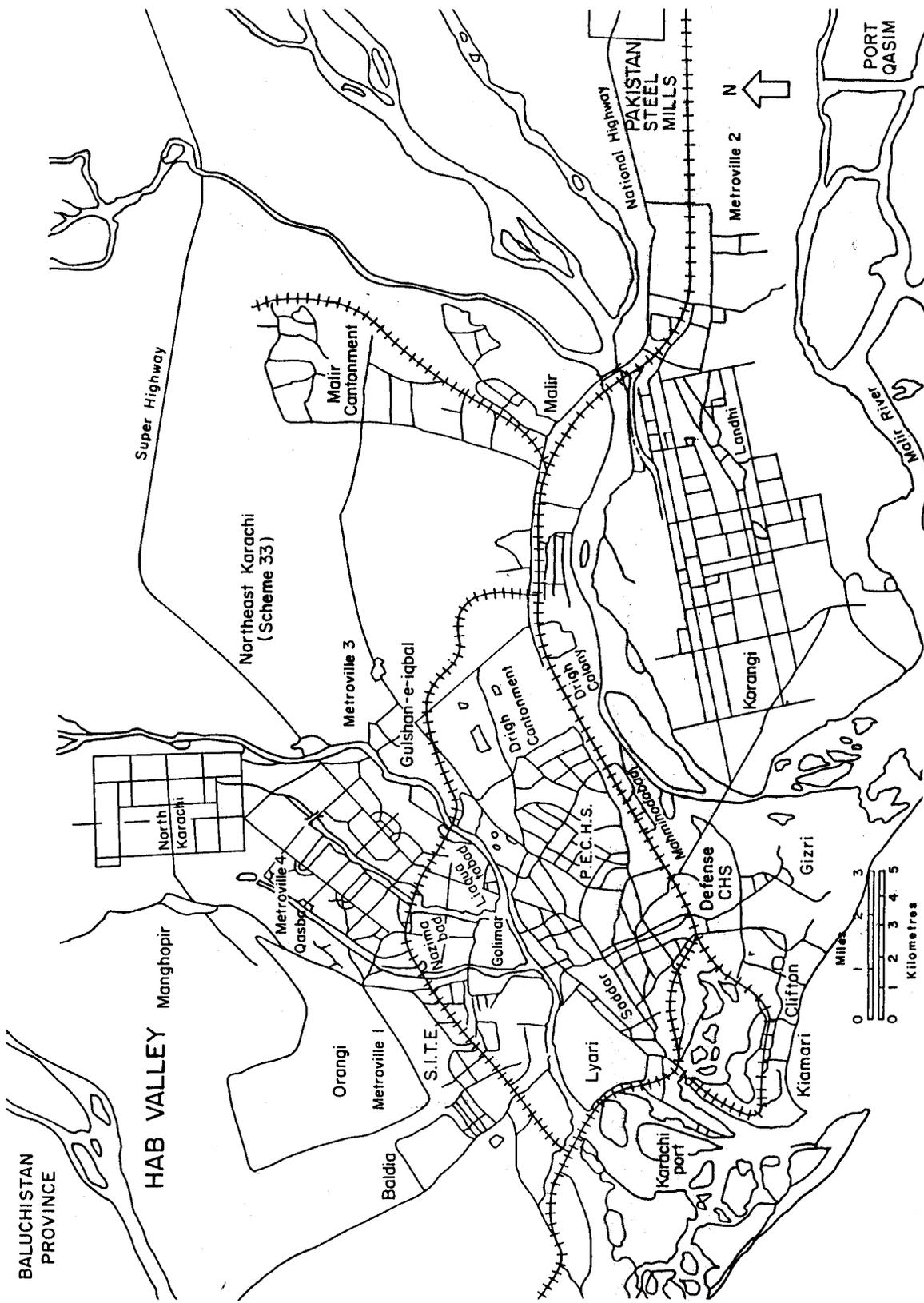


Figure 2. Karachi

Although the Metroville programme failed to provide land for housing the urban poor, the concept of sites-and-services was incorporated in the housing strategies of the development authorities in the of the Province of Sind. The Karachi Development Authority, subsequently developed Metroville II, III and IV in Karachi. The Hyderabad Development Authority (HDA) launched two sites-and-services schemes - Qasimabad in 1980 and Gulshan-e-Shahbaz in 1981 - with a total of 12,522 plots, but like the Metroville schemes in Karachi, they proved unsuccessful (Van der Linden, 1989: 1).

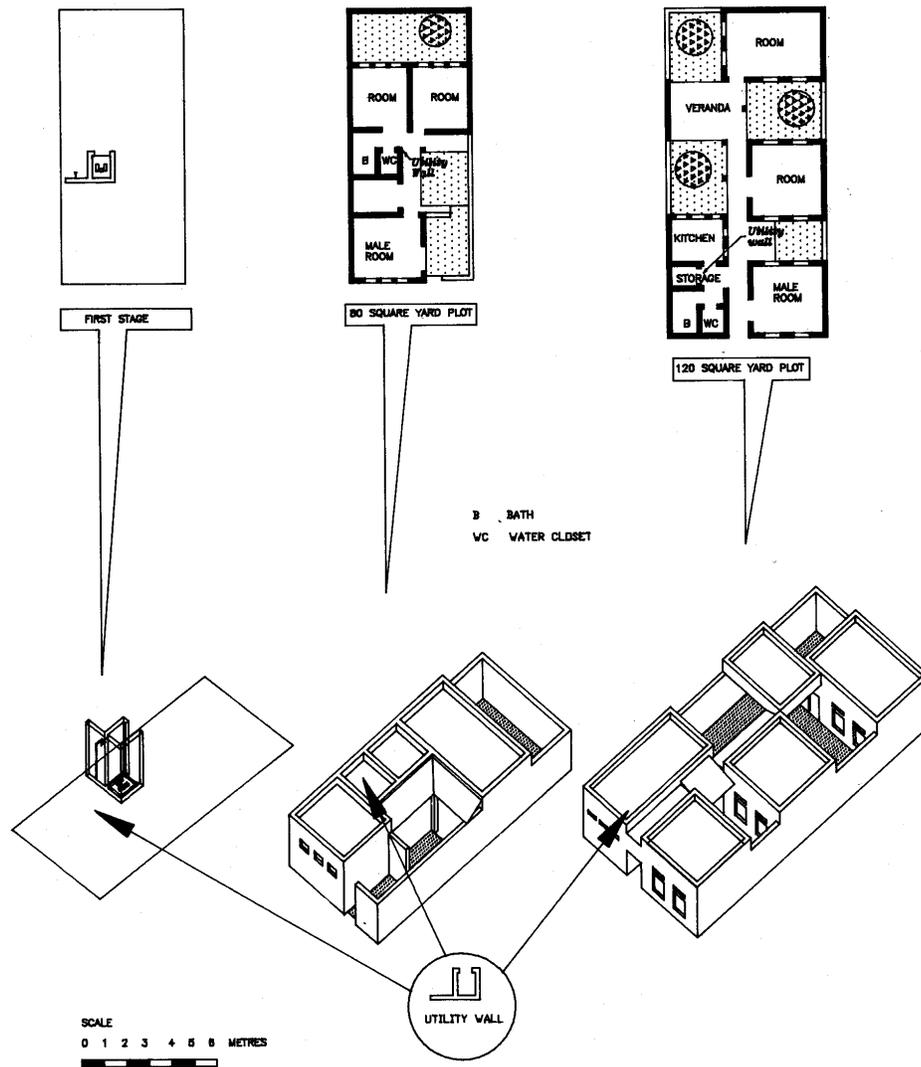


Figure 3. Typical utility-wall housing

Illegal sub-divisions

Karachi and Hyderabad are surrounded by desert, and there is more land available than can be put to use. Although private groups and persons claim ownership of tracts of land on historical grounds, in particular around Hyderabad, most land is in public ownership of some sort. The Board of Revenue is the controlling authority in the Province of Sind in all matters related to government-owned land. In urban areas, the Board of Revenue grants land to local authorities (such as the Karachi Development Authority, the Karachi Metropolitan Corporation, the Hyderabad Development Authority) which, in turn, develop and manage the land, and issue leases to cities private users for periods ranging from 21 to 99 years (Khan, 1984).

While the Karachi Development Authority developed its Metroville programme and the Hyderabad Development Authority launched its sites-and-services schemes, hundreds of *katchi abadis* developed on the peripheries of Karachi, Hyderabad and Sind's third urban centre, Sukkur. Over the years, however, the character of the *katchi abadis* has changed. Initially, the poor simply encroached on vacant government-owned land (unorganized invasion) and gradually improved their houses if they perceived sufficient security of tenure: however, recently, unscrupulous entrepreneurs, who realized that there existed an enormous demand for low-income housing which the public sector could not meet, have seen big business in the sale of plots of government-owned land to the urban poor (illegal sub-division). They have also understood that if the resulting *katchi abadi* is laid out in a regular pattern, the chance of subsequent regularization and upgrading is very high.

Table 4. Status of sites-and-services schemes in 1984			
Scheme	Year initiated	Total plots	Plot occupied
Karachi			
Qasba township	1965	1,867	80% completed
Orangi township	1965	14,424	encroached upon
Baldia township	1965	8,756	encroached upon
Metroville I	1974	4,113	700
Metroville II	1980	4,379	2,200
Metroville III	1979	3,200	2
Metroville IV	1979/80	3,867	0
Shah Latif Town	1979	43,891	1
Deh Surjani Town	1980	47,000	0
Total		131,517	
Hyderabad			
Qasimabad	1980	1,242	21
Gulshan-e-Shahbaz	1981	11,280	0
Total		12,422	
Sukkur			
Gulsan-e-Iqbal	1975	924	0
GRAND TOTAL		144,963	

(Source: Siddiqui, 1988:30; Nientied, 1987: 124 - 126)

Illegal subdivisions are planned squatter settlements, not so much different from sites-and-services schemes. An illegal sub-divider (*dallal*), first, solicits the support of local politicians and governmental officials for his plans: this is usually achieved by giving bribes and by joining an existing patron-client network. He then, demarcates plots on vacant public land in the periphery of the city: in anticipation of possible future regularization and upgrading the *dallal* will see to it that his scheme has a regular road pattern and that it maintains a minimal plot size. Through his governmental contacts, he makes sure that his subdivision does not interfere with other development projects. If necessary, he seeks the assistance of town planners, to prepare a layout plan which will facilitate the regularization of the plots and the provision of infrastructure. The protection by politicians and officials usually prevents the police and the demolition squads from disrupting his scheme.

It is in the interest of the sub-divider that the development of the *katchi abadi* takes place as quickly as possible. Buyers are, therefore, pressured to occupy the plot immediately and to build at once; if a plot remains vacant for more than a month or so, it is re-sold to someone else and the money paid for it is confiscated. The *dallal* does not work alone; he needs henchmen or a team. The team consists of local ruffians who make sure that the residents pay their dues and that they participate in any community activities. Yet, the *dallal* provides residents with links to local patron-client networks which might give them access to employment education and other benefits.

If the settlement continues to exist and more households move in, security of tenure increases, and the attractiveness of the settlement for other potential residents improves. As a result, land prices will rise. The *dallal* makes his profits by reserving choice plots, such as corner plots and plots along the main street, which have commercial potential and offering them for sale once the settlement is established (Hasan, 1987; 32).

Table 5. Growth of Katchi abadis in Karachi and Hyderabad				
1972				
City	Katchi abadis	Area in acres	Housing units	Population
Karachi	70	3,000	133,000	800,000
Hyderabad	52	950	20,621	162,000
Sukkur	14	400	7,500	30,000
Total	136	4,350	161,121	992,000
1986				
City	Katchi abadis	Area in acres	Housing units	Population
Karachi	425	15,000	350,000	2,000,000
Hyderabad	102	1,580	35,500	285,000
Sukkur	29	806	15,000	67,867
Total	556	17,386	400,500	2,352,867

* As part of the *Katchi abadi* regularization and upgrading programme in Sind, 18,456 leases have been issued to *Katchi abadi* residents: in Karachi 16,500 leases, in Hyderabad 1,350 leases and in Sukkur 606 leases (Source: Siddiqui, 1988: 31)

The *dallal* recruits his customers from among the urban poor, living in existing, overpopulated inner-city slums and squatter settlements. He offers the first purchasers plots at a very low price in a completely undeveloped area: the only service he can initially provide is water supply by municipal tankers which he can arrange through his connections with officials. The first purchaser acquires a plot with a low level of security of tenure, as the *dallal* can never be sure that he has sufficient protection and that the settlement will be allowed to survive.

In Mohj Goth, an illegal subdivision in Karachi, the price of plots increased from about Rs. 500 in 1976 to Rs. 7,000 - 12,000 in 1983, while, in North Orangi, plots for which initial settlers had paid Rs. 50 in 1974 were resold at prices ranging from Rs. 8,000 to Rs. 12,000 in 1984. Although this increase needs to be seen in the context of citywide increases in land values, it is obvious that the lowest-income groups tend to settle in very recent subdivisions, while somewhat better-off families settle in subdivisions which have been established for five or more years, when facilities have become available (Mitra and Nientied, 1989: 7).

The *dallal* does not set any standards for the houses in the settlement, as long as the layout is observed, and the residents live on their plots. Once the sub-divider succeeds in attracting buyers, he engages a contractor/building-materials supplier (*thallawala*) who establishes a building materials manufacturing yard and supplies residents with concrete blocks, cement, aggregates and galvanized iron roofing sheets. The *thallawala* also gives technical guidance and, sometimes, takes on a contract for the construction of a house. In addition, he arranges to supply building materials on credit to residents and, sometimes, provides cash credit as well: he relies on social pressure to recover his debts and will, eventually, become an important man in the new community (Hasan, 1987; 33).

Once a sufficient number of low-income households have settled in the settlement, the *dallal* forms a social-welfare organization of the residents and has it registered with the authorities. The sub-divider appoints himself as leader of the organization and approaches the local authorities, through his contacts with officials and politicians, with a request for infrastructure and services in the settlement. Pressure is brought upon officials by demonstrations and petitions: sub-dividers have been known to hire journalists to highlight the problems of their settlements, so that the Karachi Metropolitan Corporation will be forced to take action (Hasan, 1987; 32).

The frequency of the water tankers is gradually increased until the Karachi Metropolitan Corporation installs some public water taps; private minibuses start to shuttle between the settlement and the city; the electricity supply company installs electricity and street lights. Eventually, the settlement might be included in the *katchi abadi* regularization and upgrading programme. In this way, thousands of low-income households have found affordable accommodation in Karachi and other cities and towns of Pakistan. A comparison of the most important features of illegal subdivisions and unorganized invasions is presented in table 6.

Katchi abadi upgrading

In the middle of the 1970s, the Karachi Metropolitan Corporation (KMC) launched its *katchi abadi* regularization and upgrading programme (see box 1). The programme offered 99-year leasehold titles (regularization) and basic infrastructure (upgrading) to *katchi abadis* which met certain criteria. Under the programme, a number of *katchi abadis* were actually legalized and, to some extent, also improved; the best-known examples are Lyari and Baldia Township. However, progress in the regularization and upgrading of *katchi abadis* is very slow, and the collection of lease charges is rather poor (Yap, 1982).

The largest agglomeration of illegal subdivisions is Orangi, in the north of Karachi near the Metroville I project. Here, 1 million people live in rather well planned but illegal subdivisions. It is said that planners of the Karachi Development Authority carefully designed this illegal settlement after office hours, to make sure that the settlement was viable and could be regularized and improved.

In the early 1980s, Dr. Akhtar Hameed Khan, a well-known community-development worker, became concerned about the living conditions in Orangi and started the Orangi Pilot Project (OPP). After an analysis of the situation, he came to the conclusion that the authorities would not be prepared to upgrade the settlement, because of its illegal character and because of the inability of most of the households to pay the development charges. Dr. Akhtar Hameed Khan considered the possibility of self-help improvement but discovered that the people of Orangi saw the provision of infrastructure as a task of the authorities and that they felt themselves incapable of constructing infrastructure.

Based on previous experiences and convinced that a low-income population can install its own infrastructure, Dr. Akhtar Hameed Khan tried a new approach. He managed to reduce the cost of an underground sewer system by 80 per cent, by eliminating profit margins and kickbacks, by replacing government-approved contractors with small informal-sector contractors, by using self-help labour where possible and by lowering standards. Furthermore, he motivated and organized the population of Orangi (in groups of 20-30 households sharing a house-access lane), democratized the local

leadership and improved neighbourliness. In addition, he established a technical-support team, to assist the population in the construction of the sewers.

Since 1980, the OPP has enabled the population of Orangi to install sewers serving 20,000 houses which accommodate some 200,000 persons. It has expanded its programme to improve women's welfare in Orangi, through health education, family planning and income-generating activities. The OPP has had enormous impact on the way professionals in governmental agencies as well as in non-governmental organizations in Pakistan look at the possibilities of community participation in improving living conditions in *katchi abadis*. Dr. Akhtar Hameed Khan's ideas about the role of the low-income population in the improvement of living conditions in *katchi abadis* have strongly influenced the thinking of the Hyderabad Development Authority about the incremental-development scheme. The importance of community participation, the organization of the population by lanes for self-help improvement and the promotion of construction of infrastructure on a self-help basis are ideas developed in the OPP and applied in the incremental-development scheme in Hyderabad.

Table 6. Types of *Katchi abadis*

Type	Un-organization invasion	illegal subdivision
Nature	Occupation of vacant land	Sale of vacant government land
Period	1947-1960	Since 1960
Location	Where land is available in a suitable condition	Periphery of the city
Income group	Predominantly the lowest-income groups	Generally low, but not lowest-income groups (consolidators)
Security of tenure	Low, but might improve over time	High, owing to protection by politicians and governmental officials
Cost	No cost, except protection money	Payment for plot and protection money; plot prices increase over time
Lay-out	Haphazard street pattern	Regular, planned lay-out
Initial services	none	Water by trucks and, often transport
Support facilities	None	Informal credit, building materials supply and contractors
Development	Slow, if not stagnating. Fast, if security of tenure is high and lay-out is regular	depending on conditions
Community organization and leadership	Usually spontaneous organization with local leadership	Sub-divider organizes residents to pressurize officials to develop the area

Adapted from Nientied, 1987: 46)

Box 1

THE BALDIA REGULARIZATION AND UPGRADING PROJECT

In 1975, the Karachi Metropolitan Corporation (KMC) announced a policy of regularization and upgrading of *katchi abadis* on its land. The first settlement improved on an experimental basis was Lyari, an inner-city slum and squatter area with 600,000 inhabitants and a stronghold of the then-ruling party. In 1977, KMC established the Central Planning Team, later called the Directorate of *Katchi Abadis* to implement the regularization and upgrading policy officially adopted in 1987 through Martial Law Order 67 which was later superseded by Martial Law Orders 110 and 183.

Baldia Township, in the north-west of Karachi and immediately north of the Sind Industrial Trading Estate, was the second *katchi abadi* to be regularized and improved under this programme. The Karachi Development Authority had originally designed Baldia Township as an open-plot development scheme - a sites-and-services scheme with minimal services - but owing to lack of services, the area remained vacant until low-income families started to build their houses illegally, turning the area into a settlement of some 200,000 inhabitants.

The Directorate of *Katchi Abadis* drew up several plans for regularization of the settlement and the issue of 99-year-

lease titles to the residents. In order to improve road access to all the houses and to provide sufficient safe drinking water, some roads had to be widened and straightened, but the basic principle was minimal demolition of existing structures. Whenever possible, the population of Baldia Township was consulted to ensure acceptance of the plans. A lease rate of Rs. 15 per square yard for residential plots was fixed, to enable KMC to recover the costs of construction of infrastructure.

Because of the size of the population Baldia Township, the staff of the Directorate of *Katchi Abadis* could not deal directly with the communities but had to work through community leaders. The national political situation, the presence of many political parties and the variety of ethnic groups in Baldia made this a formidable task. Surveys showed that leaders sometimes intentionally misinformed the population, to strengthen their own position and serve their own interests.

Eventually, it became clear that the Baldia project would not be implemented as planned. A revolving fund was to be established from which the construction of infrastructure in Baldia Township would be financed and which would be replenished from the lease proceeds for the upgrading of the next *katchi abadi*. The fund was never established.

Several reasons can be advanced for the lack of success:

- The announcement of the regularization and upgrading of all *katchi abadis* in Karachi gave the residents of Baldia Township so much *de facto* security of tenure that they did not need the lease title for which they would have to pay Rs. 1200-1500 for an average plot. Only those residents who wanted to mortgage or sell their plot showed keen interest in obtaining a lease title. This attitude jeopardized cost recovery as well as the revolving fund.
- In order to keep the lease rates affordable for the bulk of the population, the Directorate of *Katchi Abadis* proposed low levels of infrastructure such, as public water taps, metalling of only the main roads, and soak-pits as the human-waste disposal system. Moreover, many of the roads and house access lanes remained narrow and winding, in order to preserve the maximum number of houses in Baldia Township. Such plans were difficult to accept for politician and administrators as well as for local leaders and residents.
- The Directorate of *Katchi Abadis* prepared a regularization and upgrading plan for Baldia Township, indicating which neighbourhoods would be regularized first and where and why a particular type of infrastructure would be provided. Such a plan was not acceptable to the local leaders of Baldia Township, the various politicians in Karachi and many governmental officials. The local leaders of Baldia Township used to gain considerable power and income by acting as brokers between the population of a *katchi abadi* and the authorities for the provision of infrastructure, so they benefited from a piecemeal approach to upgrading, through the careful "sale" of each amenity. A planned approach would have made their broker function superfluous {Yap, 1982}.

Table 7. Results of the Orangi Pilot Project

	OPP Area		Non-OPP Area	
Mohallahs (neighborhood)	66		44	
Lanes	3,333		2,965	
Houses	47,233		43,136	
	Sept. 88	Mar. 89	Sept. 88	Mar. 89
Serviced with sewerage lines				
Lanes	2,171	2,314	682	730
Houses with latrines	34,425	35,698	11,534	12,112
Length (rft.)	531,181	564,615	181,846	191,828
Serviced with surface drains				
Lanes	173	189	32	36
Length (rft.)	74,679	79,897	7,459	NA
Estimated cost (Rs.)				
Sewerage lines	8,128,119	8,339,551	2,934,359	3,109,683
Surface drains	1,246,358	1,287,812	192,662	200,267
Latrines	17,212,500	17,849,000	5,491,000	6,056,000
Total	26,586,977	27,476,363	8,618,021	9,635,950

(Source: Anzorena, 1988: 1; Anzorena, 1990: 1)

III. THE PRINCIPLES OF THE INCREMENTAL-DEVELOPMENT SCHEME

Land, people, works

Hardly any household can afford to build or buy a complete house, using only its own savings. Therefore, financial institutions provide housing loans to the household; they take the land or the house or any other property as collateral and charge a certain interest as the cost of the loan. The borrower pays back the loan (plus the interest), usually in monthly installments, over a period ranging from 10 to 30 years. While housing loans facilitate the purchase of the house, by spreading payment over a long period of time, they also increase housing costs for the household, owing to the interest which has to be paid.

In developing countries, turnkey housing and sites-and-services schemes are suitable for low-income and middle-income households with fixed employment and/or a regular income from the formal sector. They can afford to make a down payment for a serviced plot of land and they are also eligible for a loan from a formal finance institution. Low-income households, working in the informal sector, do not have access to formal housing, because the cost of a serviced plot and the cost of a housing loan put entry into such housing beyond the reach of the poor, and because informal-sector workers are generally not eligible for a loan from a financial institution.

John Turner who in the early 1960s pointed out that governments should learn from squatter settlements, as they are the solutions to the low-income housing problem rather than the problem itself, recently pointed out that low-income housing projects tend to follow a distorted sequence of human settlement (see figure 4). In summary, Turner's argument is as follows (Turner, 1986). There is an historically normal and traditional sequence of settlement development - of setting up houses in a rural village or an urban neighbourhood. This sequence appears to have been and, in some areas, still is that the authority first allocates LAND to the PEOPLE. The people organize themselves for the construction of HOUSING and INFRASTRUCTURE. The majority of settlers build their houses in stages, as they cannot afford to build a complete house or have a house built for them. Similarly, infrastructure and services are provided, expanded and improved when funds are available and needs arise.

In other words, the traditional or historical sequence of settlement development is:

LAND — PEOPLE — HOUSING — INFRASTRUCTURE

In modern times, the traditional sequence has been reversed. Commercial developers and public housing agencies acquire LAND and construct HOUSING and INFRASTRUCTURE, usually before the PEOPLE who will occupy those houses are known or selected. This modern, "distorted" sequence of settlement development is:

LAND — INFRASTRUCTURE — HOUSING — PEOPLE

In this model, people settle in houses and neighbourhoods which others (planners, architects, engineers, contractors etc.) have designed and constructed for them. This can lead to gross mis-matches between what Turner calls the visible structures (the buildings) and the invisible structures (tenure, financial arrangements and management), and between those two and the needs and priorities of residents.

Sites-and-services projects are a partial return to a traditional sequence of development. The housing agency acquires the LAND and constructs some basic INFRASTRUCTURE before the PEOPLE occupy plots. After they have occupied their plots of land, the people carry out the construction work on their HOUSING themselves. A limitation of this sequence is that it does not demand the organization of the people in communities, prior to their arrival in the settlement. This rules out participation by the community in the planning of the scheme and makes community organization and self-management of the scheme difficult.

In sites-and-services schemes the sequence of settlement development becomes:

LAND — INFRASTRUCTURE — PEOPLE — HOUSING

In a sites-and-services scheme, the allottee has to pay for the plot of land and the basic infrastructure. Although the cost of a serviced plot in a sites-and-services scheme is obviously lower than that of a complete house, the low-income household still needs a housing loan from a financial institution. The cost of the loan, the regularity of the repayment

and the guarantees which financial institutions demand make serviced plots in sites-and-services schemes inaccessible for many urban poor. That is the reason why illegal subdivisions are attractive to low-income households.

Illegal subdivisions

The urban poor in illegal subdivisions do not buy or build complete houses but build their houses incrementally. They, first, erect a structure which they can afford, by using their savings, their own labour and whatever materials they can find. Then, they expand and improve their houses, whenever they have the resources. Once they perceive sufficient security of tenure, they demand infrastructure and services from the local authorities or build these themselves. Living conditions in illegal subdivisions, therefore, gradually improve provided there is sufficient security of tenure: some housing experts have called these settlements “slums of hope”.

The importance of informal settlements for the housing of the low-income population in cities of developing countries is beyond doubt. Squatter settlements and illegal subdivisions provide more low-cost housing than the public sector and the formal private sector together. Informal settlements have a number of characteristics which make them more attractive for low-income households than sites-and-services schemes (which are the only alternative for them). The most attractive characteristics are:

Ease of entry

The Illegal sub-divider does not ask for any document from purchasers. He does not care who his customers are, what their income is, how long they have lived in the city, whether they have fixed employment and a regular income or if they own other property. His customers will select themselves: only those in urgent need of shelter will want to live in a young illegal subdivision without infrastructure and services. The only restriction which the illegal sub-divider imposes is that the low-income households construct their houses immediately and live permanently on the plot. Once they have paid, buyers can immediately take possession of their plots; there is no waiting list or procedure to be completed.

Low cost of entry

The Illegal sub-divider does not pay for the land he sells but has to pay governmental officials and politicians for protection; this he can do in the form of plots. He can, therefore, charge a very low price for the (first) plots he sells. In fact, the settlers in an illegal subdivision pay for security of tenure rather than for a plot of land: the early settlers pay little, while the later settlers pay more, because security of tenure increases over time. As there is no infrastructure in the scheme, there is no need to pay for it. Lately, illegal subdivisions have, however, become such an established business and security of tenure is so high from the start that plots in schemes have become expensive and might gradually become unaffordable for the urban poor.

Low cost of construction

Once they have paid for their plots, the buyers are free to build whatever they want, as long as they occupy the land and put up a shelter, so that the settlement is established. They can use whatever building materials they can afford; they can build using their own labour or hire a small informal-sector contractor which the illegal sub-divider usually attracts. As security of tenure increases, residents will invest considerable amounts of money in the construction, improvement and extension of their houses. Consequently, most houses in illegal subdivisions are either semi-permanent (built with cement blocks and of asbestos-cement or corrugated metal sheets) or permanent (reinforced-concrete structures).

In summary, illegal sub-dividers perform a very important function in the supply of land for housing the poor: they are able to shelter the poor, where both the public and the formal private sector has failed. This does not mean, however, that illegal subdivisions are without problems. Some of the problems with illegal subdivisions are (Van der Linden, 1989: 54-55)

- Illegal sub-dividers develop governmental land wherever they see an opportunity, without any consideration for the future needs of the city as a whole.
- Although Illegal sub-dividers usually apply acceptable lay-out standards, they tend to reserve too little space for schools, medical facilities, parks and playgrounds in their schemes.
- By allowing the illegal subdivision, sale and development of large tracts of governmental land, the government forfeits a considerable amount of potential income from leases and taxes.
- Since illegal subdivisions are outside the sphere of public control, there are many injustices. There are many examples of double or triple sales of plots, and inhabitants are often at the mercy of the sub-divider.
- Delivery of on-site and off-site infrastructure and services can take a long time; in some cases, it takes as long as 15 years.. The Illegal sub-divider lacks the necessary capital to pay for it, while public development authorities are reluctant to provide infrastructure, because of the illegal nature of the settlements.

Incremental development

As with informal settlements the incremental-development scheme has reverted to the traditional sequence of settlement whereby LAND is allocated to the PEOPLE who then have to construct their own HOUSING and INFRASTRUCTURE (see figure 4):

LAND — PEOPLE — HOUSING — INFRASTRUCTURE

As with the illegal subdivision, there is no infrastructure but basic water supply in the incremental-development scheme, when the allottees occupy their plots. Infrastructure in an incremental-development scheme is developed after the occupation of the land by the allottees and after the construction of the shelter. It is provided according to the priorities of the residents and when the allottees have accumulated sufficient funds to pay for it. So, the financing, the construction and the management of the infrastructure are the responsibility of the population.

Because there is no need for the housing agency to provide infrastructure, there is no need to wait for other agencies to construct infrastructure: the preparation of the site for the settlement of allottees takes only little time. All allottees know what awaits them and they can take possession of their plot immediately: in fact, immediate occupation of the plots is a necessity for the success of an incremental-development scheme. The site is already rather inhospitable without infrastructure and services: without immediate occupation by the allottees, the settlement would risk remaining desolate. Moreover, in order for the settlement to develop with infrastructure, it is necessary that a large number of households settle in the scheme and start to pay their installments as soon as possible.

In 1982, Peattie pointed out that sites-and-services projects should "furnish only rock-bottom minimal of services, but establish mechanisms by which groups of householders could organize themselves to purchase additional services of the type they themselves felt suited to their own economic or social needs and fiscal resources at the time. Thus, each agency providing any type of urban service might be required to publish a price list for the construction of all type of facilities and be prepared to calculate a total price for furnishing any level of service to any neighbourhood, upon request. In addition, it might be reasonable to require that the amount of the total price represented by unskilled labour (of the type that the neighbourhood itself could furnish) be stated so that any interested local group might be able to find out how much any service would cost, either in cash or in a combination of cash and contributed work. Construction would begin when the group had raised from itself a certain percentage of the total cost, and demonstrated it had a reasonable collection system for the remainder." (Peattie, 1982; 137).

Once settled in an incremental-development scheme, residents have to be organized and instructed to pay small amounts into a neighbourhood infrastructure fund, until sufficient funds have been saved to finance the provision of infrastructure. In a community meeting, residents can decide what infrastructure will be constructed and at what level: they can also decide whether the community will contribute labour or other resources. There is no need for cost recovery, as the infrastructure is only constructed after the residents have paid.

Consequently, the only expenditure which the allottee has to make is to pay for the plot of land. Of course, this can be a substantial amount, if the scheme is in a good location, and the land value is high. However, the amount which an allottee has to pay for the plot in an incremental-development scheme is less than what would have to be paid in a conventional sites-and-services scheme. The allottee can even pay for the land in a lump sum or in a few large installments: in that case, there would be no need at all for a cost-recovery system.

IV. THE DEVELOPMENT OF KHUDA-KI-BASTI

Hyderabad

Hyderabad, a city of almost 1 million inhabitants, is situated 180 kilometres north-east of Karachi. The River Indus, with the Kotri and Guddu barrages, is at its outskirts, about 20 kilometres from the city centre. Hyderabad is a provincial and regional headquarters for the province of Sind.

The labour force of Hyderabad is predominantly self-employed (44 per cent), mainly in the informal sector. The government is an important employer (20 per cent of the labour force) in the city, but there is also a budding private sector (employing 26 per cent of the labour force), with many manufacturing Industries located in the Sind Industrial Trading Estate (SITE), near Kotri across the river (see figure 5).

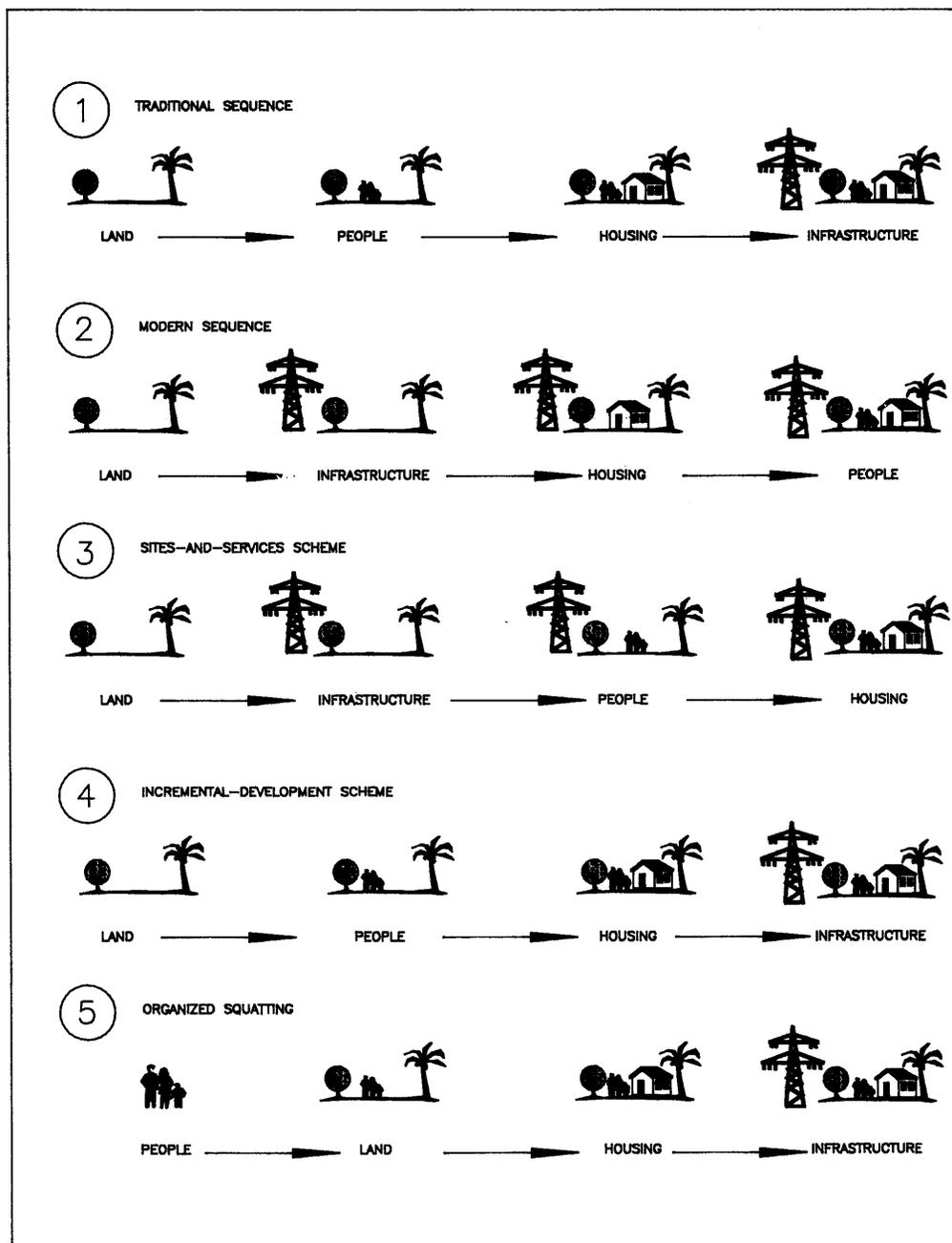


Figure 4. Processes of housing delivery

Table 8. Monthly household income in Hyderabad, 1985-1986 (HDA, 1989: 75-77)		
Category	Income bracket	Percentage of population
High-income	Rs. 4001 >	6 %
Middle-income	Rs. 2001 - 4000	25 %
Upper low-income	Rs. 1001 - 2000	45 %
Middle low-income	Rs. 501 - 1000	21 %
Lower low-income	Rs. 500 <	3 %
Total		100 %

City growth occurs to the west along the Karachi-Hyderabad Super Highway, near the Kotri SITE. Here, *katchi abadis* have developed for the urban poor who are employed in industries at SITE or who provide informal services to those who are formally employed (see figure 6). The Hyderabad Development Authority estimates that about 216,000 persons - 25 per cent of the total population of Hyderabad - live in some 100 *katchi abadis*, covering approximately 1,500 acres (HDA, 1989: 29).

Living conditions in many *katchi abadis* have improved recently, as the Hyderabad Municipal Corporation (HMC) has been involved in a programme of *katchi abadi* regularization and upgrading for the past 10 years. However, as new *katchi abadis*, mainly illegal subdivisions, are being developed ever further away from the centres of employment, they are becoming unaffordable to the lowest-income groups. Such households have to move into rental accommodation, paying rents ranging from Rs. 250 to 400 per month, or to share accommodation with relatives, thereby increasing residential densities and worsening living conditions (Van der Linden, 1989: 2, Hasan, 1987: 110).

The provision shelter for all is one of the main objectives of the Hyderabad Development Authority. Since 1980, the Hyderabad Development Authority has spent Rs. 180million to develop about 15,000 plots, but, in 1988, only 35 of these plots were occupied, while house construction had started on another 44 plots (Siddiqui, 1988:5). The main reason was that only the high-income and middle-income groups could afford the plots: many of these relatively well-off households had bought plots in excess of need, and, as a result, most newly-developed plots remained uninhabited.

The birth of Khuda-ki-basti

South of the Super Highway lies Gulshan-e-Shahbaz, the latest sites-and-services scheme of the Hyderabad Development Authority (see figure 6). The scheme will eventually spread over 5,500 acres and be divided into 52 sectors. Gulshan-e-Shahbaz is supposed to provide housing for high-income, middle-income and low-income groups, but, to date, most of the scheme remains undeveloped.

After studying the growth and dynamics of illegal subdivisions, officials of the Hyderabad Development Authority (HDA) realized that, in order to provide housing, some features of illegal subdivisions had to be included in their housing schemes. They came up with a new approach which incorporated factors contributing to the success of illegal subdivisions in government-sponsored sites-and-services schemes.

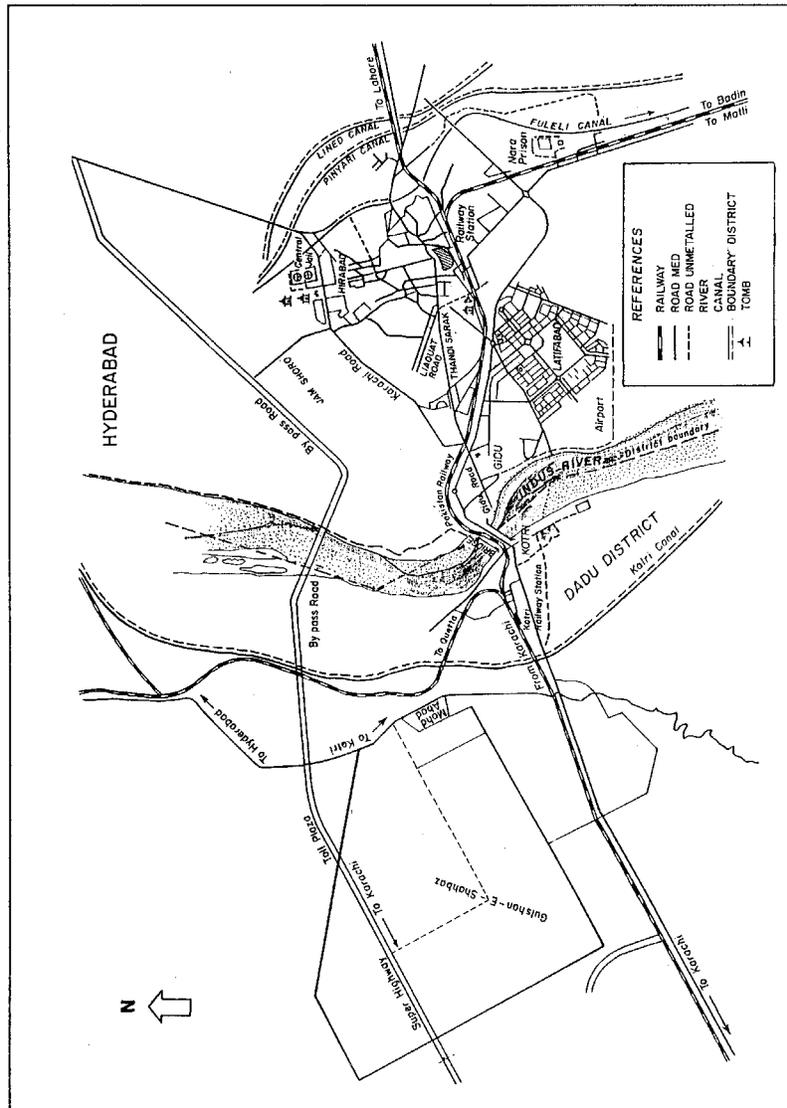


Figure 5. Hyderabad

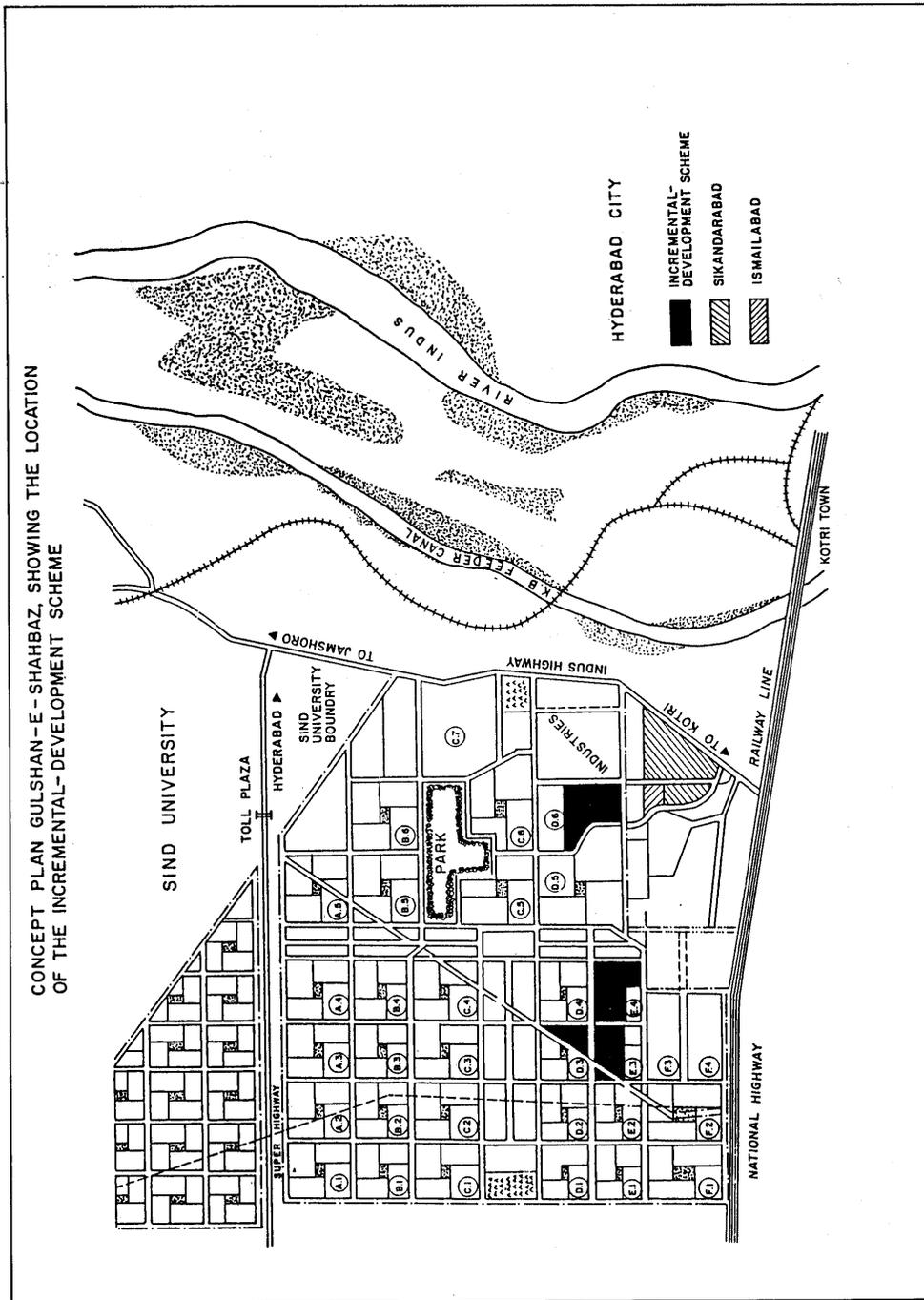


Figure 6. Gulshan-e-Shabaz

The features of this new approach are:

- Ease of entry through simplification of the allocation process and reduction of initial costs for the allottee. Entry costs can be kept low by providing virtually unserviced land and by eliminating standards for house construction.
- Immediate delivery of the plot to the allottee who does not need to wait for the provision of infrastructure and services. Immediate and permanent occupation are requirements to prove that the allottee is really in need of shelter.
- Incremental development of infrastructure and services, as and when the financial conditions of the residents permit. In this way, problems of cost recovery can be avoided.

With these considerations in mind the Hyderabad Development Authority decided to implement an incremental-development scheme in Sector D-6 of the Gulshan-e-Shahbaz project using the existing layout. This site was selected

mainly because it bordered an illegal subdivision and the *katchi abadi* of Sikanderabad, and, therefore, seemed to be an acceptable location for a low-income housing project. The Kotri industrial area of SITE is nearby.



1. Unoccupied plots in the gulshan-e-Shahbaz sites-and-services scheme



2. Houses in an illegal sub-division near Khuda-ki-basti

The settlement, which the residents have named Khuda-ki-basti or "God's Settlement", lies north and north-west of Sikanderabad, about five kilometres from Kotri and about three kilometres from the Kotri SITE. Two roads connect the settlement with Hyderabad. The shorter one passes through Kotri town and over the one-lane Kotri barrage; the longer one passes through, Jamshoro and over the two-lane Guddu barrage. Although the shorter route is only two kilometres long, travel on it takes half an hour to reach the city, about the same time as it takes via the longer route. The reasons are the presence of a busy railway crossing and the traffic jams on the National Highway and the Kotri barrage.

The first attempts

Once the Hyderabad Development Authority had decided to launch its incremental-development scheme, it contacted local councilors in Kotri and Hyderabad, to name poor people in desperate need of shelter. In 1986, the Hyderabad Development Authority issued the first allotment orders to 32 households. The allottees were told to complete the construction of their houses within one year: the only other standard imposed was a three-foot margin at the back of the plot, to allow for cross-ventilation. This regulation is, however, hardly enforced, because the Hyderabad Development Authority does not have to approve house plans and because residents do not understand why, if they purchase land, they cannot use it as they see fit. Eventually, the HDA introduced a 10ft. wide back lane behind the plots, to ensure cross-ventilation. In a few years, when residents have consolidated their houses, this space will be allocated, to adjacent plots (see figure 7).

The allottees made a down payment of Rs.460 (including Rs. 10 for the application forms) and were required to pay monthly installments of Rs. 50, until they have paid the full price of the plot, set at Rs. 9,600. This amount is equal to the price of a plot of 80 square yards in the rest of Gulshan-e-Shahbaz, where the price of serviced land is Rs. 120 per square yard; it includes the cost of the plot of land (Rs. 800), of off-site developments, such as bulk water supply and a sewerage treatment plant for the whole scheme (Rs. 2,400), and of on-site development, such as electricity and water connections and asphalt roads (Rs. 6,400). However, allottees in Gulshan-e-Shahbaz have to make a down payment of 25 per cent of the price of the plot and pay the rest in three equal installments (Hasan, 1987:113).

After closely monitoring the allottees for 15 days, the staff of the Hyderabad Development Authority noticed that only two out of the 32 allottees had built *t* their houses above the plinth level, nine had laid only the plinths as demarcation lines of their plots, while 21 plots remained completely vacant. When they investigated the reasons for this lack of construction activity, they discovered that about half the allottees could not afford to build their houses, while the

others felt that, since the Hyderabad Development Authority had issued allotment orders, they were safe from eviction and did not need to hurry.

The Authority stopped issuing allotment orders and started anew in sector E-4 of Gulshan-e-Shahbaz. It decided not to issue allotment orders until after the structure had been completed and the families were actually living on their plots: the maximum period for completion of houses was reduced to three months. However, although the new allottees came and lived on their plots for some time in temporary structures, few began to construct their houses, so the Authority cancelled all plot allocations, with the help of the district magistrate, and granted the plots to other applicants.

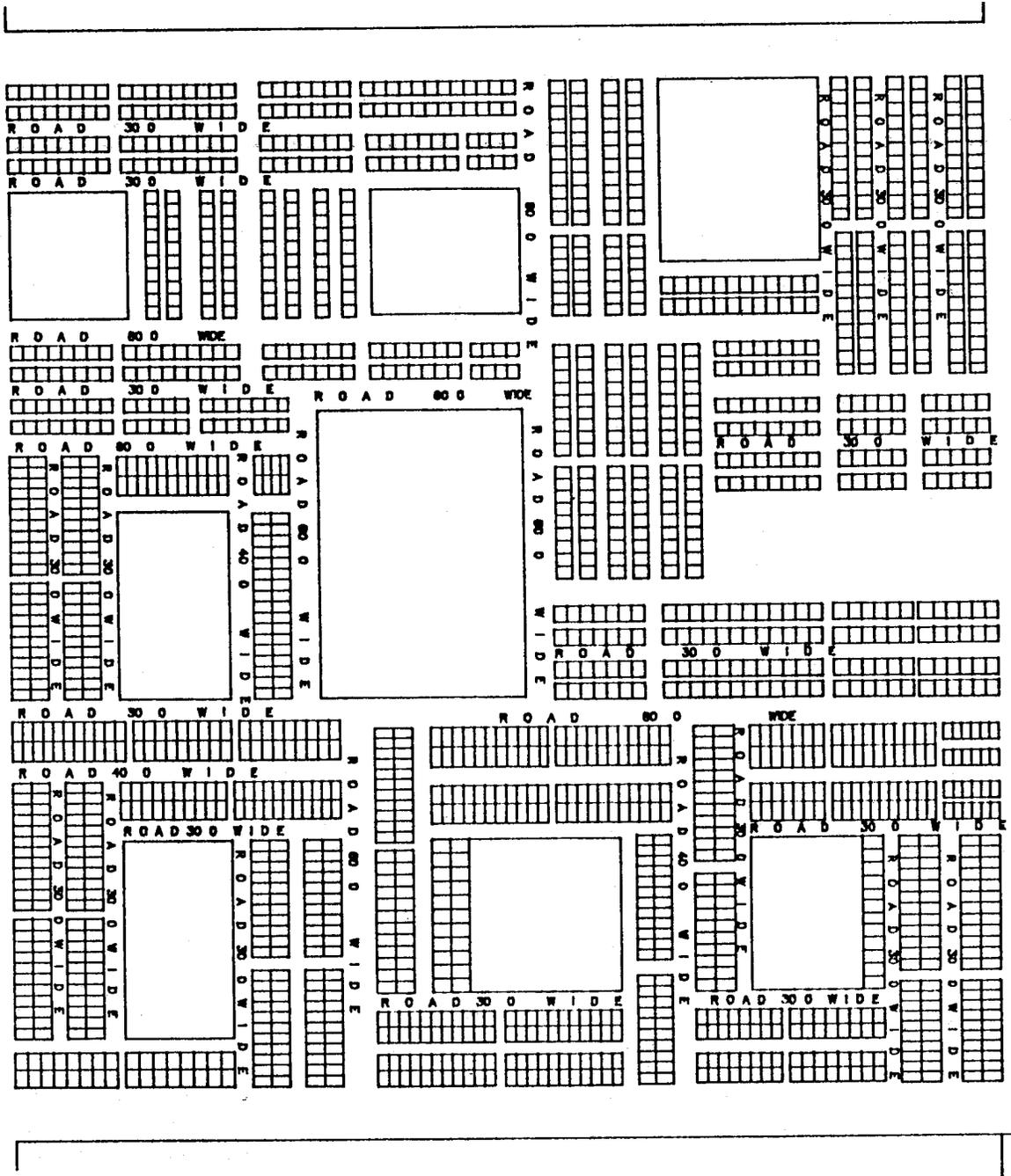


Figure 7. A sector of Khuda-ki-basti