

PART II

JHUGGI JHONPRI SETTLEMENTS IN DELHI

A SOCIOLOGICAL STUDY OF LOW-INCOME MIGRANT COMMUNITIES

SOCIOLOGY DIVISION :

TOWN AND COUNTRY PLANNING ORGANISATION

MINISTRY OF WORKS AND HOUSING, GOVERNMENT OF INDIA

NEW DELHI

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PREFACE

The urbanising of millions of rural migrants does not imply only physical movement of people from villages to cities but also involves changes in their pattern of economic activity, network of social relations, life-styles, values and the living environment. This study of the low-income migrant communities living in the squatter settlements in the metropolis of Delhi, undertaken by the Town & Country Planning Organisation, is an attempt to inquire into the characteristics of the process of their socio-economic transformation and incorporation in the social, economic, and physical system of the city in the context of the emerging pattern of urbanisation in India.

The first part of the study brought out in October 1973 focussed attention on the settlement pattern of squatter communities, their magnitude and locational characteristics. The second part of the study is based on a field survey of 21,000 families in the 103 sample squatter settlements and deals with the socio-economic life of the inhabitants of the squatter settlements, their physical environment and the relationship between their social structure, life-styles and spatial organisation. It examines the nature of adaptation and adjustment to and identification

with values of urban living, the emerging pattern of changes arising from interaction between modern and traditional and folk social and cultural patterns, their income and occupation characteristics and the extent of mobility, the extent of contribution made to the social and economic development of the city, and the environmental quality of their residential areas in which they live and grow. In brief, the living environment of the low-income communities is seen in its totality and in its interactive context of social, economic and environmental factors instead of itemised segments of their situation in the city. The study has also suggested a framework of integrated social and environmental development action programme based on the improvement of the quality of human resources and the mobilisation of community resources and effort aimed at upgrading the existing squatter settlements and restraining the proliferation of such settlements.

There has been a rapid growth in urban population during the last decade. All indications in the present show that pace of urbanisation will be further accelerated in the subsequent decades. Much of this growth has been and will be so in future due to rural-urban migration. It is not simply that the population of the cities has been increasing but that their socio-economic structure and the physical

environment is being altered rapidly leading to the emergence of the new social groups, and a new pattern of social fabric. Planning and development of urban environment must therefore respond to the changing pattern of urban society and its future direction, and consciously oriented to the social needs of the great majority of urban dwellers so that it ensures a minimum acceptable living environment to all. This would imply a greatly increased supply of low-cost settlements supported with all necessary physical facilities, social services and community facilities needed for establishing viable communities and aimed at redistributing housing opportunities in favour of the low-income groups and weaker sections of the community.

The present study has analysed the various issues involved in devising a development action programme for low income communities and weaker sections of the society and provides a methodology to plan similar studies in other cities. It is hoped that this study will be found useful by policy makers and planners involved in urban development in developing strategies and programmes of action for social development of the urban poor.

4.8.1975.

Cs Chandrasekhara
(C.S. Chandrasekhara)
Chief Planner

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CHAPTER - I

THE SOCIAL SETTING OF SQUATTER SETTLEMENTS AND THE FRAMEWORK OF STUDY

The squatter settlements is a striking feature of the ecological structure of a metropolitan or large city in India. Squatter settlements such as Jhuggi-Jhonpri in Delhi, Cheries in Madras, Zopadapattis in Bombay and Bustees in Calcutta constitute approximately 5 million out of a total population of 19 million in these cities. The squatters are not only confined in these cities, but their proportion is increasing in other large cities. Approximately 15 to 20 per cent of the population of the other 39 cities having 300,000 or more population is estimated to live in the squatter settlements. During the last two decades, the squatter settlements have been acquiring an increasingly significant role in the socio-cultural system of the city. These are not unique to India but are found in most of the large cities of the developing world. Nearly one-third of the population in Manila in Phillipines, in Djakarta in Indonesia, in Mexico city, in Lima in Peru, in Brazil, in Seoul in South Korea, Caracas in Venuzuela, in Ankara in Turkey and in Daros Salaam in Yanzania, live in these type of settlements.

The growth and formation of squatter settlements is a part of the process of the emergence of new social groups consequent to the changes in the social structure of the cities. The dynamics of their formation and existence requires an understanding of social structure of the Indian

city in its historico-cultural context and the process through which these groups are able to relate and participate in the urban life. This may not be seen only as a function of factors intrinsic to the city itself but also, being influenced by such extrinsic factors as population growth, rural-urban migration, the nature of rural-urban relations, social and economic diversity, pattern of economic activities, development, urban and housing policies and administration. These settlements then are to be seen as a part of the social process of urbanisation in a developing country like India and not so much as a consequence of the growth of cities or of particular cities. The cities are not self-contained social entities but are the end product of the socio-economic forces operating at the societal level and thus, are a part of changes that accompany development and modernisation. The emerging socio-economic structure of the cities and the problem within it are to be understood in this context.

Cities in the pre-British India existed as centres of pilgrimage, as royal capitals, as nuclei of trade and commerce, as military encampments and as educational centres. Nonetheless, the social character of these cities was static and its social structure was hierarchical; the nature of relations between various social groups was the manifestation of the inter-caste relations within it. The social-economy of the cities was based on

handicrafts, household industries, and labour intensive practices in a bazar type of economy depending upon independent activities of highly competitive commodity traders. The cultural activities were organised around the temples and mosques while the economic activities were managed by caste guilds. The political activities originated from the King's courts and the feudal lords.

The traditional Indian city was predominantly cultural and political. The commercial and industrial functions were secondary to it. It functioned as a seat of political authority, creator of literate culture, dominant religious ideology and of 'Great Tradition' as also, a centre of conspicuous consumption and production of luxury goods for the elites. These functions were not integrated with cumulative technological innovation, or economic and social development. The spatial arrangement of such cities was determined by its social structure and functional role and was dominated by the city's centre as hub of the governmental and religious activities. Around this centre, the residences of the 'dynastic' elites and their satellites were concentrated while the underprivileged groups of the artisans, the craftsmen and the lower castes were relegated to the city's periphery. The elites and other privileged groups lived in houses built in style and grandeur and the working class lived in huts and mud houses. The residential neighbourhoods consisted of

homogeneous caste and community groups. Multiple functions formed the characteristic of site utilisation. Lack of technological means in the field of water supply, sanitation and defence limited the expansion of such cities. Because of the closed and rigid social structure and undeveloped economy, there was not much scope for social mobility, growth of new roles and social groups. Although scholars, artisans, artists, warriors and even unskilled workers did move to the cities for royal patronage, wider acclaim and for better life, such migration was limited. Most of the cities were walled and migration to them was controlled. Rural people seldom moved to such cities to seek jobs. Cities generally grew from natural increase. Thus traditional form of urbanisation only reinforced the established cultural pattern.

Growth of cities with modern features began to take place with the British colonisation of India which brought in its train the fruits of industrial revolution and modern technology. The building of roads, railways and other means of communication, modern facilities of health and sanitation, education, modern legal-administrative system, firms and industries resulted in the growth of new cities as well as expansion of the existing ones. It also led to diversification of urban functions. Such cities were primarily brought into existence to satisfy the needs of commerce, manufacturing and administration

of the colonial power and therefore, grew as port cities and as centres of overseas trade and factories although some inland cities were also developed to maximise the access to commercial hinterlands of these cities and for administrative purposes. The functions which the cities performed, and the institutional structure on which they rested were largely new. The cities, because they largely concentrated on commerce and factories, had an occupational structure which was characterised by a marked development of tertiary sector. The cities became important educational, commercial and political centres and provided an environment for the emergence of new social groups associated with the process of modernisation. These comprised the administrative and commercial elites, both indigenous and colonial, the educated white collar workers including the professional groups and the working classes. Along with this, the traditional urban tertiary sector including those occupied in the production and sales of goods also increased. The growth of such elites with altered social division of labour had far reaching social and economic consequences. Demographically it generated considerable growth in the urban population with substantial immigration content. While the elite and middle classes were primarily recruited from the well-to-do landed peasantry, zamindars and other privileged Hindu caste groups, the commercial elites and traders came from within the pre-existent urban trading and business community. The working classes mainly comprising the

millhands and unskilled casual labourers engaged in the miscellaneous service occupations originated from the landless agricultural workers, share croppers and the rural artisans. The increase in the urban population was primarily due to rural migrants consisting of the groups having distinctive and divergent social backgrounds.

Yet such cities were characterised by a political and social structure which was no less hierarchical than the pre-colonial city. The new social division of labour did not replace the old traditional groups. What followed was an accretion and transmutation of forms. While there was no lack of integration among the quasi westernised and modernised middle and upper classes, the influence of modernisation did not percolate in any way to the growing urban working classes and other tradition directed groups. The forces of modernisation remained selective and segmental and resulted in the creation of a plural society. Nucleated around occupation groups, the city became a grouping of communities and social groups, each of which carried on its own pattern of life in a different way. The old pattern of economic organization in the form of guilds persisted side by side with rational production of goods. Modernisation brought into existence in the city diverse social groups with the changes in the occupational structure and differentiation of roles but these were not connected to each other in a vertical structure of social,

economic and cultural relations; but existed as rigidly organised status groups occupying different positions on a horizontal plane. Though there developed an adjustment of mutual usefulness, it produced a somewhat static sociological situation which impeded social and cultural change, in the majority of the city's population.

The social, cultural and occupational pattern of the various groups in the city was closely interwoven in developing a design for living. A binuclear pattern of urban development also came into existence reflecting the social and cultural pluralism of the urban community. The Britishers and other Europeans segregated themselves ecologically from the mass of Indian city population with accompanying difference not only in houses, shopping, street development and spatial arrangement and architecture, but also in the style of living. This in turn led to different standards of urban services and community facilities. The new native administrative, professional, and upper middle class groups and some wealthy people were also accommodated within this distinctive spatial configuration. The educated native white collar workers, both at the middle and lower levels had their residence on the peripheral areas of the elite residence and imitated the style of living of the upper classes. Civil lines Cantonments, Malls and other exclusive areas in the many cities of India are evidences of such a physical pattern. New Delhi provided the supreme example of

a planned spatial environment exclusively for the Britishers, Europeans, native elites and other satellite groups. The rest of the indigenous and tradition directed groups including the local business community, retail traders, those engaged in the traditional urban service sector and the vast majority of urban working classes grouped themselves in, more or less, separate self-contained residential areas around the traditional 'bazar' pattern. Though there was some mixing of ethnic groups and occupational origins in the residential areas of modernising elite groups and middle classes, the majority of the city population in the traditional sector continued to live in separate physical neighbourhoods based on homogeneous occupational, ethnolinguistic and cultural backgrounds. One final element of the residential ecology of the colonial city, which needs to be mentioned, is the residential settlement of the under-privileged rural immigrants, in the cities. The workers in the factories lived in hutment clusters sub-divided by lanes or by a consecutive number of huts on the basis of caste, village, regional or kinship affinities around the factories. The others engaged in tertiary sector resided in similar type of settlements scattered throughout the traditional residential areas of the city or were relegated to the back lanes and marginal areas. These settlements were ecologically patterned on the rural life. Most of the rural immigrants had their families in the village retaining some interests in the village from where they migrated. They thus lived as a transitional

or temporary residents in the city always thinking of going back to the village. The numerically preponderant elite and the middle classes not only shaped the emerging spatial form of the city suited to their needs and life styles but at the same time virtually monopolised the urban services and community facilities. The greater part of the municipal funds were utilised in providing civic amenities like sanitation, drainage, water supply, roads, electricity, educational and health facilities to the residential areas of the elites and their satellites. While some of these services did finally reach traditional residential areas in trickles, the residential areas of the urban working classes mainly comprising the rural immigrants were completely ignored. Thus, although the physical urbanisation of the rural immigrants took place and there was substantial improvement in their material conditions over their pre-existing situation, they lacked the social infrastructures to adapt to the changes in the social and civic structure of the city.

Characterised by social and economic inequalities the city did not provide adequate facilities and opportunities for the newly emerging urban working classes, that would enable them to participate in social development that emanated from techno-economic modernisation and social changes. It benefited people other than those at the bottom of social and economic hierarchy; meanwhile the residential areas of the low status rural immigrants

suffered from amenity deprivation and degraded physical environment. The result was that rural migrants remained largely untouched by the modernisation process and apathetic to civic affairs. Although living in urban area their social and mental roots remained in the village. The overwhelming concern of this social group was that of mere survival itself; though the initial impulse to move to the city were also partly to achieve social mobility. This strongly oriented them to adopt a mechanism which would secure them the initial levels of socio-economic conditions, since, for them, the basic problem was to remain in the city so as to enable them to earn their living to support themselves in the city as well as those family members left in the villages. Inevitably some adjustments and adaptations had to be made to prevailing conditions by repeating the experience that they had learned from environment of the villages. Though the production relations that sustained them economically were modern, yet there was little modification in the traditional behaviour pattern and their living environment in the urban setting. Thus, like the urban working population of the traditional city, the newly emerging working classes in the colonial city, although more numerous and qualitatively different in their social composition, formed a separate social group with its own institutions and culture. The social situation of this group in the urban social system was matched by a separate sphere of physical existence con-

sisting of bustees and slums or other similar settlements.

Since independence, the development based on social, economic and technological modernisation has been greatly accelerated through planned efforts. The cities irrespective of their size provided the most suitable environment for the technology, activities and processes associated with economic growth and social change. They became the centres of varied work opportunities and collective services such as health, education, cultural, commercial or industrial. As a pool and focal point of new development opportunities, the contemporary city reflects the process of transition from underdevelopment to development and from tradition to modernity, and likewise the problems, tensions and dislocations and inadequacies inherent in the rapid transformation of a traditional and stagnant society into modern and dynamic one.

The growth of modern means of transport and communications, technological change, industrial development, occupational diversification and role differentiation on the one hand and rapid population growth in the rural areas accompanied by segmental rural development, on the other, have resulted in urbanising large segments of population. It has not only led to the growth of urban centres, particularly of the metropolitan and big cities but also in the formation and expansion of new social groups comprising technical,

professional, administrative and political elites, white collar workers and the working classes performing the various functions emerging from the new development processes. A significant aspect of this development pattern has been the growth of the working classes who now form a substantial proportion (30 to 50 per cent) of the mix of the social groups in the metropolitan and big cities. Over the past two and half decades, by far the greater part of the increase in the working classes has been effected by the rural immigrants, who have moved to the cities as much for the new opportunities and better scope of survival as also to overcome the deprivations of their traditional social environment. This also seems to them the only pragmatic means available for social mobility which may otherwise not be possible in a relatively closed system of choices and opportunities in the socio-economic framework of peasant communities. It is this promise of economic and social mobility and opportunities for realisation of one's potential that motivates the movement from the country side to the city. In fact, the push of rural poverty and underdevelopment accelerates the process, but those moving to the city are not exchanging rural deprivation with the urban misery as it is generally made out to be. Contrary to the popular view held that the rural migrants swell the ranks of the unemployed and underemployed, it has been found that they have been engaged in nation building activities and services essential to the economic and functional organization of the city, in the early stages of technolo-

gical development and industrialisation. They have been occupied as factory workers and as labourers for the construction of roads, social and economic infrastructures, factories and public buildings and houses. They are engaged in operating and maintaining public utility services. They are highly represented among the craftsmen, production process workers, semi-skilled and unskilled service occupations, hawkers, peddlers and small and petty retail trade. The prevalence of a large variation in the occupational structure of rural immigrants indicates that they are being engaged in activities most suited to their abilities and skills including those traditionally and culturally acquired.

The process of modernisation and development have thus brought into existence in the city the intermingling of diverse social groups with a variety of skills and resources. However, the emergence and the expansion of these social groups has depended upon their location in the occupational structure engendered by the different sectors of development; the one dominated by the organised sector consisting of capital intensive methods of production based on modern scientific technology and the infrastructures and institutions associated with it; and the other comprising the unorganised and household sector and labour intensive activities using traditional technology based on empirical knowledge. Trade, finance, and transport and energy which link the organised with the unorganised

sector, have also large segments of unorganised activity. Given the pattern of development, the participation in its process is based upon the technical skills, education, resources and the socio-cultural background of the various social groups. The groups having skills, education and resources are able to equip themselves for the changing requirements of the modern sectors enabling them to participate effectively and productively, in the new development.

In the capital intensive modern sectors and its associated tertiary sector the incomes are high but the possibilities of entry into this sector are limited due to its small size and its prerequisites of education, training, innovative skills and resources among those qualifying for it. As a consequence, it constitutes of a small proportion of urban population say twenty to thirty per cent mainly comprising the entrepreneurial, commercial, professional, administrative and political elites, white collar workers and a small fraction of workers engaged in the organised sectors. A great majority of the population of the cities without much education or skills or with culturally transmitted skills are absorbed in the unorganised sectors including the household, and the small-scale industries and service occupations. Since the unorganised sector is based on non-innovative and static traditional technology, its productivity is low, and, consequently the incomes of

those occupied in this sector are also low. The average per capita income of these involved in the modern sector is about six to eight times higher than those in the unorganised or traditional sectors. An important characteristic of this development pattern has been that a widespread diffusion of the modern and improvised technology has not taken place and large segments of activity in the traditional or unorganised sectors remain loosely or marginally connected with the modern sector. The result has been that though the new development enlarged the work opportunities, it has not led to a large scale upward movement from the static to dynamic sectors, or from low income, low productivity sector to better levels of productivity and income. It is into these very segments of the occupational structure of the city that the rural immigrants with limited capabilities are being absorbed from year to year.

The process of development involving the changing technological and economic relationships determine the response patterns of the various social groups in the contemporary Indian city. It also governs the social situation in which the various groups exist and the way in which the urban social system incorporates the new groups that emerge or expand as a result of the process of modernisation and development. The incorporation of the various groups in the process of modernisation depends upon their social capabilities and

resources. The gains of development have largely accrued to those groups whose initial social and economic conditions enable them to take advantage of the modernisation process. The great majority of the rural migrants lacking the social capabilities have constituted the lumpen-proletariat engaged in the unorganised and traditional sectors. They have thus remained on the fringe of modernisation and have been unable to adequately participate in the benefits of development. This has led to wide disparities in the levels of income, living and development of the various social groups.

The great majority of the more advanced and modern parts of the urban population tend to adapt more and more to the life styles and cultural pattern of the developed countries and thus are getting increasingly identified with similar groups in the affluent countries rather than responding to the social conditions of their own society. The rural migrants while still struggling to satisfy the basic needs retain the traditional values and the folk culture of their villages. This crucial difference in outlook between the various social groups into which the social structure of the developing city is divided introduces a strong qualitative element in the gap that separates the urbanising rural immigrants who seek entry into the modernisation and development process and the groups that have gained access to the new opportunities of development. In this situation the

problems, aspirations, needs and the social realities of the groups lying on the fringe of modernisation have very little in common with those of the modern sector. The lack of provision of a network of basic social services, including health and education available equally to all, which could have augmented the social capabilities and productive capacities of the mass of population, have further widened the gap between the various groups in their abilities to participate in social development and to progressively share the gains from new opportunities. Lacking the measure of social development, the various processes of modernisation as manifested in urban development, proceed on a logic of their own and feed on existing social inequalities. At the same time, they greatly enlarge these inequalities and set them in the more dynamic contexts of socio-economic development.

About 47 million people have been added to the various urban centres during the last two decades. Nearly 25 million among them are rural migrants. Most of them have been concentrated within the metropolitan and big cities which have offered greater work opportunities. The urbanising of the rural migrants does not imply only physical movement, but it involves a process that creates the possibility of rapid modernisation and discontinuity with some pre-existing set of conditions. The city situation induces in the migrant different patterns of economic activity, and social relations. Living in a

new physical environment different from one which existed before their move to the city, poses new possibilities. However, the processes of change and the nature of adaptation is largely shaped by the pattern of the urban social system in which they are involved. In view of the processes of development, analysed earlier, the migrants have been able to gain access to the new work opportunities, but the inadequacy of their skills, education and abilities have restricted their entry into the more modern sectors. They are thus pushed to less productive and low income occupations, though essential to the functioning of the socio-economic organisation of the city. Since the opportunities of social development have not been provided on a widescale, they have not been able to take advantage of the institutions and facilities that would have enabled them to increasingly involve themselves in modernisation process and raise their levels of living. Urbanisation has fostered many cultural and social norms which are modernising but the extent of their diffusion, like the economic opportunities, has not been widespread among the migrants. Under the conditions which limit the options of adjustment to urban life and adaptation to modernisation, the rural migrants to the city remain partially - integrated with the process of social, economic and technological modernisation while persisting with quasi-rural social and physical patterns and folk cultural traditions.

The contrasts and disparities within the socio-economic organisation of the city

and uneven impact of modernisation and development on the various social groups are reflected in the physical layout of the city and environmental quality including social services and community facilities enjoyed by each of these social groups. The modernising groups wielding considerable economic power, social influence and decision making powers have been able to govern the desirable norms of physical form for the developing city in accordance with the life styles, and value orientations of a modern society. The result has been that the standard of development of the physical structure of the city and the living environment that has been adopted follows the pattern of the city being currently postulated in the developed and affluent countries of the western world. A large proportion of scarce resources is being utilised for providing a physical environment for the convenience and benefit of the relatively well-to-do or the not-so-poor groups constituting about twenty to thirty per cent of the urban population. This had led to house-building, development of residential neighbourhoods and other constructions of luxury or semi-luxury standards. The norms and standards for social services and community facilities along with their delivery systems have also been geared to the needs, values and aspirations of the privileged groups. Thus, the modern aspects of physical development and its goals for future have been oriented to the physical and human environment of the affluent countries. It has no connection with the aspirations, needs capacities, values and social realities

of the population as a whole within its own society. Even the planned cities like Delhi, Chandigarh and the host of new towns that have been built, lack a socially conscious design of living compatible with the levels of living, life styles and the traditional social fabric of the mass of population. It has not, therefore, been possible for the large number of under privileged groups to share the benefits of the new and the improved physical environment. As a consequence, there has been a growing deterioration in the supply of adequate housing and lack of provision of a widespread network of public services and community facilities for the general population resulting in their living in a degraded environment.

The socially inappropriate design and the inability of the cities to provide land and housing and a living environment provided with basic social services within the reach of the means and needs of a large number of rural immigrants, have led them to improvise their own institutional solutions. They put up shacks and huts on unused lands and create their own settlements which reflect their own priorities and compulsions. In the circumstances in which they find themselves, the construction of a make shift shelter on available vacant land is the only way through which large number of migrants can obtain a foothold in the city. Squatting represents the most pragmatic and positive response such people

can make to their limited opportunities. The squatter settlements thus constitute not only the predominant living environment of the social groups who comprise the lumpen proletariat of the city. It not only expresses the inadequacies and deprivations of the physical environment but also a mechanism of adjustment in the process of social change and modernisation by the groups who try to gain access to the city where such processes are manifested. At the same time, it reflects the level of social and economic development that these groups are able to attain and the conditions which make them preserve traditional social and cultural forms. Sometimes the over-glib term of over urbanisation is used to explain the presence of squatter settlements in the city. However deprived the inhabitants of the squatter settlements in terms of public services and amenities and restricted in socio-economic development may be, they still represent the most dynamic forces in the process of socio-economic modernisation and exert catalytic effects. Less urbanisation would have meant a return to the grip of poverty and a relapse to the generations of backwardness in the villages.

Despite the persistence of traditional cultural values and institutions among the migrants, the totality of the urban social situation gradually induces among them many cultural norms and material conditions which are modernising. The squatter settlements, though not desirable, are functional to the modernisation of the millions of rural immigrants

in the city in the present pattern of its development. Squatter settlements are formed as a response pattern of the low income and low status rural immigrants to the urbanisation process. They provide an alternative choice of a shelter for the present needs of the poor in the absence of adequate public housing programmes for the under privileged. They serve not only as entry points for the rural immigrants to the city but also express the processes by which the population growth and social change are effected in the city under the circumstances of highly inadequate allocation of resources for housing and social services. The squatter settlement is not merely an aggregation of shacks and huts but is a community of fellow migrants. The squatter communities based on a network of primary affinities of language, region, village caste or kin enable the immigrants coming from small village communities to become socialised and acculturated in the complex and diversified environment of a metropolitan city. Within its context, the immigrant not only relies on the village ties or castemen to help him find job and housing close to work, but also, in maintaining some continuity and value preferences of his home area. These settlements besides providing within themselves a wide variety of employment in household and small scale industries and retail trading, also give them social security during unemployment, sickness and other kinds of difficulties through their social and community organisations.

Although the cities are growing due to natural increase, there is sufficient evidence to suggest that the greater component of their growth is due to migration. It has progressed to a point where the residents of almost every village in certain regions have relatives or fellow villagers living in at least one of the major cities. It is in the squatter settlements that the major proportion of the increasing flow of rural migrants is being accommodated. Despite their environmental degradation and lack of social services and community facilities, the squatter settlements are the fastest growing areas of our urban centres. They are growing at a rate of about 10 to 12 per cent per annum which is more than twice the growth of the population of most cities.

The growing number of such settlements influence the total environment of the cities in as much as they are fast altering the form and pattern of urban development. Unlike the traditional and colonial city, the contemporary Indian city contains large segments of population forming the working classes who are recruited from rural migrants, of humble-origins, of landless labourers, share-croppers, marginal farmers and the lower castes. All indications in the present show that rural-urban migration would further increase in the future. Due to the limited capacity for employment in the modern corporate sector, the majority of them would be absorbed in the industries and occupations requiring less skill, less educat-

ion and less capital and would be close to subsistence level. The increasing proletarianization of the city at present and more so in future, as a consequence of the expectations of large segments of population to participate in the process of development and modernisation, is likely to shape its socio-economic structure and concomitantly the nature of its physical environment. Thus the most effective and dynamic forces of urbanisation will not simply be the increase in the number and size of the cities but their progressive proletarianization. Under the present trend of urban development this would further result in the creation and growth of squatter settlements.

THE SCOPE OF THE STUDY

Squatter settlements is a phenomenon linked to the total situation of their inhabitants in the development syndrome of the city. It mainly comprises five basic processes, namely i) the relationship of the inhabitants to social change, involving an interaction between the modern and traditional social and cultural patterns and the emerging pattern of social change arising from this interaction ii) the nature of adaptation and adjustment to the development processes and gradual identification of the inhabitants with the values of urban living involving their participation in its social organisation iii) placement in the occupational structure of the city and the possibility of mobility within it

iv) availability and accessibility to opportunities of development in relation to their capabilities and factors that inhibit or induce development and v) levels of living including the quality of physical environment. These aspects of the social situation of the squatter communities provide the basic framework for the study. Central to the analysis of these processes, is to find out the manner and extent of the participation of the inhabitants of the squatter settlements in the process of development and modernisation. This would also indicate how the two major goals of social and economic equalisation and raising the levels of living of the mass of population are being achieved as development proceeds.

In the first part of our study, a census of the squatter settlements in the Union Territory of Delhi was undertaken in order to find out the magnitude and size of the settlements, the process of their formation and growth, location in the various parts of the metropolis, the total land area occupied by them, and prevalent density patterns in the various settlements along with general physical characteristics. An inquiry was made in regard to the length of time of the existence of the different settlements, the regional, caste and occupational composition and the nature of the clustering of the various social groups both at the settlement level and within the settlements. It was revealed by the survey (October, 1973) that 1373 squatter settlements consisting of 142,000 households

differ substantially from each other as to their social composition, size, length of their existence, growth patterns, occupational character and the nature of clustering.

The squatter settlements form the micro-environment of large number of rural immigrants for the major part of their existence in the city. It is, therefore, important to study the main "environmental problems" of these settlements as influenced by their various social and physical characteristics and the degree of improvement or deterioration in the environmental quality evidenced in these places. This would also take into account housing conditions and the availability of and accessibility to community services and facilities including those of water supply, drainage, sewerage, sanitation and waste disposal. An attempt would be made to evaluate the environmental achievement of the squatter communities in regard to the spatial system that is brought into existence by the use of their meagre resources to accommodate their present and changing needs and activity patterns and their ability to maintain a stable social system relatively free from crime and other social problems within the conditions of extreme overcrowding and congestion and in the environmental conditions that are deficient in essential services and community facilities. An assessment of the existing programmes for improvement of the squatter settlements in relation to their environmental achievement and its impact in promoting social development also forms a part of the inquiry at this stage.

Another significant aspect of the second part of our study is the analysis of the pattern of social organisation of the squatter settlements. It comprises an inquiry into the nature of social relationships, the nature of group life and pattern of sharing life styles and cultural patterns among the social groups, type of leadership and the 'grass-roots' organisations along with their role and function in the squatter settlements and in its improvement and the extent of mobilisation of community efforts and resources to satisfy the felt needs and to solve some of the problems that are encountered by the squatter communities.

There is still another theme running throughout the study, a type of touchstone to which we refer much of our analysis. This primarily concerns the human resources aspect of the process of change. The direction of change is taken for granted as that of modernisation and development. This would imply that the achievement of aspirations for better life by the mass of population will largely depend upon their commitment to the emerging set of modern values and acquiring appropriate social capabilities and skills to participate effectively and rewardingly in the development process. What we seek then is to arrive at some judgement of the extent of resistance to and readiness for modernisation among the inhabitants of squatter settlements. We ask in this study who among the squatter communi-

ties are satisfied with the present state of affairs and who among them have aspiration to make new lives for themselves? Are there any cut-off points which must be reached before the inhabitants encapsulated ordinarily in a traditional and stagnant round of life, which has been repeated for generations on end, begin to entertain new horizons of hope and possibility and move, however, tentatively toward these? What are the difficulties that are encountered in fulfilling these aspirations for improvement? What are the facilitations? What obstacles can they confront consciously and resolve with purpose and by their own efforts? What are the socio-economic and institutional factors which make it difficult to take advantage of developmental opportunities and achieve new ways of life? The answers to these questions would enable us to evaluate the quality of human resources as at present deployed and as they imply potentials for socio-economic development in the future.

The study does not attempt to bring about specifically social, economic and physical portraits or typology of slums which are conventionally understood as areas of physical degradation and social disorganisation, nor are we looking for measures to reduce their "Sluminess" or upgrading their environment. But much more than that. We are looking at the inhabitants of the squatter settlements as participants in the nation building modernisation process. The perspective that guides our study is an examination of the

conditions of their present pattern of social capacities that can be augmented for engendering and accelerating development in the future. The phenomenon of squatter settlements is, therefore, seen in an interactive context of social, economic and environmental factors instead of atomised segments of their situation in the city. The objective of providing a minimum level of living for those below the poverty line would require not only ensuring minimum level of environment but also spelling out the factors which induce social development. The possible policy implications which can be derived from the study are the strategies which can improve the existing conditions within the available resources and accelerate their development as well as to formulate proposals which control those factors which impede it. The study also attempts to provide the guidelines for the kind of planning strategy and urban development programmes that need to be developed to be relevant and of utility for those social groups who make these squatter settlements.

DESIGN OF STUDY

In order to fulfil the objectives of the second phase of our inquiry, a sample based on stratified random sampling technique has been drawn from the total number of 1373 squatter settlements. The universe of the squatter settlements has been divided into five strata according to size. Size here means the number of jhuggis in a cluster. The five size

classes are : 10-50; 51-100; 101-300; 301-1000 and over 1000. Each size group has been further subdivided into seven occupational categories, on the basis of the predominance of the designated occupation groups in the settlements. The seven occupational categories are : construction labour, quarry workers, brick kiln labour, service occupations and cultural trades, manual workers in the unorganised sectors, manual workers in the unorganised sectors and mixed occupations.

A two-stage stratified random sampling procedure has been used for the selection of sample units and building up of the estimates therefrom. At the first stage, a cluster of jhuggis has been taken as sampling unit which has been adopted for the survey in the second phase of the study. In the second stage a household within a cluster is to be taken as a sampling unit for the third and the final phase of the study. As mentioned in the report of the first part of the study, the social survey of the squatter settlements has been set in three phases.

Size of the cluster unit has been taken as the value of the characteristic to determine the size of the sample. In the first instance with an idea of proportional allocation of sample units between and within sub-strata of occupations in the different size groups the sample size was worked out according to specifications of 95% accuracy in the overall estimate within 95% probability limits. The size for such an allocation and precision works out as 395 cluster units. On considerations of cost and load of work, such a sample size did not

seem feasible. It was, therefore, decided to drop the idea of proportional allocation between strata and lower the precision limits in a manner that within 95% probability limits a minimum accuracy of 90% at each stratum level and an accuracy of 90% or more in the overall estimate were maintained respectively. The units between sub-strata (occupational groups) within a stratum was worked out independently. A total sample size of 119 settlements consisting of 22,196 jhuggis was thus arrived at. The overall considerations for drawing out a design have been to represent adequately the size and occupational characteristics of the squatter settlements, in the Union Territory of Delhi. These were considered as good indicators for the presence or absence of the other relevant characteristics of the squatter settlements like the period of their existence, caste, community and regional composition. The method followed, characteristics of the sample and the estimation procedure are given in Appendix A.

The squatter settlements have been examined from two stand points, the aggregative and collective. At the collective level the primary focus is on the community activeness and its capacity to respond to change. It also includes an inquiry into the network of social relations. The data at the collective or community level have been collected by using both the methods of participant and systematic observation. The technique of participant observation was mainly applied to the study of group behaviour, activity patterns in the

different areas of settlement and among the different social groups, life styles and cultural aspects and the functioning of the community. The systematic observation based on a cluster observation schedule (see Appendix B) was applied to study the other dimensions of community life by organising group and corner meetings and the meetings of the residents of the settlement as a whole.

In order to derive the aggregative characteristics of the squatter settlements, the information about the individual households in regard to family size, sex and age composition, caste, community and regional background, income, number of earners in the family, occupational structure, migration, period of residence in Delhi and in the settlement, tenancy status, use and structure of jhuggis was collected through field survey of all the households in the sampled settlements (see household schedule in Appendix C). These data were required to understand the social character of the inhabitants who form the squatter settlements. In addition to this, we made microcosmic study of the typical settlements that would enable us to have a greater insight of the total social and environmental situation and the functioning of the squatter communities.

Finally, an attempt has been made to evaluate the level of social and environmental achievement accomplished by the various squatter settlements in the process of their existence

in the metropolitan community. This has been done by ranking the various settlements in terms of total score on an index of level of social development constructed on the basis of 12 environmental or physical and 9 socio-economic variables taken as indicators of environmental and social conditions. This would not only provide the base line data for the existing state of affairs but also indicate the future possibilities of improvement and a measurement for the improvements achieved as the development programmes are progressively implemented. We can also derive from this data the policy proposals both at the city level as well as at the individual settlement level.

LIMITATIONS OF THE STUDY

We were unable to achieve the total sample of 119 clusters. During the course of our survey, 7 clusters in the size group of 101-300 and 9 clusters in the size group of below 100 disappeared from the original sites and most of their inhabitants either joined the other settlements or returned to the villages. All these settlements belong to the occupational categories of brick kiln labourers and construction workers. This has happened mainly due to the reduction in the construction activities. This reduction in the size of the sample has therefore affected to some extent the level of accuracy both at the respective stratum levels and also at the overall level.

CHAPTER - II

GROWTH OF SQUATTER SETTLEMENTS THEIR LOCATION AND SETTLEMENT PATTERNS

The formation of squatter settlements in the city of Delhi is linked with the emergence of new social groups resulting from its growth pattern and the nature of their social, economic and physical incorporation in the development process of the city. It is also related to the effectiveness of urban development and housing policies in providing an adequate living environment corresponding to the needs and capacities of the rapidly expanding new groups who come to form an increasing proportion of the urban population.

Delhi, besides being the National Capital, plays a significant role in the national and regional economy. Since independence, the city has not only become a major focal point of administration, political activities, trade and commerce and services but also an important centre for medium and small scale industries, transportation and culture. The progressive enhancement of metropolitan and development functions had led both to enormous expansion of employment opportunities and diversification of socio-economic structure. The number of workers increased from 0.51 million in 1951 to 1.12 million in 1971. The aggregate income (at 1960-61 prices) rose from Rs.199 crores in 1960-61 to Rs.326 crores in 1970-71. Delhi has the highest per capita income of Rs.1428 (at 1970-71 prices) in the country. As a centre

of development and work opportunities, the city has become a major recipient of the newly urbanising population in the North India.

From a mere 0.7 million in 1941, the population of Delhi rose to 1.5 million in 1951 and further to 2.36 million in 1961. In 1971, the city's population of 3.6 million was five times greater than what it was three decades ago. During 1941-51, the major proportion of the increase of population was contributed by a large influx of refugees due to the partition of the country in 1947. Since 1951, the population grew mainly due to migration. Among the 1.88 million migrants in the city, 1.49 million are from various parts of the country whereas the rest from outside India mainly consist of refugees from Pakistan. The 1971 census data on migrants¹, on the basis of last residence, has revealed that among those coming to urban Delhi 0.78 million are from urban and 0.68 million from rural areas respectively, while the place of origin of the remaining 0.03 million migrants is not known. A significant characteristic of the mobility of migrants is that 79.5 per cent, among those from within the country, came during the last twenty years and among those migrating during the last twenty years, 0.75 million or 67.8 per cent migrated during the last ten years. Another important aspect of the migration in Delhi is that 83 per cent among the total migrants belong to the adjoining states of Uttar Pradesh, Rajasthan, Haryana and Punjab;

¹ Data obtained from unpublished tabulation of the census of 1971 for Delhi.

Among the rural immigrants to Delhi, still greater per cent come from adjoining states and rural areas of Union Territory of Delhi. Among the urban migrants, 25 per cent come from the distant states whereas the rest from the adjoining states. It will be seen that a great majority of migrants to Delhi are drawn from a homogeneous socio-cultural and linguistic hinterland. It will also be of interest to note while discussing the changing composition of Delhi's population that the population of scheduled or lower castes in Delhi has increased from 0.2 million in 1951 to 0.5 million in 1971 and comprises 14 per cent of the total urban population.²

The absorption of migrant workers in the expanding and diversified occupational structure of the city is related to their education, skill and resources. Most of the refugees migrants have been engaged in business and commerce, civil services and service industries and repair workshops. The major proportion of urban migrants (about 45%) have been employed in white collar occupations in Government and semi-government organisations, in commerce, banking and finance, in industry and transport and communications. About 25 per cent are engaged in whole sale and retail trade and in handicrafts and cottage industries while 30 per cent have been employed in blue collar occupations including skilled manual workers in

² Delhi District census handbook - 1971.

manufacturing and processing, household industry, service industries and repair workshops and in transport and communications. Among the rural immigrants approximately 41 per cent are employed in services consisting of unskilled office workers, service occupations, cooks, waiters, watchmen, gardeners, domestic servants and other miscellaneous workers, 17 per cent in construction, mining and quarrying, 22 per cent in small retail trade including hawkers and vendors and related workers, about 8 per cent as transport and communication workers and the rest 12 per cent in manufacturing and processing including service industries and repair workshops, household and cottage industries and independent craftsmen. The large predominance of blue collar occupations and manual workers among the rural migrants is due to their limited skills and abilities. Over 45% of the migrant workers are casual labourers.

The following table shows the occupational structure of urban Delhi, migrant workers and the percentage proportion of the migrant workers in the different occupational categories :-

TABLE - 1

OCCUPATIONAL COMPOSITION OF THE MIGRANT WORKERS INCLUDING REFUGEES
AND THEIR PROPORTION IN THE VARIOUS OCCUPATIONAL CATEGORIES *

Occupation Categories	Total Workers	Migrant Workers	Percentage proportion of migrants to total workers
1. Cultivators and agricultural labourers	8779 (0.9)	2803 (0.3)	21.3
2. Mining, quarrying, livestock forestry etc.	9091 (0.8)	6775 (0.8)	74.3
3. Manufacturing, processing, servicing and repairs.	242733 (21.7)	179535 (20.4)	73.9
4. Household Industry	25107 (2.2)	14810 (1.7)	58.9
5. Construction	61517 (5.5)	51243 (5.8)	83.3
6. Trade & Commerce	239719 (21.5)	183919 (20.9)	76.7
7. Transport, communications and storage	107324 (9.6)	88535 (10.1)	82.5
8. Other services	422667 (37.8)	351770 (40.0)	83.2
Total	11,16,937 (100.0)	879,392 (100.0)	78.7

1* Data obtained from the unpublished tabulation of the census of 1971 for Delhi.

2* The total number of refugee workers is 197,672.

3* Figures in brackets indicate percentages.

The income structure of the households in the city is a very important condition for the type of accommodation and the living environment that the families are able to provide for themselves. The techno-economic survey conducted by the National Council, Applied Economic Research, Delhi in 1968-69, reveals that 25 per cent of the households have an annual income of less than Rs.3000, 44 per cent between Rs.3000 and 7500; 25 per cent between Rs.7501 and 20,000 and 6 per cent over Rs.20,000.

We have discussed the population growth of the city, trends of migration, socio-economic differentials with regard to occupations, income and native place in order to furnish the information about the changing composition of the social structure of the city and the emergence of the various new social groups with varying socio-cultural background, economic status, skills and abilities. The structural characteristics resulting from these changing social patterns condition the growth and composition of the squatter settlements and the processes that are involved in the adaptation of the new urbanising groups to the environment of the city and modernisation of the rural immigrants. A large majority (approximately 65%) in the city, live in the squatter settlements. Excluding the refugee workers, these also accommodate 31 per cent of the total migrant workers of urban Delhi. We have already analysed in detail the occupational, regional and caste composition of these settlements along with their period of existence in the city in the first part of the report. It is

revealed that these squatter settlements manifest the occupational and social characteristics of the rural migrants. 88 per cent of these settlements are constituted by the migrants from the adjoining states mostly in single homogeneous regional clusters. 72 per cent of the total of 1373 settlements in Delhi consist of scheduled or lower castes. About 72 per cent of the households earning Rs.3000 or less reside in these settlements. Examining the period of existence of the various settlements, it is found that it follows the trends of rural migration to the city at different time intervals. Of the total of 1373 settlements 14.5 per cent originated before 1951, 25.1 per cent between 1951-61 and 60.4 per cent during 1961-73. It is evident that the growth of such settlements reveals the processes by which the population growth and social change are being effected in the city at a level commensurate with the resources and needs of the rural migrants.

LOCATION OF THE SQUATTER SETTLEMENTS AND THE ECOLOGICAL STRUCTURE OF THE CITY.

The location of squatter settlements and their subsequent growth are related to the ecological structure of the city, locational pattern of various employment opportunities and the distribution of rural migrants in the various areas of the city. The nature of housing and social development policies and programmes adopted by the public authorities also influence in conditioning the quality of living environment of the various social groups. A study

of the settlement patterns of the squatters therefore requires not only some understanding of how the various economic activities and residential areas of the various socio-economic groups are distributed geographically but also the social and environmental consequences of the planning and housing policies.

The rapid growth of population and enormous expansion in the administrative, commercial, trading activities along with the growth of a large number of medium and small scale manufacturing and servicing industries led to an extensive physical development of the city. The urbanisable limits increased from about 260 Sq. kilometres in 1951 to 446 Sq. kilometres in 1971. Many new residential areas comprising over 200,000 new housing units, government offices, industrial, commercial and business establishments have been built during the last twenty years. However, during its earlier phases of physical growth in the fifties, Delhi did not grow as a single organic city but as an agglomerate of several communities separate in character, function and origin. The old city was characterised by a chaotic mix of activities and land uses, overcrowding and physical deterioration while New Delhi presented spaciousness, green vistas, well laid out residential areas with high standard of facilities and urban services but lacking in compactness and social cohesion. Then there were colonies of refugees and others growing haphazardly in south and west. Slum areas were increasing and the squatter settlements mushroomed everywhere on public lands. The city suffered not

only from huge shortages in housing and gross inadequacies in services and facilities but also from great disparities in the conditions of living environment of the various socio-economic groups.

Recognizing the need for an orderly development, the government of India prepared a comprehensive Master Plan of Delhi which came into force in 1962. Since the adoption of the plan, the growth of the city has been channelised and substantial improvements in the quality of environment of Delhi has been effected. 45,000 squatter settlements were relocated in the 10 Jhuggi-Jhonpri Colonies while the improvement schemes in 48 slum areas were undertaken. However, notwithstanding the positive and tangible results evident in so many directions (housing, urban services and community facilities, transport, road development, parks and gardens etc.), the planning and housing programmes were inadequate to meet the needs of a large number of people with low socio-economic status. The lack of orientations of the planning and housing policies towards the changing social composition of the metropolitan community, has resulted in the persistence and accentuation of the very problems the Plan set itself to solve. Nearly 40 per cent of the urban population lives in a sub-standard living environment. 80,000 households live in unauthorised colonies mostly concentrated in East of Delhi in Trans-Jamuna area, west and north-west Delhi, while 1,00,000 families live in the slums of Old Delhi. Besides this, there are 142000 households in the squatter settlements, which

include a large number of families who have come back from the 'relocated' colonies which were planned on the outskirts of the city far away from the areas of work.

The effects of the pattern of development of past growth and those brought about by implementation of Master Plan have resulted in bringing about complex and far reaching changes in the ecological structure of the city. The oldest and the most congested area is still the old city including the walled city, Sadarbazar, Subzimandi and Paharganj zones. Most of the whole sale trade, business establishments and warehousing is concentrated in this area. The other new areas of business and wholesale market for machinery, hardware, durable and consumer goods have come on the peripheral areas girdling the old city extending north-east and south-west of it. The East of Delhi consisting of Trans-Jamuna areas comprise small and medium scale industries and house mainly industrial workers along with the houses of entrepreneurs of the industries. The cloth, sugar and chemical factories are located in the Old Delhi area stretching westwards towards Rohtak Road. A long belt of medium and small scale engineering and other manufacturing industries, repairing and servicing units has developed in the North of Delhi extending towards west in the direction of Najafgarh Road. The other areas of small and medium scale industries consisting of engineering, chemical, miscellaneous and extractive industries are located in South Delhi toward Nizamuddin and Okhla and from there westwards towards Mehrauli and across Gurgaon Road.

The low and middle income groups are concentrated in the residential colonies in the north spreading extensively towards Subzimandi and Sadar bazar in the west. The residential colonies of Patelnagar, Rajindernagar, Karolbagh in the west house the upper income groups including businessmen. The other areas of residence of upper income groups and rich businessmen are Civil Lines and Daryaganj in west and south-east of the walled city, respectively. Areas south-west of Patelnagar and Karolbagh towards Deshbandhu Gupta Road are being increasingly taken over by local businessmen and other upper income groups. The residential colonies like Kirtinagar, Rameshnagar, Rajori Garden and Tagore Garden in the far west of Delhi are inhabited by low and middle income groups. The New Delhi central is the exclusive residential area of the administrative and political elites - Lodi Colony, Vinay Nagar Complex, Ramakrishnapuram and Motibagh in South Delhi comprise residential quarters of low and middle level government employees. From thereon the other residential colonies in the South Delhi including Chankyapuri house affluent groups, rich businessmen, business executives, technical and professional elites and diplomats interspersed with the residences of middle income groups.

The squatter (jhuggi) settlements are spread all over the city and are found close to prosperous as well as to low and middle income group residential areas. The west and north and north-west areas of Delhi comprise 27 per cent and 21 per cent respectively of the total

number of squatter households. These areas among them account for 60,000 squatter households in Delhi. The major areas of concentration in West Delhi are West Patel Nagar, Moti Nagar, Najafgarh industrial areas and the upper ridge road while those in north and north-west consist of Gulabibagh, Kishanganj, Rana Pratap Bagh and Timarpur quarry area. It is in the west and north-west of Delhi where there is concentration of new industrial and commercial activities. Some of the squatter settlements situated in the Gulabibagh and Shastri Nagar areas in the north-west also serve the demand of labour of the adjoining areas of whole sale commercial activities and warehousing in the old city zone. 44 per cent or 55,000 of the total squatter households are located in New Delhi and South Delhi zone. These mainly consist of the workers of the new industrial establishments, Delhi Electric Supply Undertakings, Post and Telegraph and extractive industries, as well as those engaged as construction labour who have concentrated in these areas due to the development of a large number of residential colonies and construction of many other buildings and establishments. Besides, a substantial number of those living in these settlements are occupied in a variety of service occupations required to satisfy the needs of the population living in these areas and in hawking, vending and petty retail trade. The major clustering of squatter households in New Delhi is in Rouse Avenue-Minto Bridge area and around Rajghat and Indraprastha Power Stations. In South Delhi, areas like Srinivaspuri, Greater Kailash,

Chankyapuri, Motibagh, Ramakrishnapuram and I.N.A. account for the major proportion of squatters. The rest of the 9 per cent of the squatter households are found in old city area and in the East of the Delhi in the Trans-Jamuna area. Besides the squatter settlements in the urban Delhi, there are 18,000 jhuggi households in the Rural Zone beyond the urbanisable limits. The squatter settlements in the rural zone mainly supply the labour force for the brick kilns and stone quarrying.

It will be seen from the following table that during the last 22 years, population in the squatter settlements has increased by over 5 to 22 times in the different physical zones of the city. Of the total population increase in the squatter settlements, 61 per cent has been shared by West Delhi, New Delhi and South Delhi (zones B, G, D & F), while 61.1 per cent of the population added to the city in 1971, has been distributed in Shahdara on Trans-Jamuna areas, West and South Delhi (zones E, F, G). Of the total addition in the squatter population in the city, the largest proportion of 21.7 per cent has occurred in New Delhi central (zone D) and the smallest (2.2%) in the old city areas. Comparing the share of squatter population in the total population in the respective zones in 1971, we find that in New Delhi central, 62.3 per cent of its total increase in population has gone to the squatter settlements. The other zones where substantial proportion of the increase of their total population shared by the squatter settlements are H, C and B.

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The rural areas account for 13.7 per cent of the total increase in the squatter population in the Union Territory of Delhi.

TABLE - 2

DISTRIBUTION & GROWTH OF JHUGGI POPULATION & TOTAL POPULATION IN THE VARIOUS ZONES^{1*} - 1951

Zones	Total Population in 1951	Jhuggi Population in 1951	Total Population in 1961	Jhuggi Population in 1961	Total Population in 1971	Jhuggi Population in 1971	Proportion of the jhuggi population in total increase of population in the various zones for the period 1951-71	Jhuggi population in 1973	Percentage distribution of total increase in the population of the city in the various zones in 1951-71	2*
A	5,66,000	2,400	6,50,000	6,900	6,80,000	13,100	9.4	13,400	5.5	
B	3,08,000	4,800	4,60,000	21,100	5,10,000	48,900	21.8	50,400	9.7	
C	2,08,000	4,800	2,80,000	24,200	3,90,000	52,900	26.4	54,700	8.7	
D	3,34,000	21,500	4,00,000	58,300	4,90,000	1,18,900	62.4	1,28,900	7.5	
E	29,000	3,600	1,50,000	9,900	4,40,000	20,200	4.0	20,600	19.6	
F	32,000	9,600	1,60,000	27,300	4,70,000	69,600	13.7	86,000	20.9	
G	50,000	6,000	1,90,000	24,900	4,80,000	64,700	13.7	80,000	20.6	
H	2,000	2,000	50,000	14,500	1,60,000	46,600	28.2	47,800	7.5	
RURAL	2,15,000	3,000	2,99,000	12,400	4,18,675	36,200	-	71,000	-	
TOTAL	17,44,000	57,700	26,39,000	2,07,500	40,38,675	4,71,100		5,52,800	100.00	10

¹See the detailed description of the areas included in each zone in the appendix D.

Broad Geographical Distribution of the zones is as follows :-

Old city - Zone A, West Delhi - Zones B & G, North and north-west Delhi - Zones C & H, New Delhi and South Delhi - Zones D & F, East Delhi-Trans-Jamuna area - Zone E.

Percentage distribution of population has been worked only for urban Delhi, excluding the Rural.

Considering the geographical distribution of the settlements with predominant occupational characteristics, we find that among the construction labour, 68 per cent are located in the Zones D, F and G while the rural zones accounts for 60 per cent of the quarry workers and 95 per cent of the brick kiln labour, respectively. 61 per cent of the settlements having, predominantly, workers engaged in service occupations and in cultural skills and trades are located in the Zones D, F and G. Of the settlements with workers in organised sectors and public undertakings, 50 per cent are located in the Zones B, D and F whereas those of the workers in the unorganized sectors are mainly (54%) concentrated in the Zones C, E and F. The majority (54%) of the settlements with heterogeneous occupations are found in the Zones D, F and C. The following table indicates the geographical distribution of jhuggi settlements according to their predominant occupational characteristics in the various zones :-

TABLE - 3

PERCENTAGE DISTRIBUTION OF THE JHUGGI-SETTLEMENTS ACCORDING TO THEIR
PREDOMINANT OCCUPATIONS IN THE VARIOUS PHYSICAL ZONES

	P H Y S I C A L Z O N E S								
	A	B	C	D	E	F	G	H	R
Construction labour	2.2 10.1	8.7 29.5	9.6 26.0	16.2 24.1	3.7 12.0	29.0 36.5	22.4 42.4	6.5 27.6	1.6 1.8
Quarry labour	-	15.0 3.2	-	-	5.0 1.0	20.0 1.6	-	-	60.0 4.4
Brick Kiln labour	-	-	-	-	-	-	3.7 5.3	1.2 3.9	35.1 34.2
Service Occupation & Cultural skills & trades	1.2 1.4	5.8 5.3	8.1 5.9	26.7 10.6	12.8 11.0	20.9 7.1	14.0 7.1	9.3 10.5	1.2 0.4
Manual workers in the organised sector	10.6 13.0	11.8 10.5	10.6 7.6	22.4 8.8	5.9 5.1	16.5 5.5	10.6 5.3	8.2 9.2	3.5 1.1
Manual workers in the unorganised sector	5.0 11.6	7.5 12.6	11.9 16.0	10.0 7.4	18.1 28.9	24.4 15.3	10.6 10.0	3.1 6.6	9.4 5.5
Mixed occupations	9.6 63.8	8.0 38.9	11.5 44.5	23.0 49.1	9.3 42.0	18.9 34.1	11.1 30.0	7.0 42.1	1.5 2.6
TOTAL	69 5.0	95 6.9	119 8.7	216 15.7	101 7.4	255 18.5	170 12.4	76 5.5	272 19.8

Percentages in the first line of columns are derived from horizontal totals. Percentages in the second line of the columns are derived from vertical totals.

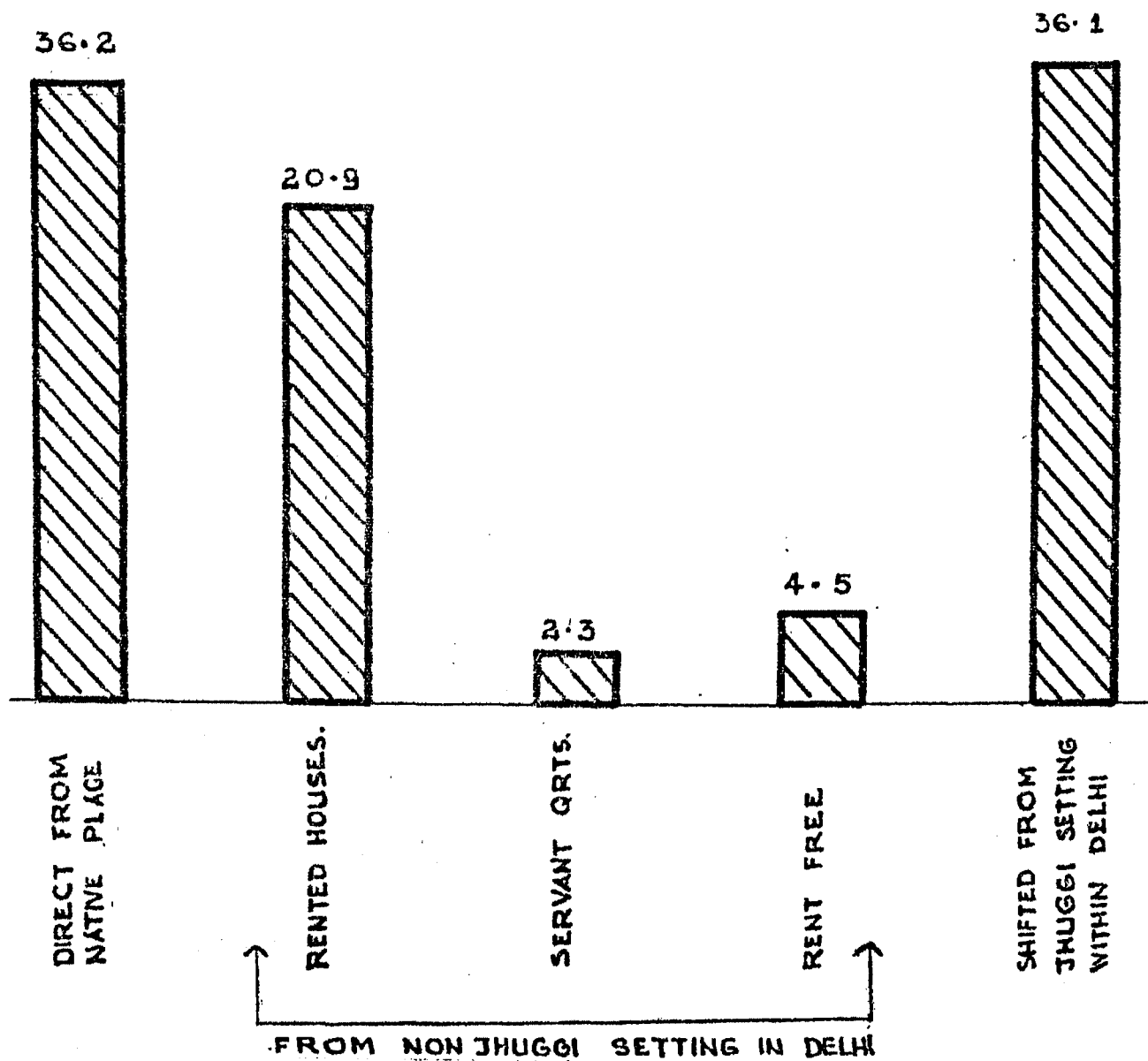
In order to compare the concentration of the squatter settlements between the central and inner and peripheral areas of the city, we have divided the urbanisable limits of Delhi in seven concentric circles, the innermost being coterminous with Connaught Place having a radius of 1.5 kilometres, whereas the outermost open ended at a distance over 6.5 kilometres from the centre (see map in the Appendix). It is revealed that only 5 per cent of the total settlements with 2 per cent of the total squatter households are located within a radius of 1.5 kilometres from the Connaught Place. Even the circle of a radius of 3.5 kilometres from the centre consists of 16 per cent of the settlements with only 10.5 per cent of the households. About 84 per cent of these settlements are below the size of 100 households. There are only five settlements having over 500 households located within a radius of 3.5 kilometres from the centre.

As we move away from the central and inner areas of the city to the periphery, we find that the concentration of both the total number of squatter settlements and households increases. 69.2 per cent of the settlements with 78.5 per cent of the squatter households are located at a distance of 6.5 kilometres or more from the centre of the city. It is also found that majority of the settlements with over 500 households are found in the outward areas. The residential pattern of the squatter households has followed the pattern of phy-

sical growth of the city which has expanded towards the periphery and this pattern of expansion has continued. Of the 907 clusters which have grown in the urbanisable limits since 1961, nearly 60 per cent have been located at a distance of 6.5 kilometres or more from the centre while only about 10 per cent have been added in the central and inner areas of the city. The remaining 30 per cent have been concentrated at a distance ranging between 3.5 and 6.5 kilometres.

Looking at the total situation, it is found that squatter settlements have tended to concentrate outside the central and inner areas of the city towards the peripheral areas. The view held that rural migrants who form the squatter settlements initially locate in the inner city areas and slums and then subsequently proceed to form squatter settlements on the peripheral areas is not confirmed by our study since it has been found that the newly arrived rural migrants locate relatively more often outside the central area. The evidence also suggests that it is the squatter settlements and not the slums which serve as entry points for a large proportion of rural migrants in the city. This fact is further corroborated by the data on the previous residence of families living at present in the squatter settlements. Of the total squatter families 27.7 per cent have shifted from rented tenements and servant quarters and rent free accommodation located in the various built up areas of the city. (20.9% from rented tenements; and 6.8% from servant quarters and rent

PERCENTAGE DISTRIBUTION OF SAMPLE HOUSE-HOLDS ACCORDING TO THEIR PREVIOUS HABITAT



free accommodation). Among the remaining squatter households, 36.1 per cent though located initially in some jhuggi settlements, moved to other jhuggi settlements while another 36.2 per cent have come to the present settlements directly from the native place. This trend is likely to continue in the future as the city grows. It is these settlements which would constitute the most important element of the emerging physical structure and environment of the city. It can also be inferred that the outward and peripheral areas of the city would offer the most likely locations for the settlements.

The following table shows the location of squatter settlements according to size at various distances from the city centre.

TABLE - 4

LOCATION OF THE SQUATTER SETTLEMENTS ACCORDING TO SIZE
AT VARIOUS DISTANCES FROM THE CITY CENTRE (CONNAUGHT PLACE)

Size Groups (No. of house- holds)	DISTANCE FROM THE CITY CENTRE (CONNAUGHT PLACE) IN KILOMETRES							
	Within a radius of 1.5 km.	Within a radius of 2.5 km.	Within a radius of 3.5 km.	Within a radius of 4.5 km.	Within a radius of 5.5 km.	Within a radius of 6.5 km.	Beyond 6.5 km.	
Below 50	35 (63.6)	47 (79.7)	45 (69.3)	51 (66.2)	49 (59.0)	61 (57.7)	404 (62.7)	
51-100	11 (7.4)	5 (8.5)	8 (12.3)	7 (9.1)	10 (12.0)	18 (15.3)	89 (13.8)	
101-500	9 (4.2)	6 (10.2)	8 (12.3)	19 (24.7)	17 (20.6)	32 (27.1)	123 (19.1)	
501-1000	-	-	3 (4.6)	-	4 (4.8)	2 (1.7)	26 (4.1)	
1001-1500	-	-	1 (1.5)	-	3 (3.6)	1 (0.8)	-	
1501 +	-	1 (1.6)	-	-	-	4 (3.4)	2 (0.3)	
TOTAL	55(5.0) 2,437 (2.0)	59(5.4) 4,685 (3.8)	65(5.9) 5,848 (4.7)	77(7.0) 3,437 (2.8)	83(7.5) 10,176 (8.2)	118(10.7) 18,851 (15.3)	644(58.5) 78,102 (63.2)	1 1 (

SOCIAL FACTORS GOVERNING THE FORMATION AND LOCATION OF SQUATTERS

Dispersal of the squatter settlements in the city is haphazard and unstructured. We have already described in the first part of report the predominant social characteristics of the squatter settlements. The inhabitants of these settlements are mainly (93%) constituted of rural migrants. They tend to configure within the city on a pattern which is a replica of the social relations of the village community from which they originate. It has been revealed by several studies on rural-urban migration, that migration does not occur in groups, except in the case of contract labour, or similar forms of labour recruitment, but is individual oriented. However, the arrival of the migrant in the city is not due to a random search for employment but largely depends on the presence of friends, castemen, relations, fellow villagers or those from the neighbouring areas. Our study has revealed that over 80 per cent of the workers living in the squatter settlements had friend relations, fellow villagers or those from the same region working in the city and it is through their assistance and influence that they were able to get jobs in the city. Recruitment to the occupation in which the majority of the rural migrants are employed does not take place by impersonal and institutional means but by informal methods. Vacancies are mostly advertised by word of mouth and therefore territorial, kin and caste affinities and

networks play a predominant part in the recruitment of workers to the urban labour force. The study revealed that over 60 per cent of the workers among the squatters were working in the same occupational categories where their relations, fellow villagers, castemen or friends or people from the same region happened to be employed. In the case of contract labour or labour recruited through similar methods, (mostly employed as construction, brick kiln and quarry workers and some as factory labour), recruitment is made through 'Jamadars' (headmate) who procure labour belonging to the regions to which they belong and mainly from their own kin and caste groups. Thus though the migrants move to the city individually, they are not strangers to the city but belong to a network of social relations bound by ties of kin, caste, regional affinities and friendship. To sum up, they form a sub-community based on personal relations. The processes of the formation of the squatter settlements and their location are governed by the pattern of the social groupings of the rural migrants.

Faced with a common situation of finding cheap shelter which is not available through institutional means, the rural migrants improvise their own ways for finding accommodation by occupying land generally without the consent of the owners. This they do it by first prospecting unusable or undeveloped lands in the areas near about their work places. Having

found one, the information is passed on to the groups. A few families then, put up their huts or make shift dwellings on a provisional basis and test it for two to three days for the possibility of their being evicted from the site. Subsequently, the rest of the other members of the groups put up their huts still on a temporary basis. But as some-time elapses, (generally from 4 to 8 months), the settlement gradually acquires a relatively permanent nature. Once the nucleus of a settlement has been in existence for about a year, the other groups arrive and occupy the vacant areas. The settlement at this stage grows very fast and the process of aggregation and accretion goes on until it reaches its full size, * within a period of 1 to 3 years. Its growth then tapers off and the additions take place slowly in singles or twos.

There are certain key aspects of the process of formation of the squatter settlements. The initial clustering or nucleus of the settlement is formed by smaller groups consisting

* The average size of the squatter settlements is about 100 households. Total of 1373 settlements is distributed in the following manner :-

100 or below	= 79.3%	Consisting 28.3% of total squatter households.
101-500	= 17.2%	Consisting 34.7% of total squatter households.
501-1000	= 2.6%	Consisting 18.7% of total squatter households.
over 1000	= 0.9%	Consisting 18.3% of total squatter households.

Total number of households living in the various squatter settlements is 141,755.

of kins, relatives, or caste or community fellows or those intimately known to each other and, its subsequent expansion also takes place by clustering of similar groups in compact residential blocks. Generally speaking the aggregation pattern of the total settlement also manifests homogeneity in terms of region, village, caste or community and occupation. Even in large heterogeneous settlements with over three hundred households, the heterogeneity is not made up of unrelated households, but consists of small homogeneous social groups though different from each other in their social composition.* Excepting factors like the nature, size and availability of land near the work places, the factors governing social homogeneity control the size of the settlement which normally does not exceed 300 families. The typical settlement consists of 100 to 150 families. Each of the small groups occupies only that much area which is required for the minimum needs of accommodation of individual households (between 8 to 12 sq. metres). They do occupy some extra space required to accommodate possible future additions to the group. The size of such groups normally consists of 15 to 30 families, and rarely exceeds the outside limit of 50 families. Though the whole process of the occupation of the land is 'illegal' the 'rights' of the various groups to the portions of land occupied by them are scrupulously respected by other groups and once an individual family has chosen a piece of land, nobody else would encroach on it.

* See the report of the first part of the study for the predominant social characteristics of the various settlements.

There are rarely different claimants for the same piece of land which may result in conflicts. The sharing, regulation of the allocation of parcels of land and the 'self-legitimation' of the individual family ownership rights of their respective pieces of land are made possible through the mechanism of homogeneous social groupings of the squatters. The dwellings are individually owned but the ownership of land in legal terms belongs to nobody. A defacto individual ownership is secured through the shared objective of the group and the larger community of guaranteeing the continued occupation of land. The settlement as a physical entity exists only as a community.

The existence of closely knit social groups among the squatters not only helps them in evolving a coherent way of life but also enables them to solve the problems of accommodation in an urban setting. The squatter settlements are thus formed by the clustering of persons with similar socio-cultural background in space and provide the physical setting for the urbanising rural migrants for the activities essential in the process of social development and modernisation. Besides, these enable the rural migrants to make adjustment to the new environment relatively easily.

In case of contract labour engaged in construction activities, the land for their dwellings is provided by the contractors near the construction sites. These are transient

and temporary settlements and shift from one place to another in accordance with the duration and location of construction activities. Among the 321 clusters inhabited predominantly by construction workers, about 75 per cent of the clusters with 50 households or less are transient. However, about 25 per cent of the clusters whose size ranges between 51 and 1000 households, though originating as provisional construction settlements, have become permanent settlements. The aggregation pattern in these settlements (both in transient and permanent) comprises residential clusters of homogeneous social groups formed by individual "Jamadars" (headmate) who recruit the construction labour. The same pattern applies to the 241 clusters of brick kiln workers (all of them located in the rural areas) with the difference that though the locations of such settlements remain the same for 10 to 15 years, the inhabitants frequently change.

Another aspect of the formation of squatter settlements is that, certain considerations are kept in mind by the squatters while choosing a site for their occupation. First they occupy a piece of land which has little utility for development purposes and secondly when this is not possible they make it sure that such land would not be needed for development for a considerable period of time. In both cases, the basic consideration for squatting is not to attract the attention of public authorities for evicting them from illegal occupation

so that they can establish some kind of secure occupancy of the land and with the passage of time a defacto ownership.

About 70 per cent of the total of 1373 settlements are located on public land, 3 per cent on private and public land, 25 per cent on private lands and 2 per cent on land the ownership of which is not known. A great majority of squatter settlements on private lands consists of the clusters of brick kiln workers who have been settled by the owners on land owned by them. In regard to the type of land occupied by the squatters, it has been revealed by the survey that 66.9% are located on plain and level lands suitable for development purposes, 11.6% on hillocks and undulated lands, 6.9% along drains, 6.8% along railway lines and 7.8% in the river bed and low lying areas. Considering the location from the view point of proposed land uses indicated in the master plan for Delhi, it is found that 29% are required for residential uses, 29% for community uses such as parks, hospitals, and bus depots etc. 6% for industrial and commercial uses, 3% for public utility networks and 2% for government buildings. Of the rest, 16% are located in the areas earmarked for rural land use and, 9 per cent in the 'green belt' whereas in 7% of the cases no land use has been yet specified.

From the view of the individual rural migrants, these settlements function as receptor areas. The most important element for the newly arrived migrant in choosing where to locate

initially is to go where his kin, friends, fellow villager or his caste or community fellows are already established in the city for residential proximity is one of the most important features of the close knit social networks described earlier. A great majority of the rural migrants in Delhi locate themselves where their relatives or friends or persons with identical social background already live. This does not imply that the newly arrived migrants are not concerned about the availability of shelter close to work. Living with friends and relatives entails considerable overcrowding and the newly arrived migrant has to look for separate residential accommodation. This he does by putting up a separate hut in the same settlement if possible or in other settlements which are near to the settlements where his relatives and friends live. Locating close to persons with whom he has some affiliations not only means help in finding an affordable shelter but also an entry into the informal network of job recruitment. Thus the newly arrived rural migrants in the city are generally distributed in those settlements where the earlier arrivals are located.

SPATIAL ORGANISATION OF THE SQUATTER SETTLEMENTS

We have seen how squatter communities evolve and the factors that determine their locations in Delhi. It has been revealed from the sequence of operations of developing

sites that it is not only a group process but the locational criteria governing the choice of sites are carefully planned. The squatting has occurred on lands of limited public utility or unused areas whose development by the public authorities is not likely to be undertaken in the near future. These areas provide the cheapest accommodation to the low-income rural migrants and proximity to places of work as well as social security of living near the relatives, castemen, friends, fellow villagers or persons from the same region. Under the conditions in which these settlements develop, they represent an organised, efficient and imaginative use of resources in a socially accepted form.

The spatial structure of these settlements is closely related to the pattern of organisation of the social groups among the rural migrants. It consolidates them as social and economic units. The overall physical pattern of these settlements that emerges thus depends on the social composition of the inhabitants that comprise them. Since there are no premeditated layouts to be followed by the inhabitants, they reproduce the physical form which they have learnt from their village origins. Accordingly the organisation of space indicates the habitation patterns that are found in the villages of the various regions of India. Another aspect which needs to be mentioned is that since the squatter settlements are formed through the processes of accretion and aggregation of several groups, the overall

pattern of the settlements is only an assemblage or an agglomeration of the pattern of clustering of these groups in space. In its totality, it is shapeless, and irregular and appears to be labyrinth of jhuggis. It is only at the group level or cluster level that some broad patterns of habitation have been discerned; these are i) the linear agglomerate in the parallel rows or in irregular segmented dwelling clusters with dwellings facing each other and or alternately by back to back ii) rectangular or square shape having linear aggregation of dwellings, and iii) clustering around chowk or a common courtyard. The settlement as a whole may have the one or other or a combination of several or all depending upon its size and extent of homogeneity or heterogeneity of the inhabitants in regard to their regional origins. The various habitation patterns found resemble the village settlements of the Southern States, Uttar Pradesh, Rajasthan, Haryana and Punjab wherefrom most of the inhabitants come.

Of the total of 1373 settlements, 58.8 per cent are wholly constituted of households belonging to Rajasthan, Uttar Pradesh, Haryana, or the rural areas of Delhi. Most of these single regional settlements are small having 100 households or less. These settlements consist of small clusters whose size ranges between 15 to 30 families. The settlements inhabited by Rajasthanis are either arranged in a linear pattern of two to three rows of

dwelling facing each other or in a rectangular pattern around a common space. Since construction workers predominate among them, each row of houses or consecutive huts in a row both in the row and rectangular arrangements comprises households having caste, kinship or village affinities with the Jamadar who recruits them. The clustering in the settlement consisting of households belonging to Uttar Pradesh and Haryana constitutes of linear assemblage of huts in two or three parallel or irregular rows. Kinship and village ties determine the aggregation of dwelling units in single caste and occupation settlements. In the settlements with mixed caste and occupation groups, clustering occurs first on the basis of similarity of occupation and caste and then further is differentiated by kin groups. The linear arrangement is modified in the "Dhobi" (washermen) settlements where it forms a rough square pattern around the "Dhobi" Ghat. The settlement pattern of those coming from the rural areas of Delhi consists of linear clusters arranged haphazardly and irregularly.

In 36.3 per cent of the settlements which have a mix of households belonging to Rajasthan, Uttar Pradesh, Haryana and rural areas of Delhi, the residential clustering consists of the combinations of patterns of individual regions. The frequency of any single pattern to occur depends upon the proportion of residents of any single region in these settlements. The social factors that determine the aggregation of dwellings are homogeneity

of regional origins, occupation, village, caste and kinship affinities. The 241 settlements of brick kiln workers which have a mix of households of these regions, however, show variation in the pattern of clustering. These settlements contain independent and separate clusters of households based on the nature of occupations in which they are engaged. The three main occupations that are involved in the brick kilns are i) 'patheras' i.e. those engaged in casting and manufacturing of raw bricks ii) Nikasis - those engaged in carrying raw bricks inside the kiln and removing them after baking and iii) Kumhars - those engaged for carrying raw brick loads to the site and loading the baked brick from site in the truck. Patheras who come from the western District of Uttar Pradesh arrange their jhuggis in two parallel rows facing each other. The Nikasis coming from Rajasthan place their jhuggis in straight lines around a rectangular open space. The Kumhars who come from Haryana also follow the same pattern of settlement as that of Nikasis. The Jalawals are those who are responsible for baking the bricks and firing the oven. They are only few in each kiln and live alone while their families live in the village. Although these clusters congregate near each other, there is nothing like a single physical entity as found in other settlements.

There are 31 (2.2%) clusters which are inhabited, separately by households belonging to Southern, Central, Western and Eastern States. The settlements inhabited by people from Southern States contain clusters of dwelling units arranged in a linear manner in rectan-

gular pattern which is criss-crossed by lanes and bylanes crossing each other roughly at right angles. The dwelling units face each other in parallel rows across the bylanes and alternately back to back. Each rectangular block is divided from the other by a lane. A similar pattern obtains with some variations in the linear arrangements of dwelling units either in radial or four square manner in the settlements of the inhabitants belonging to Central and Western or Eastern States.

The 30 (2.2%) settlements inhabited by refugees from West Pakistan have imitated the form of urban neighbourhoods of parallel communication arteries intersected at right angles by cross lanes. The dwelling units are located on both sides of the communication arteries (narrow lanes).

Finally in the 5 per cent of the settlements having a mix of inhabitants of Northern, Central and Western, Southern and Eastern States several patterns of clustering in space interpenetrate each other in a complicated tangle. In the larger settlements having more than 300 households and with a mix of several regional, caste and occupational groups, the clustering in space consists, as in the small settlements, of households forming a close knit social group based on primary loyalties of caste, community, kinship and village. The only difference is that the number of such group increases as also the extent of heteroge-

neity with the size of the settlements becoming larger. The spatial differentiation, first take place within the broad framework of affinities of region and language. The various sections in a large settlement are occupied by separate regional groupings and subsequently these larger units are sub-divided into various sub-clusters of 20 to 50 families circumscribed by village, caste, community and kinship ties and homogeneity of occupations. In the large single regional clusters, the initial spatial differentiation takes place on the basis of separate caste groups instead of regional origins and follows the same pattern of sub-clustering as that of the mixed regional settlements.

The circulation pattern in these settlements depends mainly on four factors, namely i) size of the settlement ii) the size and nature of the land on which it is located iii) the physical pattern of clustering including the time sequence of the occupation of the various portions of the area of the settlement by various groups, and iv) the intensity of use of space. Taking on overall view, it has been found that excepting in the small settlements with 100 to 150 households, the circulation pattern consist of four categories, i.e. i) main access which also serves as a service road, generally 6 to 10 feet wide. In many settlements there are two or more of such accesses ii) the main access or accesses are connected by lanes to the various dwelling clusters, iii) by-lanes which provide communication between the various dwelling units and are either connected directly to the main access or

to the lanes, and iv) small rectangular or square space providing access through one end only to a group of dwelling units located around it and connected to the lanes or by-lanes. The width of the lanes generally varies between 3 and 6 feet and that of by-lanes between 2 and 4 feet. The number of main-streets, lanes or by-lanes in a settlement depends on its size and the social heterogeneity of groups.

The circulation pattern is not designed on the basis of any differentiation between the various categories that have been found but provides alternative choices which overlap each other. All the circulation paths in the absence of premeditated layout are zig-zag, meandering and tortuous. They are the results of connecting the various clusters with varying physical pattern located in an irregular manner in the various parts of the settlement at various time intervals. This has led to a varied and complex spatial structure. In the smaller settlements of the linear type, the lanes between the rows form the communication arteries whereas in the linear arrangement in the rectangular or square form, the main access is through the lane which divides the settlement roughly in two halves and the by-lanes providing access to dwellings located on both sides are connected by each other and with the main access roughly at right angles. The settlements with clusters of dwelling arranged around a common rectangular open space have opening at one end only since all the jhuggis open towards the open space. The small and large settlements are developed at a

pedestrian scale and it is only in the larger settlements that the main access or the service street is wide enough to permit any vehicular traffic. Barring the service street, all the other circulation paths are used for the movement of the inhabitants and for the goods and services required by them. No outside traffic is generally allowed to use the lanes and by-lanes to go across the settlement.

QUALITY OF HOUSING ACCOMMODATION AND USE OF SPACE

There is generally a tendency among the dwellers in the settlements to use as much land as possible for accommodating the largest possible number of dwelling units on the land occupied by them. This results in paucity of open community space except that required for circulation networks and for common use in some of the clusters. Some space is earmarked for temples, panchayatghars and other such social purposes. The density achieved in the larger settlements ranges from 600 to 1000 persons per acre whereas it is so between 400 to 600 persons per acre in the small squatter settlements. On an average, a per capita total space of 6 to 8 sq. metres is occupied by the squatters in the city.

Approximately 80 per cent of the households have plots the size of which varies between 13 and 15 sq. metres. The rest of the 20 per cent of the plots are between 15 and 30 sq. metres and are occupied mostly by the leaders and relatively well-to-do families

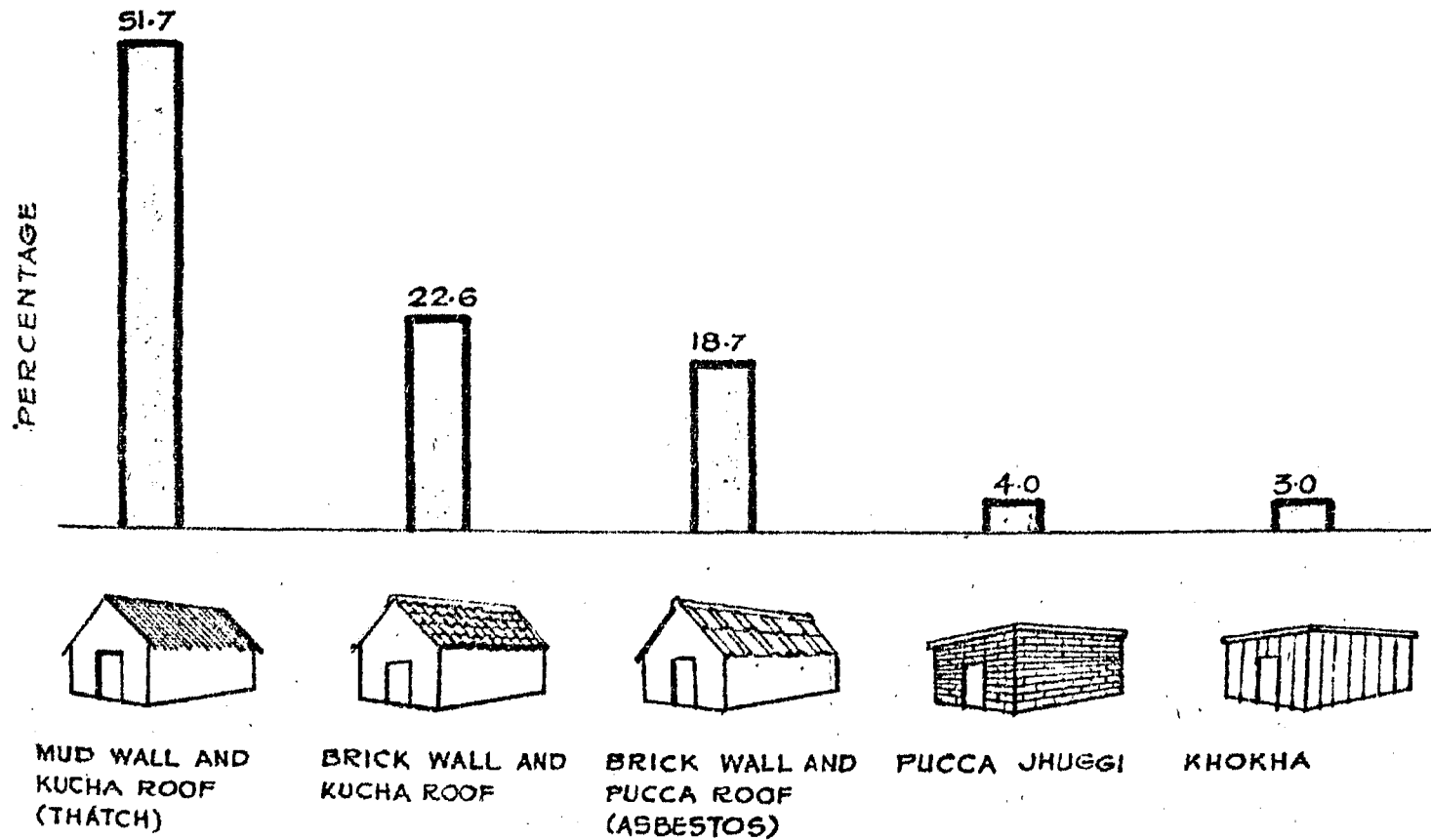
among the squatters. The average size of the plot is 12 sq. metres. Only about 35 per cent of the households have enclosed and secured open courtyard attached to their dwelling units. The size of such courtyard ranges between 4 to 8 sq. metres. The rest of the families mostly use the frontage of their dwelling units, about 3 to 4 sq. metres as a private courtyard individually maintained and swept. The dwellings of 88 per cent of the households consist of single rooms while 6 per cent share the single room dwelling units and the rest have dwellings with two or more rooms. 5 per cent of dwellings are rented and the remaining 95 per cent are owned by the individual households. About 15 per cent of the dwellings owned have been purchased from the previous owners for a price varying between Rs.600 and Rs.1500 depending upon location and material used. The average size of the room varies between 9 and 12 sq. metres with about 2 metres in height. On an average, the per capita floor space occupied is about 2.5 sq. metres. Most of the dwellings are just sufficient to accommodate two "charpois" or cots of 1 metre x 1.5 metres. The paucity of housing sites and the need to cut down building expenses lead to occupation of minimum space in a situation where eviction is distinct possibility.

Construction methods and use of building materials are geared to bare minimum costs. Of the 20,119 households covered under the study, it has been found that about 52 per cent of the households, have dwelling units with walls of mud mortar and rubble or broken bricks and with thatch roofs. Another 23 per cent have mud and brick walls with thatched roofs,

or roofs made of tarpaulin, used tin sheets and other sundry materials. In the case of 18 per cent households, the dwelling units consist of brick and mud walls with roofs of asbestos cement sheets or corrugated iron sheets. Only 4 per cent of the households dwelling units have walls with burnt bricks plastered with cement and roofs of stone or concrete. The majority of the floors are of beaten earth plastered by cow-dung, though in the pucca dwelling units and in some others it is cemented. The vast majority of the structures are single storeyed houses. The cost of the dwelling units with mud wall and thatch roof is about Rs.200 and that of mud and brick walls with thatch roof or roof with sundry material is about Rs.400. In both cases the annual repair and maintenance cost comes to Rs.50. The cost of dwelling units with asbestos or corrugated iron sheet roofs and mud and brick walls is between Rs.600 and 1000 while that of "Pucca" dwelling units Rs.2000. A most significant aspects of the use of building materials is that most of it is retrieved in the eventuality of the dwelling units being demolished and can be put to use in some other places. It has been reported that the total loss in that case is about 25 per cent of the investments. This however does not apply to "pucca" dwellings. No dwelling has private toilet, water, sewerage or electricity facilities.

There exist in most of the settlements some small tea-cum sweet shops or small rest-

ACCORDING TO THE STRUCTURE OF JHUGGI THEY OCCUPY



aurants, repair shops, small and cottage industries, barber and tailor shops and other forms of small enterprises. Besides these, the settlements have provision, vegetable and other convenience shops catering to the daily needs of the inhabitants. These are accommodated in the residential pattern of the settlements. Of the total of 20,630 jhuggis covered by our sample survey, it has been found that ⁹⁴~~92~~ per cent of the jhuggis are residential whereas in the case of ³~~5~~ per cent of jhuggis their use is mixed consisting of residential-cum-commercial or residential-cum-industrial activities. The remaining 3 per cent of the jhuggis are exclusively put to commercial or industrial uses.

The structures have round or rectangular plinths or floor space with a single or double slope or round conical roofs in the case of thatched roofs supported by bamboo rafts joined at the central ridge. In the case of dwelling units with asbestos or iron sheet roofs, they are either inclined or flat. All the pucca houses have flat roofs. The structures of the dwelling units excepting those of pucca houses have closed pattern. There is no separate ventilation, other than the door. This is primarily done to shut out strong hot winds in summer and the cold in the winter and prevent rain water getting into the 'jhuggis'. The natural darkness besides keeping cold inside of jhuggi during summer also lends privacy for man and wife in a situation where most of the living is carried out at communal level. In fact, the dwelling units are mainly used as stores for the material possessions and as

places for privacy and retiring. Most of the community life is carried on in the circulation paths and in the open spaces which mostly exist as open courtyards, fronts of the dwelling units and as common courtyards for a group of families.

A spatial organisation which provides for communal use of space is effectuated by the existence of a coherent group life and value commitment to the joint ownership of the land of the settlement as a whole by the community. The grouping of dwelling units and their accessibility to some common space thus become the governing factors in not only determining the use of space but also in regulating the range of social relationships between the families. It is generally, the closely knit group of families having a similar socio-cultural background that live in close physical proximity to each other. It is in this sense that the spatial and social systems are integrated with each other facilitating the accommodation of the varying needs of the different families. This, also, makes it possible to incorporate the common space as parts of private spaces which is shared between the families for various activities both in terms of time sequence of their occurrence and spatially. An access to common space, howsoever small and in whatever form and its multiple use enlarges the effective space, than it physically exists. In a situation where the availability of land for residential settlement to these groups of people is extremely difficult under conditions of scarcity for the same in the city, they make use of the availa-

ble space most intensively and efficiently by providing a high degree of spatial flexibility in accommodating various activities.

By observing the pattern of household activities and the use of outdoor space, it was found that most of the households without secured and enclosed courtyards spend about 16 hours out of 24 hours outside their dwellings. All the earning members (including wives and grown up children if they are working) spend 8 to 10 hours at work places and when they come back from work, they generally relax outside their jhuggis or gossip at the shops or other places. The children either go to schools or play in the streets, lanes or other open spaces and remain outside their jhuggis from morning to evening. Some of them also do school work in the open. Women are engaged in domestic activities which are generally carried outside the dwellings. Most of the cooking both in the morning and evening is done outside except during monsoon and severe winter. Eating is mostly done outside the jhuggis. Other activities like bathing, washing, drying of clothes, family gathering, receiving and entertaining guests are all generally carried outside the dwellings. Men and grown up children sleep in the open during the summer months. Fuel and water for bathing and washing are stored in front of the jhuggis. Craftsmen and other people engaged in production process or repair service activities, if they are working in the settlement, do so, in the space in front of their dwellings. All these activities take place, generally, within

the catchment areas of the cluster of dwellings inhabited by homogeneous group of families. The most favoured uses of outdoor space at this level are informal gossiping by men and women, domestic work, for playing by children and group singing 'bhajan' or kirtan. There is always some activity going on between six in the morning and nine in the evening, in the catchment area of the cluster so that it gives a feeling of being lived all the time during this period. There is not much of intergroup or community activity in the settlements except that of religious gathering at the temple or on occasions of marriage or other rituals, festivals and association meetings (if there are any associations). The places which draw people from all over the settlements are shops in the various corners of the settlement, panchayatghars, clinic or mobile dispensary, social welfare or craft centre and the temple.

The focus of major activity patterns of the squatter households are the catchment areas of the various dwelling aggregates which within themselves form community spaces. The various physical pattern of the clustering described earlier determine the degree and intensity of activity which can be supported in the community spaces created by these patterns. It was found that the linear or the rectangular common courtyard accommodates a wide range of activities, and offers the most efficient use of space while other forms were found to contain much less variety by restricting the catchment area of the

common space. Irrespective of the physical layouts of the various clusters in a settlement, the spatial configuration that is evolved is geared to the need of enlarging the effective space by the multiplicity of its use. In Delhi, out of a total of 6 to 8 sq. metres of per capita space available to squatters, the private component is 2.50 sq. metres. The life style of these peoples is adapted to almost equal allocation between the indoor and outdoor space. The ingredients of the socio-spatial structure evolved on the basis of the requirements of the living pattern in these settlements can thus provide the framework for housing and planning programmes not only to improve environmental equality of the existing settlements but more so for the planning of future residential settlements responsive to the social needs of the groups of people in these settlements.

CHAPTER - III

THE SOCIAL COMPOSITION OF THE INHABITANTS IN THE SQUATTER SETTLEMENTS

It is often argued that the presence of large number of rural migrants in the metropolitan and big cities in India is not related to the existing level of technological and industrial development. It is claimed that most of the city's energies, efforts and resources are suffused and depleted in providing minimum livable environment to an ever increasing proportion of migrants at the bottom of socio-economic ladder. In view of the limited resources, the city is unable to meet the increasingly high demands for housing, urban services, and community facilities. This not only leads to progressive deterioration in the quality of urban environment but also creates polarities, social tensions and unrest among the people. Under such circumstances, it is said, that the modernising influence of the city is lessened and the city ceases to contribute to positive overall socio-economic development. Much of this argument revolves around the slum and squatter communities because it is largely the rural migrants who constitute them. However, such views based on only few studies mainly concerned with specific squatter and slum communities seem to be highly overdrawn. There is insufficient data on what the squatters are, what they do, and what they mean not only for the development of the city but for the country as well. The role and function of the squatter areas in social and economic development obviously will depend on the nature of these areas. The main focus of this chapter is to provide facts about the socio-economic

characteristics of the inhabitants of these settlements which would also indicate the extent of integration with the larger social and economic system of the city and the changes occurring in them through time.

The squatter settlements in Delhi, so also the population living in them have increased vastly during the last two decades. There were 199 settlements which accommodated, 12,749 households in 1951. In 1973, there were 1373 settlements, six times more than that existing 22 years ago, accommodating 141,755 households.* The annual rate of growth of the squatter households, has been 11.8 per cent during the period as compared to that of 4.5 per cent for the city as a whole. The proportion of the squatter households to the total urban households increased from 4.7 per cent in 1951 to 18.4 per cent in 1973. In 1951, there was one household over 20 urban households living in the squatter settlement while the ratio of squatter to non-squatter households in 1973 was 1:4.5. However, the increase in terms of total persons was less than that of the squatter households. The squatter population increased from 57,730 in 1951 to 552,844 showing an increase of 857.6 per cent. The inhabitants in the squatter settlements have been growing at an overall annual rate of growth of 10.8 per cent as compared to that of 11.8 per cent for the households. The main reasons for the differentials in the growth between the total number of households and the number of persons are the small size of the households and that many among them do not migrate with all

*See first part of the report on squatter settlements, (pages 15-28) for the various aspects of the growth of the squatter settlements including their growth rate at different time intervals.

their family members but bring them to the city in stages spread over a period of time.

An important feature of the growth of squatter population has been that it has been growing at a declining rate during the two decades between 1951 and 1971. It increased by 259.4 per cent during 1951-61, with the decadal annual growth rate of 13.6 per cent as compared to that of 127 per cent during the subsequent decade, 1961-71 with an annual growth rate of 8.5 per cent in this period. But the squatter settlements have shared, both in terms of the number of households and persons, an increasingly higher proportion of the total increase in the city's population from one decade to the next. In 1951-61, of the total number of households added to the city, 15.4 per cent were squatters while their proportion consisted of 20.3 per cent of the total increase in the number of households during 1961-71. In terms of number of persons, the increase in the number of the inhabitants in the squatter settlements accounted for 16.3 per cent of the total increase in the population of the city during 1951-61 as compared to their proportion of 20.3 per cent of the increase of the total population of the city during 1961-71. The population added to the squatter settlements during 1971-73 formed 30.9 per cent of the estimated increase in the city's population during this period.

AGE AND SEX COMPOSITION

The 20,119 sample families are composed of 78,560 members living in the city. Of these 41.8 per cent are under the age of 15 years. Among the children under the age of 15 years, 37.3% consist of pre-primary school going age (0-4 years), 36.5% of primary school going age (5-9 years) and 26.1% of middle school going age (10-14 years). The squatter population is dominated by young adult population, the 15-34 age group commanding the largest percentage of 38.5. Persons in the age group of 45 or over constitute only 9.6 per cent of the total. The males exceed females as the sex ratio of 768 females over 1000 males indicates. This sex ratio is much lower than that of the 801 females over 1000 males for urban Delhi. The disparity in sex ratio persists in all age groups. Among the adult population, the sex ratio is as low as 730 females 1000 males. The preponderance of males among the squatter population suggests that many among them are not living with their whole families.

The following table indicates the age and sex distribution among the squatter population :-

TABLE - 5

PERCENTAGE SEX AND AGE DISTRIBUTION OF SQUATTER POPULATION

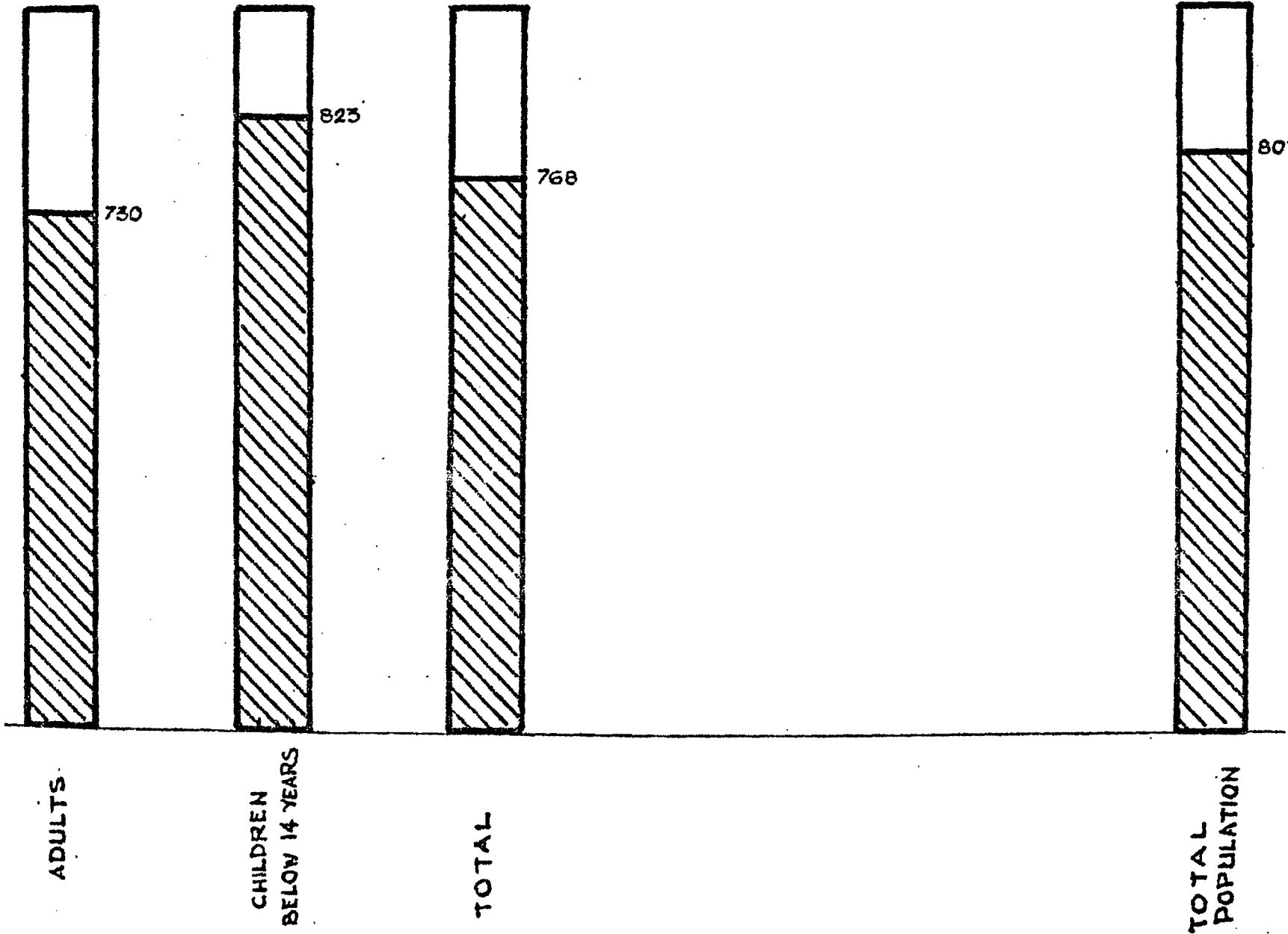
Age Group	Males	Females	Total	Sex ratio No. of females over 1000 males
0-4	14.4	17.2	15.6	922
5-9	14.9	15.6	15.2	803
10-14	11.3	10.6	11.0	725
15-24	19.2	20.1	19.6	800
25-34	19.3	18.4	18.9	726
35-44	11.0	8.9	10.0	611
45-54	5.7	5.5	5.6	734
55 and above	4.1	3.9	4.0	730
Total	100.0	100.0	100.0	768

* This table has been worked out, from the detailed household sample enquiry conducted in the Third Phase of the study.

PERCENTAGE OF SQUATTER POPULATION AND DELHI POPULATION (FEMALES/1000 MALES)

SAMPLE POPULATION

URBAN DELHI - 1971



SIZE OF THE FAMILY

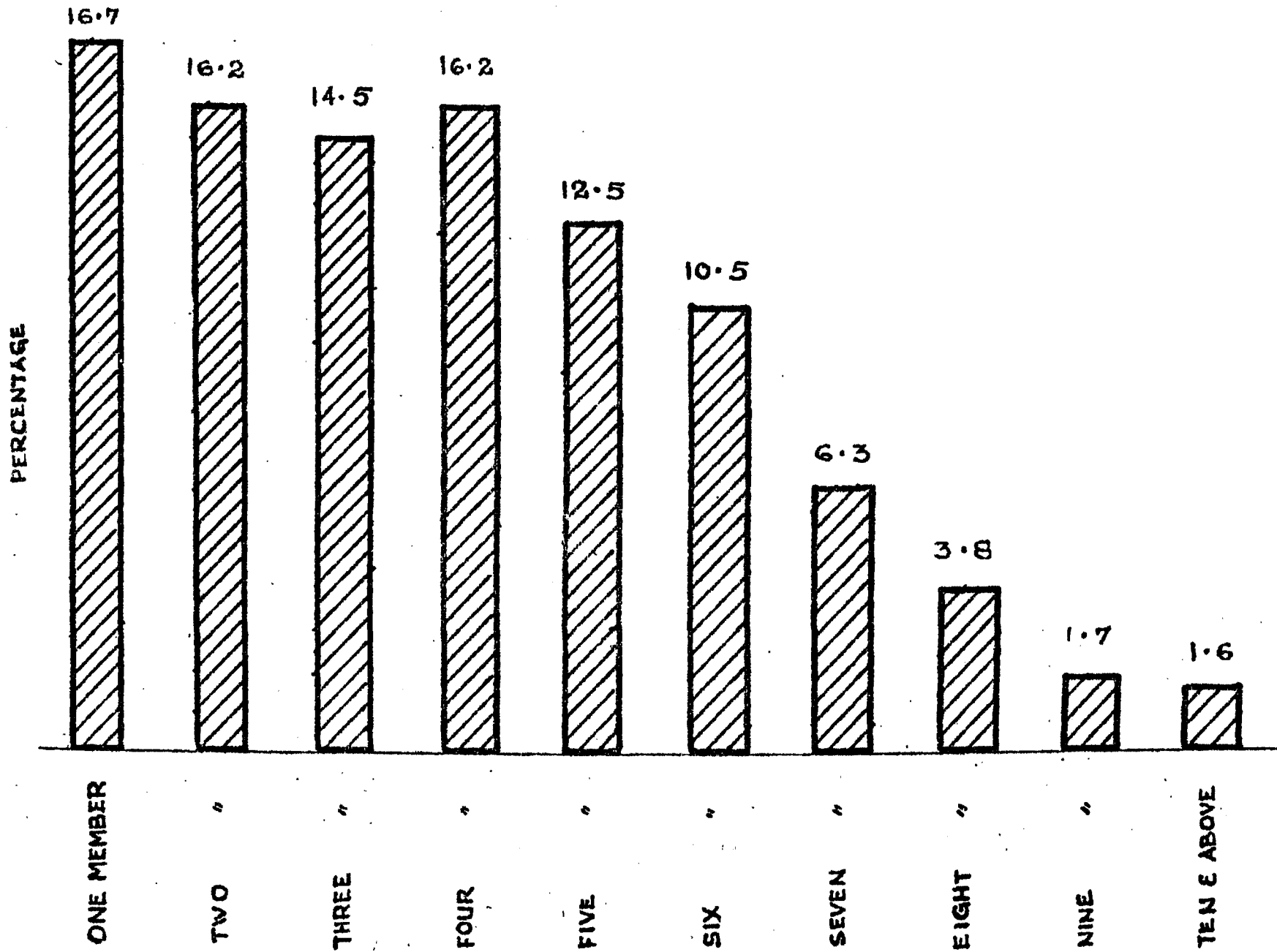
3355 or 16.7 per cent are uni-member families and 3261 or 16.2 per cent two-member ones. The number of families containing between 3 and 5 members is 8692 or 43.2 per cent and of 6 to 9 members, 4489 or 22.3 per cent. 322 or 1.6 per cent of the families have 10 or more members. It is further observed that there are not large differences in the number of families in each of the size groups upto 4 members which varies from 14 to 16 per cent of the total households. Secondly the proportion of families with five or more members goes on decreasing upto the last group of 10 or more members. The average size of the family for the squatter population as a whole is 3.9 which is smaller than that of 5 for urban Delhi in 1971. The following table shows the percentage distribution of households according to their size.

TABLE - 6

PERCENTAGE DISTRIBUTION OF HOUSEHOLDS ACCORDING TO THEIR SIZE

<u>size group</u>	<u>Percentage Distribution</u>
1. One member	16.7
2. Two members	16.2
3. Three members	14.5
4. Four members	16.2
5. Five members	12.5
6. Six members	10.5
7. Seven members	6.3
8. Eight members	3.8
9. Nine members	1.7
10. Ten members or more members	1.6
TOTAL	100.0

DISTRIBUTION OF SQUATTER HOUSE-HOLDS ACCORDING TO THE SIZE OF HOUSE-HOLD



The size of the family varies according to the length of residence in the city. Initially many of the households living in the squatter settlements do not bring with them all the members of the family. It is only when the chief bread earner is able to get more or less a continuous employment and secure accommodation that the other members of the family come to live with him in the city. Generally it takes about one to five years for the full family to form. It is during this period that his acculturation in the urban way of life takes place. The supporting structure of the squatter community facilitates this process of adjustment. For a large number of the inhabitants of the squatter settlements, the entry into the urban community does not result in an abrupt break from the village ties. The passage from the rural to urban conditions is gradual. As they progressively stay for longer periods in the city, urban life presents itself as a more desirable social model.

Looking at the process of family formation, we find that as the duration of residence extends, the family size increases. Among the squatter population who have arrived in the city during the last two years or less, 49.8 per cent are single member or double member households whereas their proportion among those living in the city for over 17 years is only 24.1 per cent. On the other hand, the proportion of families with four or more members progressively increases with the length of residence. It is 63 per cent among those with residence over 17 years as against only 37.6 per cent among those living in the city for two

years or less. The average size of the family also varies according to the duration of stay in the city. It is 3.1 among those with two years or less of residence whereas it is 4.5 among those living in the city for over 17 years. The following table indicates the percentage distribution of households of different size and average family size according to their length of residence in the city :-

TABLE - 7

PERCENTAGE DISTRIBUTION OF HOUSEHOLDS OF DIFFERENT SIZES AND AVERAGE SIZE OF FAMILY ACCORDING TO THEIR LENGTH OF RESIDENCE IN THE CITY

Length of residence in years	S I Z E O F T H E F A M I L Y							Total No. of families	Average size of the family
	One Member	Two Members	Three Members	Four Members	Five Members	Six Members	Seven or more members		
Two years or less	33.8 10.0	16.0 5.3	12.5 4.7	13.6 4.5	8.0 3.5	7.3 3.8	8.8 3.5	1085	3.1
3-7	25.0 30.6	18.5 23.3	15.6 22.0	14.9 18.8	9.7 15.9	8.0 15.5	8.3 12.5	4109	3.3
8-12	18.3 24.1	18.1 24.6	16.2 24.5	17.6 23.9	11.8 20.7	8.9 18.8	9.1 14.9	4425	3.6
13-17	13.0 15.7	14.6 18.3	14.5 20.1	17.8 22.1	14.7 23.8	11.3 21.8	14.1 21.1	4066	4.1
Over 17	9.7 18.5	14.4 28.2	12.9 28.2	15.5 30.5	14.1 35.9	13.1 39.9	20.3 47.9	6396	4.5
No Information	8.3 0.1	18.8 0.3	27.1 0.5	18.8 0.2	12.5 0.2	8.3 0.7	6.2 0.1	48	3.6
TOTAL	3355	3261	2916	3261	2515	2104	2707	20119	3.9

It may be noticed from the following two tables that the average size of the family varies between the various regional groups as also between the different castes and communities. The highest average size of family of 4.2 is found among the Rajasthanis and the lowest of 3.6 among those belonging to Uttar Pradesh, Himachal Pradesh and Eastern States. As between the families belonging to different castes and communities, Muslims have the largest average size of family of 4.3 while the upper caste Hindus with an average size of family of 3.4 have the smallest.

AVERAGE HOUSE-HOLD SIZE OF SQUATTERS ACCORDING TO DURATION OF STAY IN DELHI

PERIOD OF STAY
IN DELHI

SIZE

1 TO 2 YEARS



3.1

3 TO 7 YEARS



3.3

8 TO 12 YEARS



3.6

13 TO 17 YEARS



4.1

18 YEARS & ABOVE



4.5

TOTAL
URBAN DELHI



5.1

TABLE - 8

AVERAGE FAMILY SIZE AMONG THE VARIOUS REGIONAL GROUPS

<u>Regions</u>	<u>Average size of the family</u>
Delhi	3.9
U.P.	3.6
Rajasthan	4.2
Haryana	3.9
Punjab	3.8
Himachal Pradesh	3.6
Southern States	4.1
Central & Western States	3.7
Eastern States	3.6
Pakistan & Nepal	4.0
No information	3.9

TABLE - 9

AVERAGE FAMILY SIZE AMONG DIFFERENT CASTE AND COMMUNITY GROUPS

Caste and community groups	Average size of the family
<hr/>	
HINDUS	
Upper castes	3.4
Intermediary Castes	3.5
Lower Castes	4.1
MUSLIMS	4.3
SIKHS	3.9
CHRISTIANS	3.8
BUDHISTS	4.0
NO INFORMATION	3.2

It may be further observed that there is overall tendency among the squatter population to have smaller families with an average of 1.7 children per household. This may be primarily due to development of the norm of nuclear families consisting of the parents and their unmarried children among the squatter households. It may also be due to the predominance of young age groups both among female and male adults. However, though many of the households living in the squatter settlements have family members residing in the village, it has been mostly found that it is the members of the nuclear or biological family of the earning member who come to stay with him when he gets more or less settled in the city. This statement is further supported by the evidence that among those moving to the city with their family members, the most numerous type of family comprises husband, wife and their unmarried children and the size seldom exceeds five members. The emergence of the small nuclear type of family among the squatter population also accounts for decline of the large extended family system with extended kinship relations living together.

PATTERN OF MIGRATION

The squatter settlements consists wholly of migrants including those who had come to the city in the wake of partition of the country. As indicated earlier, the number of squatter households has increased by over ten times during the last twenty-three years.

This is due to a continuous inflow of migrant families in the squatter settlements of Delhi. In the present inquiry the unit of analysis chosen to the study of the pattern of migration is the head of the family (head earner).

YEAR OF ARRIVAL

Of the 20,119 households in our sample survey, 20.5 per cent came to the city in 1951 or before, 31.5 per cent between 1952-61, and 42.4 per cent between 1962-71. During the period of two and half years since 1971, preceding the time of survey, another 5.4 per cent have come to the city whereas there is no information for 0.2 per cent of the households in regard to their year of arrival in the city. We see that the rate of migrant households being added to the squatter settlements has increased from decade to decade. This not only corresponds with the growth of population of the city and the expansion of its economic activities but also with increasing rate of migration. It also reveals that an increasing proportion of the population growth in Delhi is being accommodated in the squatter settlements. It not only reflects the degrading quality of residential environment for a progressively increasing number of families but also the changing social and physical structure of urban Delhi. The present rate of migration and the factors of development and expansion of the city indicate that a large increase in its population may occur in the

future. This is likely to result to a larger number of households living in the squatter settlements in the coming years.

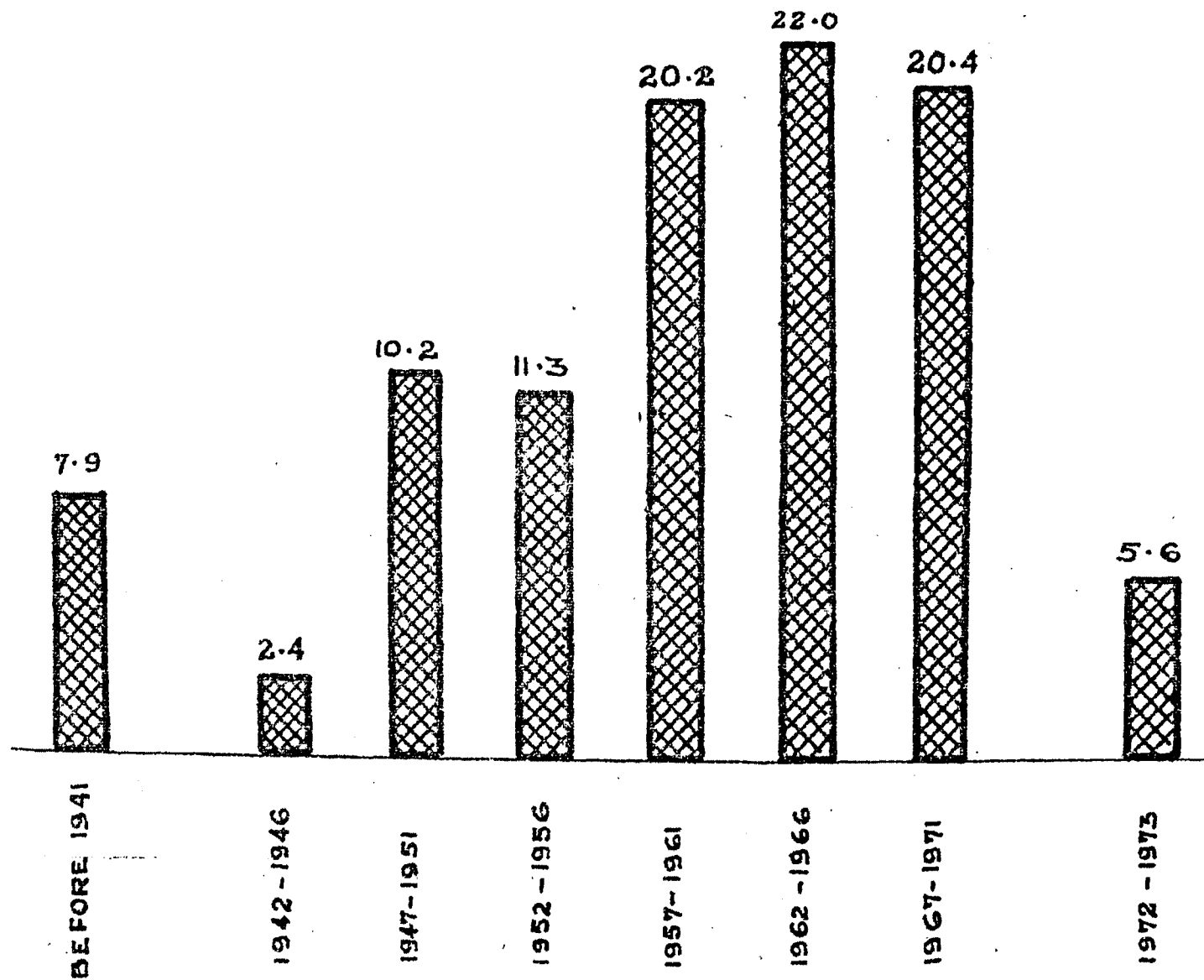
The following table reveals the year of arrival in Delhi of the heads of households presently living in the squatter settlements :-

TABLE - 10

YEAR OF ARRIVAL IN DELHI OF HEADS OF HOUSEHOLDS LIVING IN SQUATTER SETTLEMENTS

<u>Year of arrival</u>	<u>Number</u>	<u>Percentage</u>
1941 and before	1581	7.9
1942-46	483	2.4
1947-51	2053	10.2
1952-56	2279	11.3
1957-61	4056	20.2
1962-66	4425	22.0
1967-71	4109	20.4
1972 and after	1085	5.4
No information	48	0.2
TOTAL	20119	100.0

PERCENTAGE DISTRIBUTION OF HOUSE-HOLDS ACCORDING TO DURATION OF STAY IN DELHI.



PLACES OF ORIGIN

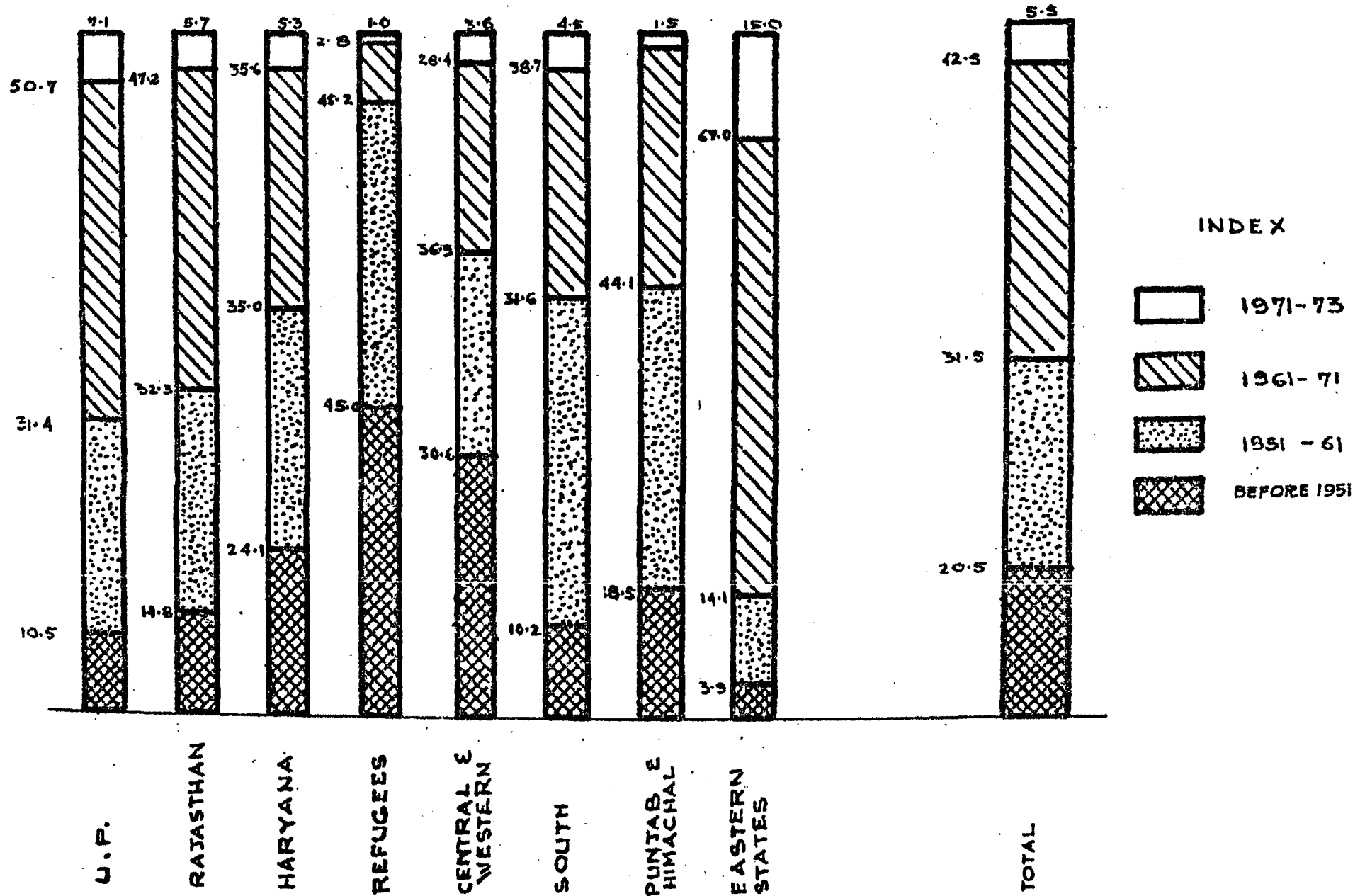
92.8 per cent of the heads of the households come from the rural areas, 6.5 per cent from the urban and the rural-urban origin of 0.7 per cent of the heads of the households is not known. Looking at the places of origin of the squatter households, it is found that they belong to all the various states or regions of the country. The largest proportion of 42.5 per cent of the total number of heads of the households comes from Uttar Pradesh, followed by Rajasthan which accounts for 32.6 per cent. The Union Territory of Delhi and Haryana, respectively, account for 5.9 and 6.5 per cent of the heads of the households. Thus 87.5 per cent of the heads of the households belong to the adjoining states of Uttar Pradesh, Rajasthan, Haryana and the Union Territory of Delhi. 5.4 per cent of the heads of the households come from states outside India (Pakistan and Nepal). Only 6.9 per cent of the heads of the households belong to the other states of India whereas the state of origin of 0.2 per cent of the heads of the households is not known. Of the 8522 heads of the households coming from U.P., 38.2 per cent come from the adjoining districts, 41.2 per cent from Eastern districts, 7.8 per cent from the Hill districts, 7.9 per cent from the central districts and 4.9 per cent from other districts. In the case of Rajasthan, 64.5 per cent of 6563 heads of households come from Jaipur district whereas the rest belong to other districts of the state. 70.3 per cent of the heads of the households belonging to

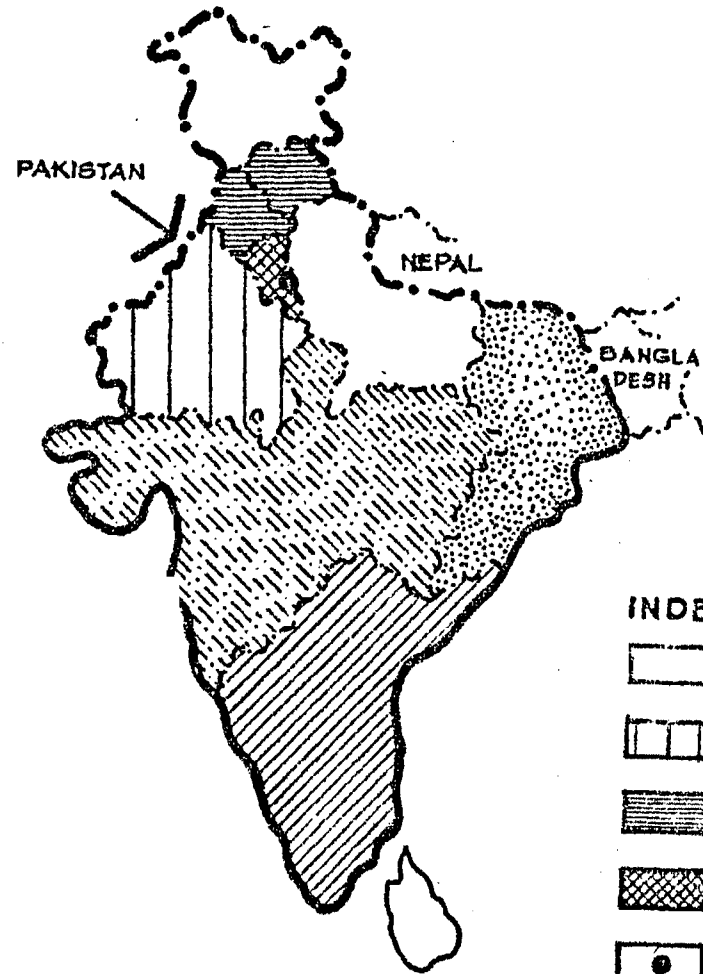
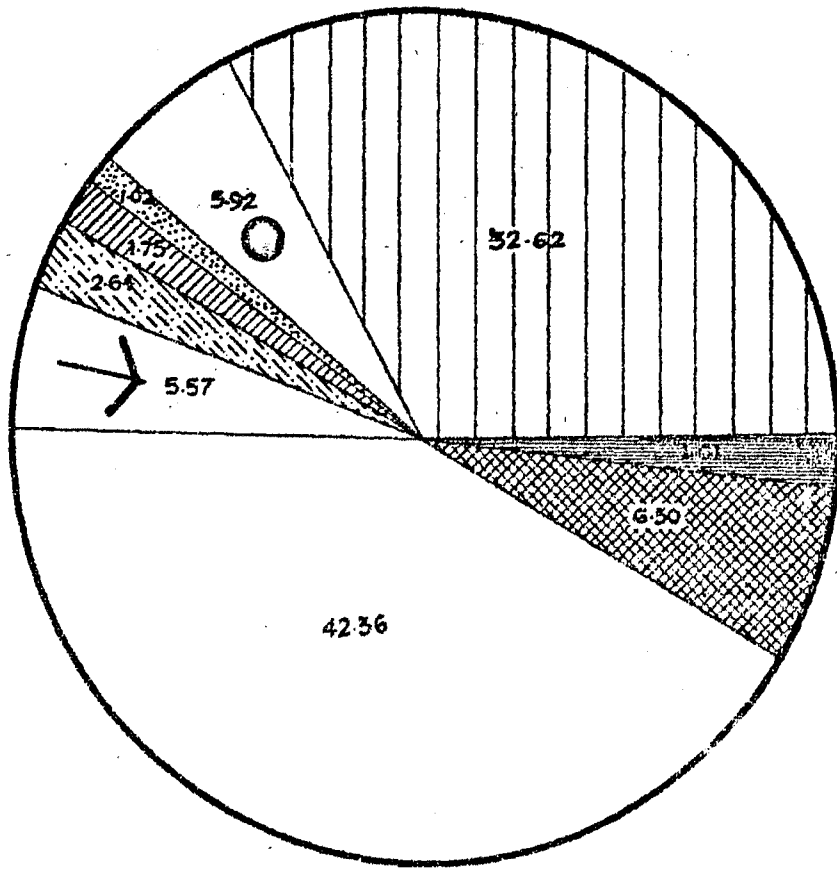
Haryana come from the adjoining districts and the remaining from other districts.

It is observed that among the states of Uttar Pradesh, Rajasthan and Haryana, who between them share 81.6 per cent of the total squatter households, the proportion of households coming from each of them has increased from decade to decade since 1951. In the case of Uttar Pradesh, 57.9 per cent have come during the last 12 years since 1962 whereas 52.5 per cent of those belonging to Rajasthan and 41.2 per cent of those of Haryana have been added during the same period. 96.1 per cent of those belonging to the Union Territory of Delhi have been in Urban Delhi from 1951 or before while among those coming from Pakistan and Nepal, 90.1 per cent arrived in the city in 1961 or before. Of the squatter households belonging to Himachal Pradesh, Southern States and Central and Western States, more than 60 per cent in each of them came to the city by 1961 and since then the proportion of new arrivals from each of these states has declined. In the case of squatter households belonging to Eastern States, 81.6 per cent have come to the city after 1962.










The share of Uttar Pradesh and Rajasthan among the squatter households arriving in Delhi increased from 46 per cent in 1951 to 75.8 per cent in 1952-61; to 86.8 per cent in 1962-71 and to 86.9 per cent in 1972 and after. Haryana's share declined from 7.5 per cent in 1951 to 5.5 per cent in 1962-71 but during 1972 and after, its proportion in the new

DISTRIBUTION OF SAMPLE J.J. HOUSE-HOLDS ACCORDING TO THEIR PLACE OF BIRTH AND THEIR PROPORTIONAL DURATION OF STAY IN DELHI





INDEX:

-  UTTAR PRADESH
-  RAJASTHAN
-  PUNJAB & H.P.
-  HARYANA
-  DELHI
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-  CENTRAL AND WESTERN STATES
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arrivals slightly increased to 6.5 per cent. The share of those belonging to Central and Western States and Pakistan and Nepal has declined period by period from 4.0 per cent and 11.9 per cent respectively of those arriving in 1951 or before to 1.7 per cent and 0.9 per cent among those in 1972 and after. In the case of Himachal Pradesh, Punjab and southern States, their share in the new arrivals among the squatter households has progressively declined after 1961. The Union Territory of Delhi which contributed to the largest share of 27.8 per cent among the squatter households arriving in the city in 1951 or before lost its importance in the subsequent periods and consisted of only 0.2 per cent of those coming in 1972 and after. Looking at the trends of proportion of the squatter households belonging to the various regions at different time intervals, it may be said that in future the greatest share of squatter population in Delhi will be contributed by Uttar Pradesh, followed by Rajasthan and Haryana in that order of importance, while of those belonging to other distant states and Punjab will progressively decline.

The following table shows the year of arrival in Delhi of the squatter households belonging to the various states or regions and their respective shares in the arrivals at different time intervals :-

TABLE - 11

REGIONAL BACKGROUND OF THE SQUATTER HOUSEHOLDS AND
YEAR OF ARRIVAL IN DELHI (PERCENTAGE DISTRIBUTION)

Regions	YEAR OF ARRIVAL				No. Information	Total
	1951 & before	1952-61	1962-71	1972 & after		
Delhi *	96.1 27.8	2.3 0.4	1.5 0.2	0.1 0.2	--	1191 5.9
Uttar Pradesh	10.7 22.8	31.3 42.3	50.5 50.5	7.4 56.2	0.1 20.8	8522 42.5
Rajasthan	14.8 23.7	32.2 33.5	47.3 36.3	5.2 30.7	0.4 38.3	6563 32.6
Haryana	23.9 7.6	34.9 7.2	35.9 5.5	5.3 6.5	--	1307 6.5
Punjab	18.8 1.1	43.4 1.7	36.2 1.1	1.2 0.3	0.4 2.1	249 1.2
Himachal Pradesh	17.3 0.3	46.7 0.6	34.7 0.3	0.3 0.1	--	75 0.4
Southern States	10.2 0.9	51.5 2.9	33.7 1.4	3.7 1.2	0.9 6.2	353 1.8
Eastern States	3.8 0.2	14.1 0.4	67.0 1.7	14.6 2.2	0.5 2.1	206 1.0

* Birth place Delhi with year of arrival in the jhuggi setting.

Regions	YEAR OF ARRIVAL				No information	Total
	1951 & before	1962-61	1962-71	1972 & after		
Central & Western States	30.6 4.0	36.8 3.1	29.0 1.8	3.4 1.7	0.2 2.1	532 2.6
Pakistan & Nepal	45.0 11.9	45.1 7.8	8.9 1.1	0.9 0.9	0.1 4.2	1089 5.4
No information	31.3 0.2	28.1 0.1	34.4 0.1	-	6.2 4.2	32 0.1
TOTAL	4117	6335	8534	1085	48	20,119

CASTE COMMUNITY COMPOSITION

Of the total 20,119 households, 16.0 per cent are upper caste Hindus, 12.6 per cent intermediary castes (cultivating and artisan castes) and 64.7 per cent lower or scheduled castes. Of the remaining, 3.2 per cent belong to Muslim community while Sikhs account for 2.5 per cent. Christians and Budhists consist 0.8 per cent of the squatter households. 46 households or 0.2 per cent did not reveal their caste or community composition.

Among the higher castes, 53.5 per cent come from U.P., 12.6 per cent from Rajasthan, 13.4 per cent from Pakistan and Nepal and the rest from the other states. Of those belonging to intermediary castes, 80.9 per cent belong to the states of U.P., Rajasthan and Central and Western states and the remaining to the rest of the States. 80.1 per cent of the lower caste households belong to U.P. and Rajasthan while the other States account for the remaining 84.9 per cent of the Muslims are from U.P. 84.7 per cent of the Sikhs from Punjab and Pakistan and 71.2 per cent of the Christians from U.P. and Delhi and 72.7 per cent of the Budhists and others are from Pakistan, Nepal and U.P. It may be further mentioned that those belonging to Delhi, 71.5 per cent are lower castes while among those belonging to the regions of Rajasthan, U.P., Haryana and Southern States, lower castes account for 87.6 per cent 54.8 per cent, 73.5 per cent and 87.5 per cent respectively.

The following table shows the caste and regional background of the squatter households;

TABLE - 12

REGION GROUPS AND CASTE GROUPS

Region Groups	H I N D U			Muslims	Christ- ians	Sikhs	Others	No info- rmation	Total
	Higher	Inter- mediary	Lower						
	1	2	3	4	5	6	7	8	9
Delhi	127 (3.9)	161 (6.4)	851 (6.5)	14 (2.2)	6 (13.4)	23 (4.6)	9 (7.4)	-	1191 (5.9)
U.P.	1721 (53.5)	1519 (59.9)	4672 (35.9)	543 (84.9)	25 (57.8)	9 (1.8)	26 (16.5)	12 (26.1)	8522 (42.5)
Punjab	110 (3.4)	37 (1.5)	21 (0.2)	-	1 (2.2)	68 (13.5)	10 (8.3)	2 (4.3)	249 (1.2)
Haryana	186 (5.8)	135 (5.3)	961 (7.4)	17 (2.6)	-	7 (1.4)	-	1 (2.2)	1307 (6.5)
Rajas than	404 (12.6)	325 (12.8)	5748 (44.2)	39 (6.1)	2 (4.4)	25 (4.9)	8 (6.6)	12 (26.1)	6563 (32.6)
Himachal Pradesh	49 (1.5)	17 (0.7)	4 (0.03)	1 (0.2)	2 (4.4)	1 (0.2)	-	1 (2.2)	75 (0.4)
Eastern states	67 (2.1)	61 (2.4)	59 (0.4)	14 (2.1)	-	-	1 (0.8)	4 (8.7)	206 (2.0)
Southern states	17 (0.5)	14 (0.6)	309 (2.4)	2 (0.4)	8 (17.8)	1 (0.2)	-	2 (4.8)	353 (1.8)

There was a greater proportionate increase in squatter households belonging to upper, intermediary and lower castes and Muslims respectively, in each of the subsequent decades since 1951 while a downward trend was noticed among the Sikhs, Christians and Budhists, though each one of these communities showed an increase in their population in 1952-61 over 1951 or before. Looking at the share of each of the castes and communities in the arrivals in each of the time intervals since 1951, we find that the intermediary castes, lower castes and Muslims improved in their importance period by period whereas the share of upper castes, Christians, Budhists and Sikhs progressively declined after 1962. The following table shows the distribution of the various caste and communities according to their year of arrival in Delhi :-

TABLE - 13

PERCENTAGE DISTRIBUTION OF HOUSEHOLDS ACCORDING TO
CASTE & COMMUNITY GROUPS & THE YEAR OF ARRIVAL

Caste & Community	Y E A R O F A R R I V A L				No infor- mation	
	1951 & before	1952-61	1962-71	1972 & after		
Higher castes	22.6	32.3	41.0	3.7	0.1	
	17.7	16.6	15.5	11.0	6.3	
Intermediary castes	18.7	30.8	43.6	6.8	0.1	
	11.5	12.3	12.9	15.9	4.2	
Lower castes	20.3	30.1	43.7	5.6	0.3	
	64.1	61.9	66.7	67.6	72.9	
Muslims	11.6	32.1	48.0	8.0	0.3	
	1.8	3.2	3.6	4.7	4.2	
Christians	28.9	40.0	31.1	-	-	
	0.3	0.3	0.1	-	-	
Sikhs	30.5	55.4	12.9	1.2	-	
	3.7	4.4	0.8	0.6	-	
Others (Budhists)	21.5	61.2	16.5	-	0.8	
	0.6	1.2	0.2	-	2.1	
No information	28.3	17.4	39.1	4.4	10.8	
	0.3	0.1	0.2	0.2	10.4	
TOTAL	4117	6335	8534	1085	48	201

ECONOMIC STATUS

Of the 78,560 persons, 32,035 or 40.8 per cent are workers and the rest non-earning dependents. The dependency ratio works out to be 1.5 persons per worker which is lower than that of 2.3 for urban Delhi as a whole. Of all the adults above the age of 14 years, 70.5 per cent are gainfully employed. Among the male adults 93.5 per cent are working while the proportion of workers among the female adults is 38.4 per cent. There are 759 workers under the age of 15 years comprising 2.2 per cent of the total child population and 2.4 per cent of the total workers.

FAMILY INCOME & FAMILY SIZE

The family income has been calculated by adding the income of the head of the household and other full time workers. It is necessary to say a word about the reliability of income data. It was not difficult to ascertain the income of the daily wage earners and salaried workers though there was a tendency among them to reveal the income on the lower side. In the case of those engaged in petty-business or retail trade and hawking, it was difficult to estimate their net earnings since they did not reveal their income correctly by putting it lower than what they actually earned. The income of women doing part time work has not been included in the calculation of family income, since the respondents did not indicate the actual amount earned pointing out that such earnings did not make any significant contribution to the household income. It was also found that

among an appreciable number of households, the fact that their women were working was not revealed due to status reasons.

We have excluded 192 households in our inquiry about family income and family size since we have no information about their family income. Of the 19,927 households, 71.1 per cent have incomes of Rs.250 or below, while 23.7 per cent fall in the income range of Rs.251-450. The income group of Rs.451-550 accounts for 2.7 per cent while families having incomes over Rs.550 comprise 2.5 per cent. The average income of the squatter household is Rs.237 per month with an average income of Rs.149 per earner per month. The average per capita income per month is Rs.61.

The level of living of the family depends upon its income and its size. In this connection our data are subject to one important limitation. The size of the family is not necessarily co-extensive with the size of the entire family in as much as many of the earners are supporting a number of dependents in the native place.

An important feature brought about by our data is the predominance of small sized families having 2 members or less, in the lower income groups. 51.5 per cent of the families in the income group of Rs.150 or less have 1-2 members. In fact 35 per cent in this income group are uni-member families. In the next income group, the proportion of families with

1-2 members falls to 32.6 per cent. The proportion of small sized families continues to fall in all the subsequent income groups. In the highest income group of over Rs.550, families with 1-2 members form only 0.2 per cent of the total. Conversely, large sized families with more than 7 members, form an insignificant proportion of the total families in the lower income groups but in the relatively higher income groups their importance tends to increase. The families with more than 7 members consist of 2.3 per cent of the total in the income group of Rs.150 or less. Their proportion goes on increasing in subsequent income groups and in the highest income group over Rs.550 as many as 42.8 per cent of the families consist of more than 7 members. The same tendency is observed in regard to the average size of family in each of the income groups. The average size of the family also progressively increases with the rise in the family incomes. It varies from the smallest of 2.8 in the lowest income group to the largest of 7.0 in the highest income group of over Rs.550.

We must avoid drawing any demographic conclusions on the basis of the above evidence. It is not safe to conclude that squatters with relatively higher incomes tend to multiply more rapidly. In this connection various possibilities should be taken into account.

(1) At higher levels of incomes, dependents might be supported in the city rather than in the native place. It is difficult to suggest that this tendency is uniformly operative at all levels of incomes in the sense that at each successively higher level of income more of

the dependents will be brought to the city. The bringing of dependents to the city is dependent on a number of factors and income is only one of them. For instance, the attitude towards settling with the dependents varies with the region and caste of the persons concerned. For example, it has been observed that the squatters who belong to Uttar Pradesh do not generally bring their family members. This is also true for the higher caste groups. But those coming from Rajasthan bring their family and so is the case with the lower caste segments of squatter population. However, it has been found that persons at very low levels of income do not bring their dependents to the city. (2) Another factor to be taken into account is the degree of jointness of the families at various levels of income. The data relating to number of earners show that families in the lower income group are predominantly families with one earner only. It is worth noting that the proportion of families with more than one earner is 92.3 per cent in the income group of Rs.451-550 and 95.9 per cent in the income group of over Rs.550 as compared to 5.4 per cent in the income group of Rs.150 or below. At a later stage we shall have an occasion of discussing this aspect in somewhat greater detail. For the present it is sufficient to note that the indirect evidence suggests the possibility of a higher proportion of joint families among the higher income groups.

TABLE - 14

FAMILY INCOME & FAMILY SIZE (PERCENTAGE DISTRIBUTION)

Income Group	S I Z E O F T H E F A M I L I E S				Total No. of families	Average size of family
	1-2 member	3-4 member	5-7 member	More than 7 members		
150 & below	51.5 53.8	26.6 29.2	19.3 22.5	2.3 10.8	6747* (33.9)	2.9
151-250	28.4 32.6	34.5 41.6	31.8 40.1	5.3 27.6	7422 (37.2)	3.9
251-350	20.9 10.5	32.8 17.5	36.3 20.3	10.0 22.8	3273 (16.4)	4.5
351-450	10.3 2.3	33.2 7.8	41.5 10.2	15.0 15.2	1452 (7.3)	5.2
451-550	6.8 0.6	24.7 2.2	46.1 4.2	23.4 8.9	543 (2.7)	5.8
Above 550	2.7 0.2	21.8 1.7	32.7 2.7	42.8 14.7	490 (2.5)	7.0
TOTAL	6465	6155	5874	1433	19927	3.9

* Bracketed figures are percentago distribution of income groups on the vertical total.

FAMILY INCOME & NUMBER OF EARNERS

The highest proportion of earners was obtained in the income group of Rs.451-550, closely followed by the income group of over Rs.550 where 54.8 per cent and 51.2 per cent respectively of the total family members were earning. In the income group of Rs.351-450 this percentage fell to 50.5 per cent. Its downward trend continued in the subsequent lower income groups. The lowest percentage of earners (36.1%) obtains in the case of families whose incomes do not exceed Rs.150.

The higher proportion of earners in the higher income groups may be due to larger family size comprising more members in the working age groups. It has been observed among the squatters that almost everyone works in the working age group. The participation ratio among the males is as high as 93.5 per cent whereas a substantial number of females also work (38.4%). The lower proportion of earners in the lower income groups may partly be due to the smaller size of families among them. We have already seen that the family size among the squatters increases with the increase in the family income. On account of larger proportion of earners in the higher income groups, the dependency ratio also declines with the rise in the incomes from 1.8 persons per worker in the lowest income group of Rs.150 and below to 0.9 in the highest income group of over Rs.550.

Of the 19,927 families, for which we have information in regard to earners and family incomes, 57.9 per cent are single earner families, 31 per cent two earner families, 6.3 per cent three-earner families and 4.8 per cent with four or more earners. It is also found that of the single earner families, 89.8 per cent are found in the income group of Rs.250 and below while of those with earners the proportion of 80.9 per cent falls in the income group of Rs.151-350. The income group of Rs.251-450 accounts for 72.3 per cent of the three earner families and the income group over Rs.451 for 83 per cent of those with four or more earners.

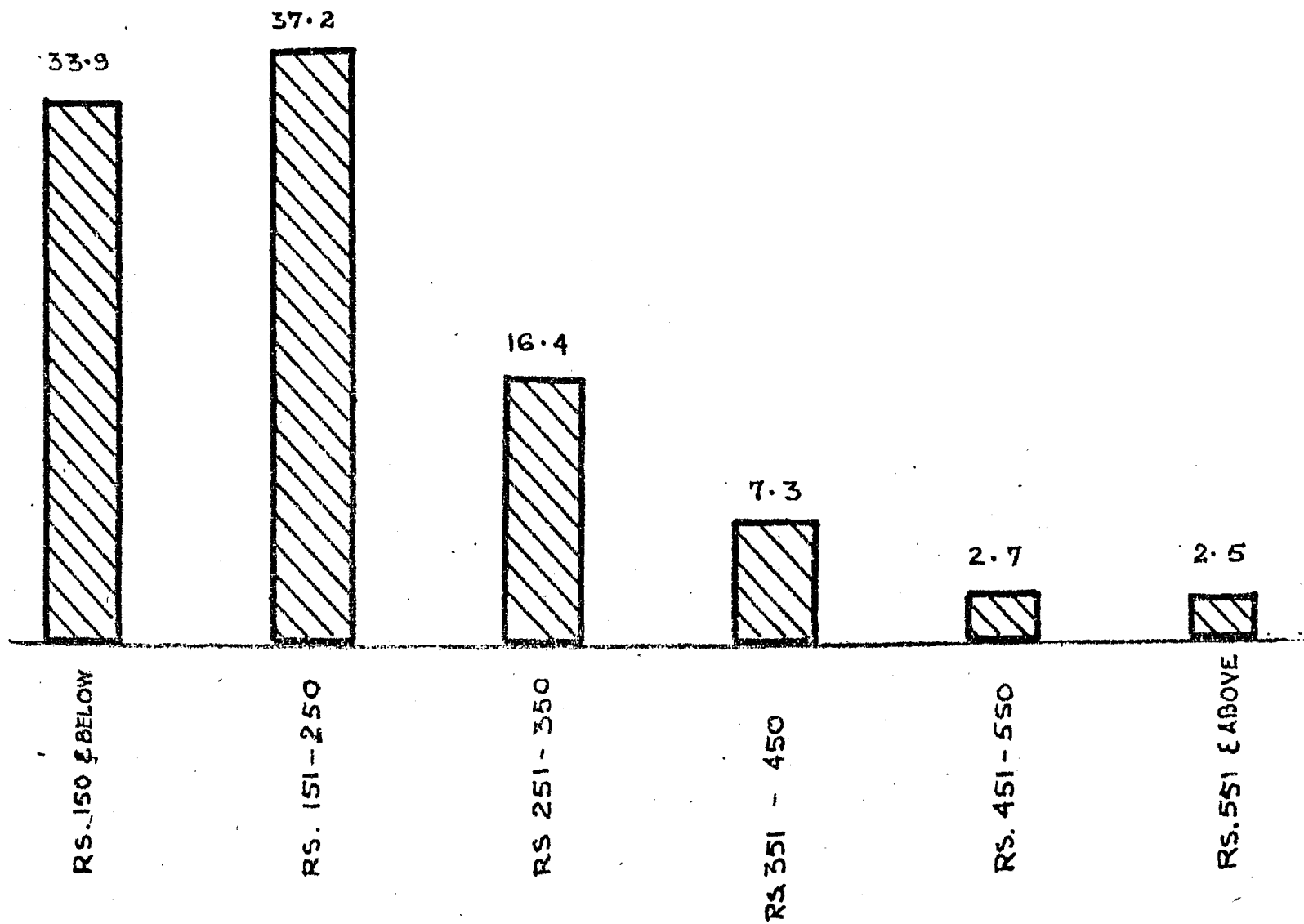
The following table shows the distribution of earners, and the proportion of those earning to the total population in each of the various income groups :-

TABLE - 15

FAMILY INCOME & NUMBER OF EARNERS (PERCENTAGE DISTRIBUTION)

Income groups	NO. OF EARNERS IN THE FAMILIES				Total No. of earners	Total No. of families	Average No. of earners per family	Ratio of dependents to earners	Proportion earners to total populat.
	One earner	Two earners	Three earners	Four earners					
150 and below	94.6 55.3	5.1 5.6	0.2 1.3	0.03 0.2	7132	6747	1.1	1.8	36.1
151-250	53.7 34.5	44.6 53.6	1.4 8.4	0.3 2.3	11013	7422	1.5	1.7	37.3
251-350	29.6 8.4	51.5 27.3	15.5 40.8	3.4 11.5	6309	3273	1.9	1.4	42.5
351-450	9.9 1.2	42.6 10.0	27.0 31.5	20.5 30.9	3792	1452	2.6	1.0	50.5
451-550	7.7 0.4	27.1 2.4	22.1 9.6	43.1 24.4	1742	543	3.2	0.8	54.8
Above 550	4.1 0.2	14.5 1.1	21.2 8.4	60.2 30.7	1759	490	3.5	0.9	51.2
TOTAL	11544 57.9	6179 31.0	1244 6.3	960 4.8	31747	19927	1.6	1.5	40.6

PERCENTAGE DISTRIBUTION OF FAMILY INCOME IN SAMPLE UNIVERSE



FAMILY INCOME & CASTE & COMMUNITY GROUPS

Family income varies between different caste groups and communities. The highest average family income of Rs.243 per month obtains in the lower caste and the christians while the lowest of Rs.218 per month is found among the Sikhs. The proportion of earners differs among the various castes and communities. The lowest ratio of 1.3 earner per household is found among the Sikhs and the highest of 1.7 among the lower castes. In terms of percentage proportion of earners to the total members living in the city, we find that it is 42.2 per cent among the higher castes, 41.8 per cent among the intermediary castes, 41.3 per cent among lower castes, 35.3% among Muslims, 39.3 per cent among Christians, 34.4 per cent each among Sikhs and Budhists respectively. The higher percentage proportion of workers among higher and intermediary caste Hindus can be explained by the fact that these caste groups do not bring all their family members to the city. But in case of the lower castes, the high percentage proportion of workers is due to a greater female participation in the work force among them as compared to other caste and community groups.

The effects of the variation of the occupational structure among the different castes and communities can be seen in the differences in the average monthly income of earners among them. The highest average monthly income of Rs.164 is found among the higher castes

and the lowest of Rs.143 among the lower castes. The average monthly income of earners of other castes and communities varies between these two ranges. The average monthly per capita income varies between 69 for the higher castes and Rs.55 for the Muslims. The variation between the household income and per capita income among the various castes and communities can be explained by the differences in the family size among them.

Looking at the distribution of the different income groups, we find that 80.2 per cent of the Budhists earn Rs.250 or less while this is so for 72.3 per cent of the higher castes, 75.0 per cent of the intermediary castes, 73.7 per cent of Sikhs, 68.9 per cent of the Christians and 68.7 per cent of the lower castes. Families earning between Rs.251-450 form 25.3 per cent of the lower castes and 14.9 per cent among the Budhists. The proportion of such families in other castes and communities varies between these two ranges. The proportion of families earning over Rs.450 in the various castes and communities ranges between from 5.3 per cent among the lower castes to 3.6 per cent among the Sikhs.

The following table shows the percentage distribution of family income groups in the various castes and communities along with average with income among them.

TABLE - 16

CASTE AND COMMUNITY GROUPS AND FAMILY INCOME* (PERCENTAGE DISTRIBUTION

Caste and community groups	No	I N C O M E G R O U P S						No information	Total No. of households	Average No. of earners per household	Average income per earner monthly (Rs.)	Average household income (Rs.) monthly	Per capita income monthly (Rs.)
		Rs. 150 or below	151-250	251-350	351-450	451-550	Over 550						
H I N D U S													
Higher Castes	1.1	37.7	34.6	15.4	5.7	2.9	2.3	0.3	3217	1.4	164	236	69
Intermediary castes	0.7	42.6	32.4	18.1	6.0	2.4	2.5	0.3	2532	1.4	156	229	66
Lower Castes	0.6	30.4	38.3	17.2	8.1	2.8	2.5	0.1	13014	1.7	143	243	59
Muslims	0.8	46.6	30.2	13.8	3.6	2.7	2.0	0.3	639	1.5	156	237	55
Christians	2.2	42.2	26.7	15.6	6.7	2.2	2.2	2.2	45	1.5	163	243	64
Buddhists	0.4	29.1	44.6	17.0	5.4	1.4	2.1	-	505	1.3	162	218	50
Jadhists	-	26.5	53.7	11.6	3.3	3.3	0.8	0.8	121	1.4	161	222	50
No information	2.2	17.4	23.9	17.4	13.0	4.4	4.3	17.4	46	-	-	-	-

* The data on family income excludes those for whom the information in regard to income or number of earners or caste and community composition was not available.

OCCUPATIONAL STRUCTURE

The occupational structure of the earners among the squatter households has been considered on the basis of 11 categories, which however do not exactly correspond to the census and other recognised classification of occupations. The main elements on which the classification is based are type of employment, status, and skill involved. In this, we have also taken into consideration the social types. The detailed nature of occupations and the corresponding occupational categories under which they have been grouped are given in the Appendix D. Our classification has been mainly drawn in terms of socio-occupational categories.

Of the 32,035 earners, 8.2 per cent are engaged as hawkers, vendors and petty businessmen and retail shop keepers, 42.5 per cent as construction workers, 10.8 per cent as industrial workers, 28.6 per cent as other miscellaneous manual workers, 8.8 per cent in traditional skills and trades, and the rest 1.1 per cent as low level white collar workers and semi-professionals. Analysing the occupational structure in terms of skills, we find that 79.3 per cent are unskilled and 11.9 per cent skilled while 8.8 per cent possess cultural or inherited skills.

Looking at the pattern of female participation in employment, we find that of the 7095 female earners, 65.1 per cent are engaged in unskilled construction work, 5.7 per cent

as hawkers and vendors, 23.4 per cent in miscellaneous unskilled work, 4 per cent in traditional trades and callings and the remaining in the rest of the occupations. Among the 759 child earners, 80.9 per cent are occupied as unskilled construction workers, 2.4 per cent as hawkers and retail traders, 12.9 per cent in unskilled miscellaneous manual or industrial and the remaining in traditional trades and callings and skilled manual work.

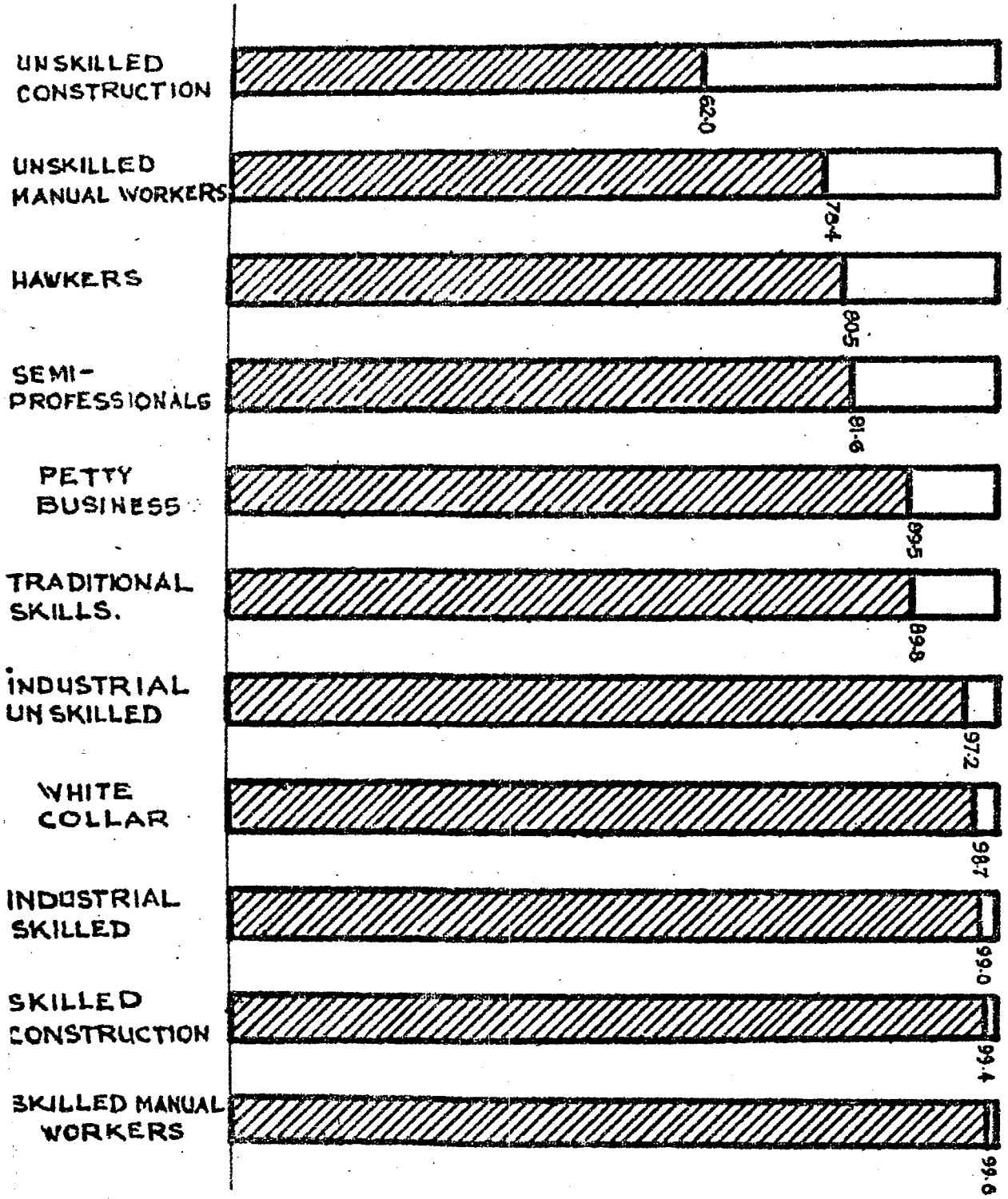
The analysis of the occupational structure of the squatters indicates that a relatively small proportion among them are employed as industrial and skilled manual workers while a very large proportion among them consist of workers in low level service and other unskilled occupations. However, a very large number of these workers are engaged in nation building activities like the construction workers (42.5%), and those in the unskilled manual category comprising porters, loaders, cooks, waiters, domestic servants, unskilled office workers, workers in transport and repair shops and other low level service personnel. Among those included in the occupational category of traditional trades and skills, are the workers engaged in handi-crafts and cottage industries, barbers, tailors, laundrymen, and community service workers like scavengers, garbage handlers, street sweepers etc. The remaining are in distributive services or are engaged as clerks, school teachers, accountants and semi-professional activities. These occupations, in the present stage of the city's economic development can in no way be regarded as non-essential. As a matter of fact in the context

of the existing technological development, the entire gamut of essential services is provided by these workers at a very low level of wages thus enabling the city's economic system, to function economically and efficiently. The labour product exported by the squatter community serves valid demands by the city.

Many people argue, taking the western model of development as the only road to progress, that since those living in the squatter settlements and slum areas are mainly concentrated in the service occupations, their participation in the job market is not developmental. The above premise ignores the fact that the norm of western pattern of urbanisation need not be the only variant which the developing country like India may follow. As these settlements are peopled by migrants from the country side, they have helped more in profitably utilising the human resources than what could have been possible in the rural areas at the present level of India's economic development. The important thing about these observations is that there are various opportunities available to the squatter in the city to improve his lot and gain entry into the developmental process which may not be possible if he is forced to live in the village. Further, it is the question of the time dimension involved. Squatter settlements are relatively a recent development. The fact that it usually takes a couple of generations before a migrant family achieves a stable socio-economic status should not be ignored while

PERCENTAGE

PROPORTION OF MALE AND FEMALE WORKERS IN VARIOUS OCCUPATIONS



INDEX
 [Hatched Box] MALE
 [White Box] FEMALE

passing judgement on the nature of employment pattern among the squatters. With the passage of time, the links are gradually established between the squatter communities and the larger city community and through this with the process of modernisation. The evolution of these linkages is vital and beneficial to social and economic development.

The following table shows the occupational structure of the earners living in the squatter areas :-

OCCUPATIONAL STRUCTURE OF EARNERS

OCCUPATIONS	MALE EARNERS		FEMALE EARNERS		CHILD EARNERS		TOTAL EARNERS	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
	2	3	4	5	6	7	8	9
Teachers and nurses	1145	4.8	281	4.0	14	1.8	1440	4.5
Business book-keepers	1049	4.4	123	1.7	5	0.7	1177	3.7
Unskilled production	6924	28.6	4616	65.1	614	80.9	12154	37.9
Skilled production	1476	6.1	9	0.1	-	-	1485	4.6
Unskilled work	5963	24.6	1663	23.4	82	10.8	7708	24.0
Skilled Manual	1449	6.0	6	0.1	4	0.5	1459	4.6
Professional & skills	2498	10.3	285	4.0	21	2.8	2804	8.8
Special skilled	507	2.1	5	0.1	-	-	512	1.6
Special unskilled	2837	11.7	81	1.1	18	2.4	2936	9.2

1	2	3	4	5	6	7	8	
Semi-professional workers	102	0.4	23	0.3	-	-	125	
White collar	231	1.0	3	0.1	1	0.1	235	
TOTAL	24181	100.0	7095	100.0	759	100.0	32035	10

OCCUPATIONAL CHANGES & DURATION OF RESIDENCE IN THE CITY

The analysis of the occupational structure of the heads of the households of squatters in relation to the duration of residence in the city helps in understanding the nature of the occupations that the new comers take up and the changes that take place by a greater exposure to the city life. If such changes occur on a large scale, they indicate occupational mobility among the squatter population.

The effects of duration of residence on the changes in the proportion of heads of the households in the different occupations vary. The proportion of heads of households both among the hawkers and vendors and petty businessmen and shop-keepers has increased with the duration of residence. Over 60 per cent among them have been living in the city for over 12 years. The same trend is noticeable among skilled construction workers, skilled manual workers, skilled industrial workers, traditional trades and skills, semi-professionals and white collar workers where the proportion of those with residence of over 12 years ranges between 53.5 per cent for the skilled construction workers to 76 per cent among the semi-professionals. Over 60 per cent among the unskilled and industrial construction workers have a residence of less than 12 years, while the proportion among the unskilled manual workers has increased with longer duration of residence in the city.

Comparison of the occupational structure in the different time periods reveals that among those with 2 years or less of residence, the three occupational categories of unskilled construction, unskilled manual work and unskilled industrial labour account for 82 per cent of the heads of the households while it is 55.4 per cent among those over 12 years of residence. The proportion of unskilled construction and industrial workers decreases with the increase in the duration of residence whereas that of unskilled manual workers increases. The proportion of the heads of the households in the occupational categories of hawkers and vendors, petty shop-keepers, skilled construction, skilled manual workers, traditional trades and skills, skilled industrial workers, semi-professionals and white-collar workers increases among those with larger duration of residence in the city. The share of these occupational categories among those with over 12 years of residence is more than double that what it is among those with two years or less of residence. Though it may be seen that the occupational structure of the earners among the squatters is more or less static but when it is seen against the background of time dimension, a certain degree of mobility is discernible as is evident from the occupational changes that have taken place among the squatters over a period of time. The longer the duration of stay the greater is the tendency to move out of the unskilled and low paid jobs to better paid and skilled jobs. Thus with longer exposure to city life, a gradual improvement in the occupational status of the heads of the

households is noticeable. The improvement and changes observed in the occupational status among those who have recently arrived and those who have been in the city for a longer time, though not yet very extensive, are significant, especially when considered with their possible impact on the children of squatter population.

The following table shows the variation in the occupational pattern of the heads of the households in relation to their duration of stay in the city :-

TABLE - 18

OCCUPATIONAL STRUCTURE OF HEADS OF HOUSEHOLDS IN THE CITY (PERCENTAGE DISTRIBUTION)

Occupations	D U R A T I O N O F S T A Y					No information
	2 years or less	3-7 years	8-12 years	over 12 years		
1	2	3	4	5	6	
Hawkers & Vendors	H%	1.8	16.1	25.0	56.8	0.3
	V%	1.7	4.0	5.7	5.5	6.3
Petty business & Shop-keepers	H%	2.8	12.3	17.7	67.1	0.1
	V%	2.4	2.7	3.7	5.9	2.1
Unskilled Construction	H%	10.5	27.5	22.6	38.9	0.5
	V%	51.7	35.8	27.3	19.9	58.3
Skilled construction	H%	2.6	15.7	27.9	53.5	0.3
	V%	3.2	5.2	8.6	7.1	8.3
Unskilled Manual work	H%	3.9	18.1	19.8	58.1	0.1
	V%	17.7	21.6	22.0	27.3	10.4
Skilled Manual work	H%	2.8	14.4	21.2	61.5	0.1
	V%	3.0	4.2	5.7	7.0	2.1
Traditional trades & skills	H%	2.8	12.0	20.0	65.1	0.1
	V%	5.3	6.1	9.5	13.0	4.2
Skilled Industrial	H%	2.5	17.8	25.9	53.8	-
	V%	1.0	1.9	2.5	2.2	

1		2	3	4	5	6	7
illed Industrial	H%	6.1	30.5	25.2	38.1	0.1	2245
	V%	12.6	16.7	12.8	8.2	4.2	
-professional	H%	1.0	8.0	14.0	76.0	1.0	100
	V%	0.1	0.2	0.3	0.7	2.1	
collar	H%	2.5	15.5	22.5	59.5	-	200
	V%	0.5	0.7	1.0	1.1		
working heads	H%	2.5	11.8	14.4	71.3	-	279
	V%	0.7	0.8	0.9	1.9		
information	H%	4.6	9.1	9.1	72.6	4.6	22
	V%	0.1	0.05	0.04	0.2	2.1	
		1085	4111	4423	10452	46	20119

OCCUPATIONAL STRUCTURE AND REGIONAL BACKGROUND

It has been observed that the various occupational groups tend to be dominated by heads of household belonging to particular regions or states. We find that in the occupational category of hawkers, vendors and petty shop-keepers, the states of origin of 81.9 per cent of the heads of households are Uttar Pradesh, Rajasthan, Haryana and Central and Western states. About 45 per cent in these occupations belong to Uttar Pradesh alone. The construction workers are dominated by Rajasthan who account for 67.4 of those engaged in this activity. Of the total in unskilled manual occupations, more than half is shared by those from Uttar Pradesh and the three states of Uttar Pradesh, Haryana and Rajasthan together constitute 77.4 per cent of the total in this occupational category. More than 60 per cent of heads of households occupied in manual occupations and in traditional and skills are from Uttar Pradesh and Rajasthan whereas those from Uttar Pradesh account for 72.4 per cent of the skilled and unskilled industrial workers. The occupational categories of semi-professionals and white collar workers are more evenly represented by all States except that of Himachal Pradesh, though even in this category the single state of Uttar Pradesh accounts for over 40 per cent.

Comparing the occupational composition of the different regions, we observe that unskil-

lled construction workers, unskilled manual workers and traditional trades and skills account for the majority (62.0%) of those from Delhi while 73.3 per cent among those from Uttar Pradesh are engaged in unskilled manual and industrial work, unskilled construction work and traditional trades and skills. The three occupational categories of traditional trades and skills, unskilled and skilled manual work account for 60 per cent of the Punjabis while among those coming from Haryana, unskilled construction and other manual workers account for 65.3 per cent.

Rajasthanis specialise in construction work which accounts for 68.7 per cent among them. The heads of the households belonging to Himachal Pradesh are mainly engaged in petty trade, unskilled and skilled manual work whereas those coming from Eastern States are concentrated in unskilled industrial work, unskilled construction and miscellaneous manual work which together account for about 62 per cent among them. Unskilled construction and miscellaneous manual work predominate among those from Southern States constituting 73.3 per cent of the total. Hawkers and vendors and unskilled manual work account for the majority of those from central and western states whereas 61.3 per cent of those coming from Pakistan and Nepal are engaged in traditional trades and skills and unskilled manual work.

The tendency of the earners among the squatter population belonging to various regions

to cluster around particular occupations emphasises the importance of social and cultural factors in the recruitment of urban workers and shows the existence of a sort of division of labour based on regional background among the squatters.

The following table reveals the regional composition of the various occupational groups :-

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OCCUPATIONAL STRUCTURE & REGIONAL BACKGROUND OF HEADS OF HOUSEHOLD (PERCENTAGE DISTRIBUTION)

States	O C C U P A T I O N A L G R O U P S													
	Hawkers & Vendors	Petty Business & shop-keepers	Unskilled construction	Skilled construction	Unskilled manual work	Skilled manual work	Traditional trades & skills	Skilled industrial work	Unskilled industrial work	Semi-professionals	White collar work	Non-working	No information	Total
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Andhra Pradesh	4.4	9.4	2.9	3.8	9.3	9.1	6.1	3.2	3.4	14.0	7.5	14.4	4.5	119
	3.7	7.3	13.0	4.3	38.2	9.2	10.8	1.2	6.5	1.2	1.3	3.5	0.1	
Bihar	53.9	40.2	19.6	19.1	53.9	48.5	42.9	65.6	73.8	45.0	41.5	33.6	72.8	852
	6.4	4.4	12.3	3.0	31.1	6.8	10.5	3.3	19.4	0.5	1.0	1.1	0.2	
Kerala	1.3	3.9	0.1	0.6	0.8	4.9	2.4	1.9	0.2	6.0	3.5	3.9	-	24
	5.2	14.5	2.4	3.2	15.7	23.7	20.5	3.2	2.0	2.4	2.8	4.4		
Madhya Pradesh	4.5	10.7	5.9	1.0	10.6	4.7	3.9	7.1	3.5	11.0	18.5	5.0	-	130
	3.4	7.6	24.7	0.1	40.6	4.3	6.2	2.4	6.0	0.8	2.8	1.1		
Madhya Pradesh	12.4	19.4	66.3	71.9	12.9	16.0	20.8	13.9	13.7	7.0	15.0	23.4	9.1	656
	1.9	2.7	53.8	14.9	9.7	2.9	6.6	0.9	4.7	0.1	0.5	1.0	0.3	
Madhya Pradesh	0.6	1.2	0.2	-	0.5	1.1	0.4	0.7	0.2	-	1.0	0.7	-	75
	8.0	14.6	1.3		30.7	17.3	10.7	4.0	8.0		2.7	2.7		
Madhya Pradesh	0.6	0.2	0.5	0.8	1.1	1.8	0.7	2.5	2.2	3.0	2.0	2.2	-	206
	2.9	1.0	11.7	5.3	25.7	10.7	6.8	5.3	24.3	1.5	1.9	2.9		

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Southern States		0.8 2.3	1.4 3.7	2.6 38.8	0.3 1.1	2.5 31.5	0.9 3.1	1.0 5.9	0.7 0.9	0.8 4.8	1.0 0.3	1.5 0.9	4.7 3.7	-
Central & Western states		15.5 29.3	1.5 2.6	1.2 12.4	1.0 2.7	3.2 29.7	3.4 7.7	2.0 7.9	1.4 1.1	1.0 4.3	1.0 0.2	0.5 0.2	3.6 1.9	-
Pakistan & Nepal		5.9 5.5	11.8 10.0	0.6 3.1	1.3 1.7	5.1 23.3	9.4 10.3	19.8 38.0	2.8 1.1	1.1 2.3	12.0 1.1	9.0 1.7	7.2 1.8	4.5 0.1
No information		0.1 3.1	0.3 9.3	0.1 15.6	0.2 9.4	0.1 28.1	0.2 6.3	-	0.2 3.1	0.1 6.3	-	-	1.5 12.5	9.1 6.3
TOTAL		1010	922	5348	1360	4915	496	2089	433	2245	100	200	279	22

CASTE & OCCUPATIONAL STRUCTURE

Having examined the occupational structure of the heads of the households according to the regional background, we pass on to examine the extent of concentration of any particular caste or community in any particular occupation. An analysis of the occupational structure according to caste and community status reveals that the occupational composition of the various caste groups differs from each other. Among the higher caste Hindus, 73.4 per cent are engaged as petty traders, hawkers and vendors, unskilled and skilled manual workers and unskilled industrial workers. The two most important occupations among the high castes are that of petty business and hawkers and unskilled manual work. Unskilled industrial and miscellaneous manual work and traditional trades and skills are the predominant occupations among the intermediary castes. 80.3 per cent of the lower castes are engaged in construction work and in unskilled industrial and miscellaneous manual occupational categories. Traditional trades and skills, unskilled manual work and construction are the major occupational activities of the Muslims. A great majority of Sikhs comprising 68.1 per cent are found in traditional trades and skills and unskilled industrial work accounts for 72.8 per cent of the Budhists.

Analysing the occupational structure of the various castes and communities, we find

that there is considerable occupational diversification among them inspite of tendency in the various caste and community groups to take up particular occupations. However, where the skill and educational levels are low, the choice of occupations has been limited. There is also a tendency among the various caste groups to deviate from their traditional occupations and take up any work which can provide them employment and earnings. Many high caste heads of the households have taken to manual work and other low status occupations. This change in part also represents a new attitude toward work and also their weakening of social and economic status in their native villages. There has been also reduction in the amount of land and other resources controlled by them in the places of their origin. They thus try to improve their economic status by entering the here-to-before tabooed or deprecated occupations thus gaining an entry into a domain from where the material rewards increasingly flow.

The lower or scheduled castes form the majority of the squatter population (65%). In their case, the overall picture of the occupational structure suggests a shift in their occupational status. Though they are still found clustered in the lowest range of occupational hierarchy consisting mostly of unskilled workers, in industry, construction, miscellaneous manual work and low paid service occupations like peons, watchmen, domestic servants, cooks,

waiters and such other workers, urban situation has led to changes from their traditional occupation pattern, mostly of agricultural labourers, to wider network of occupational opportunities. There also seems to be a strong motivation among the lower castes, despite their backwardness and social handicap, to take up skilled jobs, so that they can rise above the low social status. In the case of Harijans (Balmikis) who continue in the traditional calling of scavenging and street sweeping, higher income has made an important difference since it enables them to imitate the life style of better placed status groups. The improvement in the economic means also improves the 'visibility' of their status vis-a-vis other caste and social groups in a multi-caste situation. Those engaged in traditional crafts and inherited skills do so for greater profitability and also become a part of the urban market system different from the redistributive and 'Jajmani system' of the village. Urban situation provides a wider spectrum and a secular axis for occupational choice and a scope for a considerable degree of horizontal social mobility. Horizontal mobility within the same occupational status is thus becoming increasingly possible for the low caste groups. However, vertical mobility in the sense of movement from one stratum to another is very much restricted but in the very initial stages of social development, the achievement of horizontal mobility by large segments of lower caste groups may be seen as a part process in their attempts to gain vertical mobility. The same analysis applies to Muslims, Budhists and lowly placed Sikh artisan groups.

Looking at the various occupational groups according to their caste and community composition, we find that the three occupational categories of unskilled construction, skilled construction and unskilled manual work are dominated by lower castes who account for 87.7 per cent, 82.7 and 65 per cent, respectively, of the total heads of the households in these occupations. Higher and lower castes constitute nearly 75 per cent of those employed in the two occupational categories of skilled manual work and skilled industrial work whereas 81 per cent of the miscellaneous unskilled labour is recruited from lower and intermediary castes. However, vendors and petty shop-keepers consist mainly of higher and lower castes whereas this also holds true for the semi-professionals and white collar workers among the squatter households. Intermediary castes, Sikhs and lower castes form the major proportion of those engaged in traditional skills and trades and together account for 82 per cent of the total.

The present study has revealed the difference in the occupational composition of the various groups among the squatter population on the basis of region and caste and community. It indicates that various groups engage in activities most suited to their abilities and limited skills including those acquired by tradition and precept.

The following table shows the occupation of the heads of the households and their caste and community composition :-

TABLE - 20

OCCUPATION OF HEAD OF HOUSEHOLD & CASTE GROUPS

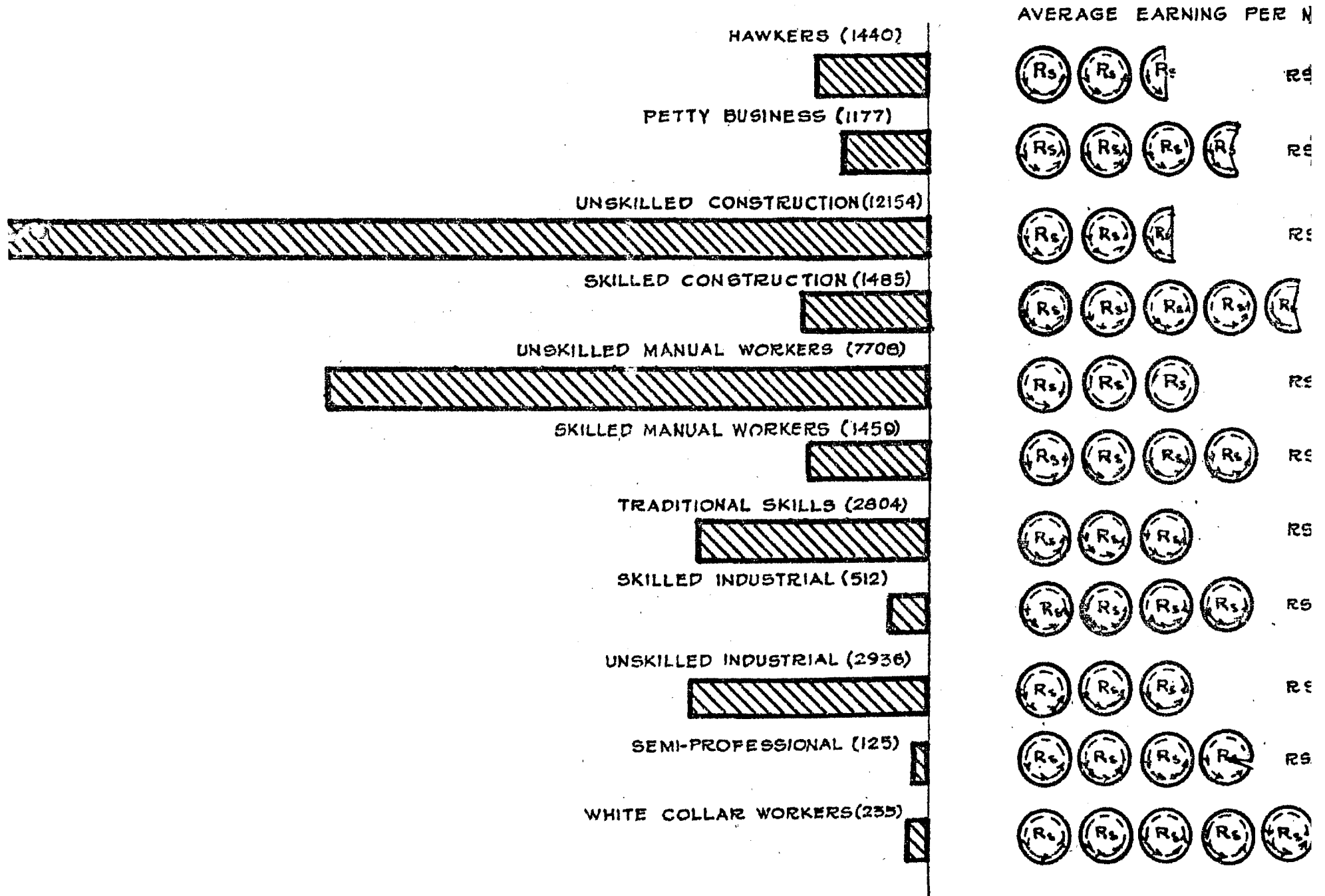
Occupations	C A S T E G R O U P S								TOTAL
	H I N D U Higher	Inter- mediary	Lower	MUSLIMS	CHRIS- TIAN	SIKHS	OTHERS	NO INFOR- MATION	
1	2	3	4	5	6	7	8	9	10
Hawkers & Vendors	24.9 7.8	19.1 7.6	46.1 3.6	8.2 12.9	-	0.4 0.7	0.1 0.8	0.5 10.8	1010 100.0 5.0
Petty Business	46.4 13.3	17.1 6.2	29.9 2.1	3.2 4.6	0.4 8.8	2.2 4.1	0.4 3.3	0.1 2.1	922 100.0 4.5
Unskilled construction	4.8 8.0	5.1 10.8	87.6 36.0	2.1 17.2	0.1 11.1	0.1 0.7	0.0 0.8	0.1 15.2	5348 100.0 26.58
Skilled Construction	6.6 2.8	4.4 2.4	82.7 8.6	4.8 10.3	0.1 4.4	0.7 1.9	0.4 4.9	-	1360 100.0 6.7
Unskilled Manual work	19.1 29.1	11.1 21.5	64.9 24.5	3.1 23.6	0.4 44.4	0.8 8.5	0.2 8.2	0.2 30.4	4915 100.0 24.4
Skilled Manual work	32.2 12.0	16.1 7.5	42.9 3.9	3.0 5.6	0.4 11.1	4.3 10.3	0.7 7.4	0.1 4.3	1196 100.0 5.94
Traditional trades & skills	8.7 5.6	22.1 18.2	44.4 7.1	4.8 15.9	0.1 4.4	16.4 68.1	3.3 57.8	0.1 8.7	2089 100.0 10.3

	1	2	3	4	5	6	7	8	9	10
Skilled Industrial	31.8 4.2	21.9 3.7	42.2 1.4	1.1 0.7	0.2 2.2	1.8 1.5	0.2 0.8	0.4 4.3	433 100.0	2.1
Unskilled Industrial	16.0 11.1	21.7 19.3	59.2 10.2	1.6 5.6	0.1 4.4	0.3 1.5	0.8 14.8	0.1 4.3	2245 100.0	11.1
Semi-professionals	38.0 1.1	12.0 0.4	40.0 0.3	4.0 0.6	-	3.0 0.5	1.0 0.8	2.0 4.3	100 100.0	0.50
White collar workers	40.0 2.4	9.5 0.7	46.5 0.7	2.0 0.6	0.5 2.2	1.5 0.5	-	-	200 100.0	0.99
Non-working head of households	23.3 2.0	10.3 1.1	59.5 1.2	2.8 1.2	1.1 6.6	1.7 0.9	-	1.1 6.5	279 100.0	1.39
No information	9.1 0.1	4.5 0.0	50.0 0.1	18.1 0.6	-	-	-	18.1 8.7	22 100.0	0.11
TOTAL	3217 15.9	2532 12.5	13014 64.6	639 3.1	45 0.2	505 2.5	121 0.6	46 0.2	20119 100.0	

INCOME & OCCUPATIONAL STRUCTURE

The earned income of the individual head of the household among the squatters naturally depends on his occupation. Although a large majority of the heads of the households among the squatter population work in low income occupations, the earnings in the various occupations do differ from each other and within the same occupation the earnings of individuals also vary from one another. The lowest average income of Rs.126 per worker is found among the unskilled construction workers and the highest of Rs.261 among the white collar workers. The average income per worker varies between these two ranges in all the other occupations. 91.9 per cent of the heads of households earn Rs.150 or less among the unskilled construction workers as compared to 77.6 per cent among the hawkers and vendors, 66.7 per cent among the unskilled industrial workers and 60.4 per cent among the other miscellaneous unskilled manual workers. The proportion of those earning over Rs.250 varies from 62.4 per cent among skilled construction workers, to 59.6 per cent among skilled industrial workers and 44.2 per cent among the other skilled manual workers. 46 per cent of the heads of the households in the petty business or in retail shop keeping earn Rs.150 or less, 28.9 per cent between Rs.150-250 and the rest over Rs.250. As compared to this occupational group, 57.2 per cent earn Rs.150 or less in traditional skills and trades, 35.1 per cent between Rs.151-250 and the rest over Rs.250. 53 per cent of the heads of households earn Rs.200 or less among the semi-professionals as compared to 24.5 per

OCCUPATIONS WITH AVERAGE INCOME PER MONTH



cent among the white collar workers.

The income wise distribution of the heads of the households shows that 61.9 per cent earn Rs.150 or less, 28.7 per cent between Rs.151 and 250, 7.5 per cent between Rs.251-400 and 0.5 per cent over Rs.400 whereas 1.1 per cent of the head of households have no income and there is no information about the income of 0.3 per cent of the heads of the households. Over 75 per cent of the heads of the households in the income groups of Rs.150 or less belong to the three occupational categories of unskilled construction, unskilled miscellaneous manual work and unskilled industrial work while 67.3 per cent in the income group of Rs.151-250 are engaged in miscellaneous manual work, traditional trades and skills, unskilled industrial and skilled construction work. Of those in the income group of Rs.251-400, 74.7 per cent consist of the four occupations of skilled construction, petty retail trade, skilled manual work and traditional trades and skills. In the highest income group of over Rs.400, petty retail trade, skilled construction and miscellaneous skilled manual work account for 72.5 per cent.

The following table shows income and occupational composition of the heads of the household.

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INCOME & OCCUPATIONAL COMPOSITION OF HEADS OF HOUSEHOLDS &
AVERAGE MONTHLY INCOME PER WORKER IN THE VARIOUS OCCUPATIONS

(Percentage Distribution)										
Occupation of head of household	INCOME GROUPS (Rs.)							No information	Total **	Average earnings per worker (Monthly)
	No income	150 or less	151-200	201-250	251-300	301-400	Over 400			
1	2	3	4	5	6	7	8	9	10	11
Merchants & Vendors	-	77.6 6.3	16.7 5.2	2.7 1.1	2.2 2.0	0.5 1.2	0.2 2.2	0.1 1.7	1010 (5.0)	129
Own Business	-	46.6 3.5	21.0 6.0	10.9 3.1	10.1 8.5	6.2 14.1	3.9 40.6	1.3 20.3	922 (4.6)	181
Unskilled construction	-	91.9 39.4	5.1 8.4	2.8 5.9	0.1 0.6	-	-	0.1 8.5	5348 (266)	126
Skilled construction	-	11.0 1.2	18.2 7.7	27.7 14.7	32.4 40.1	9.3 31.9	1.3 20.9	0.1 1.7	1360 (6.8)	235
Unskilled manual work	-	60.4 23.8	19.5 29.6	17.2 33.1	2.0 8.8	0.4 5.2	0.1 5.5	0.4 30.5	4915 (244)	150
Skilled manual work	-	27.1 2.6	28.9 10.7	21.6 10.1	14.6 15.9	6.8 20.1	0.8 11.0	0.2 3.4	1196 (5.9)	199
Additional skills trades	-	57.2 9.6	26.0 16.8	9.1 7.4	5.7 10.8	1.4 6.9	0.2 4.4	0.4 13.6	2089 (10.4)	149

1	2	3	4	5	6	7	8	9	10
Skilled Industrial work	-	19.2 0.7	21.3 2.9	40.0 6.8	15.0 5.9	4.1 4.5	0.4 2.2	-	433 (2.2)
Unskilled Industrial work	-	66.8 12.0	15.7 10.9	16.9 14.8	0.5 0.9	0.2 1.2	-	-	2245 (11.2)
Semi-professionals	-	38.0 0.3	15.0 0.5	24.0 0.9	8.0 0.7	8.0 2.0	6.0 6.6	1.0 1.7	100 (0.5)
White collar workers	-	11.0 0.2	13.5 0.8	15.5 1.2	31.5 5.7	25.5 12.6	3.0 6.6	-	200 (0.9)
Non-working head of the households	80.7	16.9 0.4	0.7 0.1	0.3 0.1	-	0.3 0.2	-	1.1 5.1	279 (1.4)
No information	-	13.7 0.02	50.0 0.3	-	-	-	-	36.3 13.6	22 (0.1)
TOTAL	225 (1.1)	12456 (61.9)	3225 (16.0)	2558 (12.7)	1098 (5.5)	404 (2.0)	91 (0.5)	62 (0.3)	20,119 (100.0)

* figures in brackets also indicate percentages.

Our inquiry into the social characteristics of the squatter population has revealed certain basic features about their life in the city. The squatter in the city of Delhi are a selected group with respect to age, sex and family status. They consist of a larger number of adolescents and young adults as compared to the city population. The sex composition of the squatters favoured males and the ratio of 769 females for every 1000 males was much lower than that of 801 for the city population. The high sex ratio among squatters is not only due to high rates of immigration of single males as compared to single females but also due to the fact that many of the inhabitants of the squatter settlements are living unaccompanied by their wives and children. The fact that about one third of the squatter households have 1-2 members confirms this conclusion. There is a tendency among the squatter population to consist of members who are biologically related to each other. A very small proportion of 13.4 per cent of the families have seven or more members. This suggests that the joint family system with many of the extended kinship relations living together in the same household is not favoured by the squatters. This fact is further borne out by the evidence that among those who move to the city with their entire family like the Rajasthanis, the number seldom exceeds five and they are all members of nuclear family only. Another aspect of the family composition of the squatters is that subject to certain cultural and social factors, they do not bring their dependents to the city unless their income improves as is evident

that more than half of the families in the income group of Rs.150 or less have 2 or less members. The overall average size of the family among the squatter population is 3.9 as compared to 5.0 for the city as a whole. Among the squatter population, only 36.4 per cent of the families exceed the overall average size of the family of the squatter population while those having members more than the average size of family of 5 for the city as a whole comprise only 23.9 per cent.

The work participation ratios of the squatter population are higher than those of the city population. The incidence of unemployment has been found to be insignificant among them. The inhabitants of the squatter settlement stay in the city as long as they have employment and assured income and are able to support themselves and their dependents. Although a great majority of them are found in low income occupations requiring limited skills, there is tendency among them to acquire more skills and move to better jobs as their duration of residence extends in the city. Though upward social mobility is restricted, a very large number among them experienced horizontal mobility, as a part-process of their achievement of social mobility. The urban situation provides them a wide spectrum of occupational choices which were not available to them in the rural areas from which most of them come. Social and cultural factors play an important part in the choice of their occupations so that we find that the squatters coming from the different regions and belonging to various

caste and community groups take up occupations most suited to them. As for the adjustment of inherited skills and cultural trades to the city's economic life, it is interesting to note that traditional occupations are more or less adhered. Freed from the various service obligations in the villages, the butchers, the barbers, the carpenters, the weavers, the cotton carders, the shoe-makers, the washerman and such others pursue their traditional occupation often on a large scale. New avenues have also been explored and new occupation adopted where possible.

The squatters contribute substantially to production by providing their own housing, by engaging in many of the nation building activities, by filling up jobs and providing services essential to the functioning of urban economic system at the present stage of its techno-economic development, at very low costs. They also operate small business and distributive services at very small margins. It may be further mentioned that howsoever poorly constructed may be the dwellings of the squatters, they do represent a certain magnitude of investment by them in this type of housing. We have already seen that these investments vary between Rs.300 for a thatched hut and Rs.1500-2000 for a 'pucca' dwelling in an area where tenure is highly uncertain. Taking into account the total number of squatter households in Delhi, it is found that an investment of about Rs.52 millions has been made by them in providing their own kind of housing. This amounts to about 12.3 per cent of their total

annual earnings of approximately Rs.403 millions. The squatters also make improvements on their houses as time goes by. Furthermore they make economic use of not only the unusable lands but also of those land where use has been deferred over over a long time. The recycling of waste building material is another instance of their economic contribution, to the city's economic system particularly so in a situation of acute housing shortage. This also leads to the addition of housing stock with minimum of investments. The development role of the squatter community is positive as indicated by the nature of the participation of its inhabitants in the economic and occupational life of the city and involves key economic variables of investment, fiscal contribution and the supply of unskilled and semi-skilled labour at very low wages.

Above all, the squatter settlements function as entry points to development opportunities for a vast number of under privileged rural migrants who would have otherwise relapsed to generations of backwardness and remain locked in the closed socio-economic system of the small village offering very little opportunities for socio-economic advancement and modernisation. Since many of the rural migrants possess limited skills and resources, it takes a long time for them to achieve a certain level of development. It is in these initial stages when the rural migrants are struggling to improve their lot that the squatter settle-

ments provide the necessary prop to their efforts for improvement by minimising the cost of living in the city. The most important observation in this regard is that they enable the inhabitants to stay in the system where not only opportunities exist but are constantly expanding. We have seen in our study of the social characteristics of the squatters, that they are gradually improving their socio-economic conditions with longer and greater exposure to the city life.

CHAPTER - IV

THE ENVIRONMENTAL QUALITY IN THE SETTLEMENTS

Social services and community facilities are among the most important elements that determine the quality of human environment. The accessibility to and availability of these services to the broad masses of people in adequate measure not only engender social well being but also raise the levels of living and promote accelerated social and economic development. They also indicate how the gains of socio-economic development are being distributed. Besides, these services have an instrumental value in the development process in the sense that these by improving the quality of human resources affect all other social and economic conditions and have a positive impact upon productivity. The availability of these services enlarges individuals' opportunities to participate in the life and culture of the nation.

The squatter settlements are the areas in the city where environmental degradation is most severe because of lack of basic amenities and services. They form the environment in which very large segments of Delhi's urban population (18%) more or less spend their whole lives. It increasingly shapes the attitude and behaviour of those who live within it. We have already discussed that these are the settlements in which a process of social and economic change is taking place. The inhabitants who seek better life and entry into the

development process are undergoing changes in attitudes and behaviour and are in the process of becoming citizens. The capacity of the squatter settlements to sustain improvement depends upon the availability of and accessibility to the urban services and community facilities such as water supply, sanitary arrangements, sewers, electricity, health and education facilities and other community development and welfare services. A degraded environment deprives the inhabitants of the squatter settlements of the opportunity to improve and utilize their full potential and dampens the rising expectations for a better life.

The primary concern of this chapter is to inquire into the quality of environment of the squatter settlements and the extent and nature of basic services and amenities available to the inhabitants. An attempt has also been made to ascertain the priorities of environmental improvement as expressed by the residents themselves in terms of their felt needs and the extent of satisfaction or lack of it with the current environment. The information reported in this chapter is based on the structured observation and group interviews, discussions and corner meetings in the 103 sampled squatter settlements in regard to the various aspects of the living environment.

SOCIAL SERVICES

The availability of social services like water supply, toilet facilities, drainage,

paved lanes or streets, sanitary arrangements and street lighting varies from one settlement to another depending upon its size, the length of time of its existence, its location in relation to urban service net-works, physical characteristics of the site and the ability of the leaders of the settlements to lobby with the public authorities, municipal councillors and political leaders for providing particular facilities and services. We have attempted to give an idea of the pressure upon certain types of facilities such as water, bath-rooms and latrines available in common by the measure of number of users for each of the common facilities.

WATER SUPPLY & TOILET FACILITIES

There is no potable water supply in 71.8 per cent of the settlements and in terms of population 60 per cent are not served by any potable water supply. There are in all 140 public water taps in the 29 settlements. Of these 140, six were found to be out of order at the time of survey. It was reported by the residents in all the settlements that the pressure of water supply was low, through out the year and was extremely inadequate during the summer months. Water timings observed during the period of investigations were four hours in the mornings and another three hours in the evenings. If we take the entire population, one tap serves 561 persons but if we take the population of those settlements where

water taps exist an average of 224 persons depend on one water tap. However the ratio of population to water tap varies in the 29 settlements where the public taps are located. 31 per cent among them have over 300 persons per tap, 13.8 per cent between 201-300 persons, 37.9 per cent between 101-200 persons and the rest 17.3 per cent 100 or less per tap.

The potable water situation also differs according to the size group of settlements. Of the 140 taps, 17.9 per cent are located in the size group of 100 or below, 60.7 per cent in 101-500 size group, 8.6 per cent in 501-1000 group and 12.8 per cent in the size group of over 1000 households. In the settlements with 100 or less of households 85.9 per cent have no public water tap leaving 85.5 per cent of inhabitants in this size group without any potable water supply. Of the remaining settlements, 7.8 per cent have 100 or less persons per tap and another 6.3 per cent between 101 and 200 persons per tap. The potable water situation is relatively better in the settlements in the size group of 101-500 households, 43.3 per cent among them have no water taps depriving the same percentage of population in this size group of any potable water. Of the total number of settlements in this group, 23.3 per cent have one water tap for 101-200 persons, 13.3 per cent for 201-300, and 20.0 per cent for over 300 persons. Among the settlements with 501-1000 households, 66.7 per cent have no water tap and in the remaining 33.3 per cent of the settlements one tap serves over 500 persons. The population served by potable water supply forms only 33.3 of the total population

in this group. The same holds true for the settlements with over 1000 households except that in this size group one tap serves between 401-500.

It is evident that the supply of potable water is grossly deficient and where in public water taps exist, these are extremely over loaded as the population tap ratio among them indicates. This results in long queues of men and women waiting for long hours to get water. The struggle to get some water leads to heated arguments and often to quarrels. The non-availability of potable water in the settlements where no water taps exist forces the inhabitants to fetch water for drinking and cooking from the neighbouring areas which again is resented by the residents of those areas. Water needed for bathing and washing clothes is extremely difficult to get and is collected from sundry sources.

The following table shows the distribution of potable water supply in the different settlements and its availability expressed in terms of population water tap ratio :-

TABLE - 22

NUMBER OF PERSONS PER WATER TAP IN THE VARIOUS SIZE GROUP OF SETTLEMENTS & THE DISTRIBUTION OF PUBLIC WATER TAP AMONG THEM

Size of settlements	NUMBER OF PERSONS ON ONE WATER TAP IN THE SETTLEMENT							Total No. of settlements	Total No. of taps	Total Population
	100 & below	101-200	201-300	301-400	401-500	Over 500	No water taps			
100 or below	5 (7.8)	4 (6.3)	-	-	-	-	55 (85.9)	64 (100.0)	25 (17.9)	1158
101-500	-	7 (23.3)	4 (13.3)	3 (10.0)	1 (3.3)	2 (6.7)	13 (43.3)	30 (100.0)	85 (60.7)	2693
101-1000	-	-	-	-	-	2 (33.3)	4 (66.7)	6 (100.0)	12 (8.6)	1691
Over 1000	-	-	-	-	1 (33.3)	-	2 (67.7)	3 (100.0)	18 (12.8)	2318
TOTAL	5 (4.9)	11 (10.7)	4 (3.9)	3 (2.9)	2 (1.9)	4 (3.9)	74 (71.8)	103 (100.0)	140 (100.0)	7856

HAND PUMPS.

The water supply has been somewhat augmented by the existence of hand pumps in the various settlements. However it was found that during the four summer months, most of the hand pumps went dry. Another aspect of the water from the hand pumps was that it was likely to be contaminated because of its being unfiltered. Its use for drinking purpose was therefore not very safe. Another limitation of the hand pumps to satisfy the water needs was that a single hand pump could not take as many persons as the municipal water tap because the hand pump water had to be drawn by manual operation. This necessitates frequent repairs, resulting in interruption of the water supply.

Of all the water sources available to the inhabitants the hand pumps were most numerous. There were in all 474 hand pumps, 45 or 9.5 per cent were not functioning at the time of our investigations. 58.3 per cent of the settlements did not have any hand pump while among the 9.7 per cent of the settlements one hand pump served over two hundred persons. 13.6 per cent of the settlements have one hand pump for 101-200 persons whereas in another 11.7 per cent of the settlements 51 to 100 persons depend on one hand pump. A hand pump is being used by 50 or less persons in only 6.8 per cent of the settlements.

In terms of population, 64.4 per cent of the total population is served by the hand

pumps with an overall average of 106 persons for one hand pump. But if we take the entire population, it is found that there is one hand pump for 165 persons. The distribution of the hand pumps as well the number of users for each single hand pump differs in the various size group of settlements. Of the total hand pumps 13.5 per cent are located in the size group of settlements with 100 or less of households, 11.8 per cent in the size group of 101-500, 50.9 per cent in the size group of 501-1000 and the rest 23.8 per cent in the size group of over 1000 households.

In the settlements with 100 or less of households, 60.1 per cent have no hand pumps, while 20.4 per cent among them have one hand pump for over 100 persons, 6.3 per cent for 51-100 persons and 9.4 per cent for 50 persons or less. The population served by hand pumps accounts for 35.7 per cent of the total in this size group. 60 per cent of the settlements in the size group of 101-500 households consisting of 65.8 per cent of the population are not served by any hand pumps. Over 100 persons depend on one hand pump in 26.7 per cent among them between 51 and 100 persons in another 13.3 per cent. Only 16.7 per cent of the settlements in the size group of 501-1000 households do not have hand pumps. 16.7 per cent of the settlements in this size group have one hand pump for 50 persons or less, 50 per cent for 51-100 persons and the remaining for over 500 persons. All the settlements with over 1000 households have hand pumps 33.3 per cent among them have one hand pump for 51-100

persons whereas the number of users is between 101 and 200 persons in another 33.3 per cent and in the remaining over 500 persons depend on one hand pump.

Besides the above sources of water supply, there are 29 wells which provide water to the 23 squatter settlements located in the rural areas of the Union Territory of Delhi. In all 23 or 22.3 per cent of the settlements there are neither hand pumps nor water taps. The inhabitants of these areas depend for water on sources outside their settlements.

It is evident from the above that both in terms of quantity and quality, the availability of water to the inhabitants in the squatter settlements is highly inadequate. The demand for domestic water consumption is a function of accessibility and availability of water. It was estimated that the average consumption of water from all sources was about 15 to 20 liters per day per capita in the squatter settlements while the average per capita consumption of filtered water was 229 liters per day for the city population as a whole.* There is a general awareness for the superior quality of water from the municipal taps. The water from the hand pumps is regarded by a great majority of the inhabitants as unsafe. The awareness of the quality differences in the water from various sources has influenced the

* See Techno-economic Survey of Delhi National Council of Applied Economic Research, New Delhi (1973) p. - 80.

water use pattern adopted by the squatters depending entirely upon public sources of water supply. As a result there is a heavy concentration of users on municipal taps as compared to hand pumps where both exist. However, since the availability of water is limited, it is mostly used for the purpose of cooking and drinking. The water from the hand pumps is generally used for specific purposes like bathing and washing clothes, where large quantities of water are required. Another aspect of the pattern of water use may be mentioned. The water from the municipal taps is taken to Jhuggis for use and not much water is used at the sources itself. On the other hand, there is greater use of water in sites in the case of hand pumps. In the settlements where municipal water taps are not available, the inhabitants make trips to the neighbouring areas to fetch filtered water supply for drinking and cooking, which puts a restraint on the consumption of filtered water even for drinking and cooking. The quality differences in the water are of less significance where alternative sources of water supply are not accessible. Under the circumstances, scarcity of the availability of filtered water supply has forced a large number of inhabitants to use unfiltered water from the hand pumps also for cooking and drinking. The overall shortage of water supply from both the municipal taps and the hand pumps have further put a restraint on bathing and washing of the clothes which have been reduced to the bare minimum by the squatters.

The need for filtered water is undeniably important. The frequent and common occurrence

of diseases like diarrhoea, dysentery, stomach ailments and other water borne diseases and the squatters are caused mainly due to the use of contaminated water for domestic purposes. Provision of adequate amount of tap water will undoubtedly reduce and even eradicate water borne diseases and would directly influence the quality of life in the squatter settlement. The planning of future water supply system should first be oriented to a better distribution of safe water to those segments of population which are not adequately served or totally unserved than that of raising the level of water consumption for the population as a whole.

The following table indicates the distribution of hand pumps and number of users per hand pump in the various size group of settlements.

LE - 23

NUMBER OF USERS PER HAND PUMP IN THE VARIOUS SIZE GROUP OF SETTLEMENTS

Size of Settlements (No. of households)	NO. OF PERSONS PER HAND PUMP							No hand pumps	Total No. of settlements	Total No. of hand pumps	Total Per cent
	50 & below	51-100	101-200	201-300	301-400	401-500	Over 500				
10 or below	6 (9.4)	4 (6.3)	12 (13.8)	-	1 (1.5)	-	-	41 (64.0)	64	64 (13.5)	115
11-500	-	4 (13.1)	1 (3.3)	4 (13.4)	1 (3.3)	1 (3.3)	1 (3.3)	18 (60.0)	30	56 (11.8)	269
501-1000	1 (16.7)	3 (50.0)	-	-	-	1	1 (16.7)	1 (16.7)	6	241 (50.9)	181
Over 1000	-	1 (33.3)	1 (33.3)	-	-	-	1 (33.3)	-	3	113 (23.8)	231
TOTAL	7 (6.8)	12 (11.7)	14 (13.6)	4 (3.9)	2 (1.9)	1 (0.9)	3 (2.9)	60 (58.3)	103 (100.0)	474 (100)	781

Bracketed figures indicate percentages.

LAVATORIES

Much worse is the situation in regard to the availability of lavatories. There are only 512 lavatory seats for the sample population of 78,560. These are built in blocks of 3 or 4 seats separately for males and females. This gives an overall average of 153 persons per lavatory seat. The population served by community latrines forms 47.5 per cent of the total population. In the settlements which have community latrines one lavatory seat serves on an average 72 persons. 68.9 per cent of the total settlements have no latrines while one lavatory serves below 30 persons in 11.7 per cent, 30 to 59 persons in 7.8 per cent and 60 or more persons in 11.6 per cent.

The availability of latrines and the number of users for one lavatory seat varies in the different size group of settlements. Of the total 512 seats, 25.8 per cent are located in the settlements in the size group of 100 or less households, 52.0 per cent in the size group of 101-500 households, 15.2 per cent in the size group of 501-1000, and 7 per cent in settlements with over 1000 households. The population served by the community latrines forms 18.6 per cent in the size group of 100 or less households, 52.5 per cent in the size group of 101-500, 33.3 per cent in the size group over 1000. The proportion of settlements having no lavatories varies from the lowest 33.3 per cent in the size group of over 1000

households to the highest of 81.3 per cent in the size group of 100 or less households. In the settlements of 100 or less households having community latrines, less than 30 persons use one lavatory in 75 per cent, 30 to 44 persons in 16.7 per cent and 75 and more persons in the rest of the settlements. Of the total number of 16 settlements having latrines in the size group of 101-500, 50.0 per cent have one seat for 60 or more persons, 31.2 per cent for 30 to 60 persons and 18.8 per cent for less than 30 persons. Among one half of the settlements having community latrines in the size group of 501-1000, one latrine seat serves 30 to 44 persons and the other fifty per cent have one seat for 75 or more persons. In all the settlements with latrines in the size group of over 1000 households, one latrines seat is used by 75 or more persons.

It may also be mentioned that the availability of community latrines is proportionally much less in the smaller settlements than in the bigger settlements but the pressure in terms of number of users per seat in those having this facility is much higher in the bigger settlements as compared to the small ones. The following table shows the distribution of the number of users for each lavatory seat in the various size group of settlements :-

TABLE - 24

NO. OF USERS PER LAVATORY SEAT IN THE VARIOUS SIZE GROUP OF SETTLEMENTS

Size group of settlements (No. of households)	NUMBER OF PERSONS PER LAVATORY SEAT							Total number of settlements	Total number of lavatory seats	To
	14 and below	15-29	30-44	45-59	60-74	75 and before	No latrines			
100 and below	5 (7.8)	4 (6.3)	2 (3.0)	-	-	1 (1.6)	52 (81.3)	64 (100.0)	132 (25.8)	
101-500	-	3 (10.0)	2 (6.7)	3 (10.0)	2 (6.7)	6 (20.0)	14 (46.6)	30 (100.0)	266 (52.0)	
501-1000	-	-	1 (16.7)	-	-	1 (16.7)	4 (66.6)	6 (100.0)	78 (15.2)	
Over 1000	-	-	-	-	-	2 (66.7)	1 (33.3)	3 (100.0)	36 (7.0)	
TOTAL	5 (4.9)	7 (6.8)	5 (4.9)	3 (2.9)	2 (1.9)	10 (9.7)	71 (68.9)	103 (100.0)	572 (100.0)	

Most of the latrines are of dry type. Even those of water flush type pose a problem for their cleanliness in the absence of adequate availability of water. The inhabitants of the settlements depend upon their cleaning upon municipal scavengers, but the services are not very regular. The facilities for latrine being inadequate and their over use by too many persons in the absence of their regular cleaning have made most of them not only unserviceable but also extremely unhygienic and dirty spots in the settlements. Like the water taps and the hand pumps, the lavatories are also characterised by long queues which are found to be there for long hours of the day. Both the total absence of latrines and their insufficiency force the inhabitants to use the open space, wherever available for defecation. In the case of young children, they are allowed to defecate within the settlements adding to the sanitation problems in these areas. Community latrines also pose problem for the children to make use of them since they are built to adult scale.

In the initial stages of city growth, open patches were available in the nearby areas of the squatter settlements but now with the city being fully grown, most of the open spaces are disappearing. This forces many of the residents of the squatter settlements to use sidewalks of the adjoining the neighbourhoods or the sidewalks of the railway tracks. It may also be mentioned that in quite a few of the settlements (about 20%) places used for defecation are not segregated by a considerable distance from some of the dwellings in these

settlements. Besides, to use the open space, the inhabitants get up very early in the morning so that they do not have to feel embarrassed of being seen defecating in the public by people. Some people have to walk long distances to find a secluded place. The greatest difficulty is faced by women-folk. Even in the dark hours of dawn they have to endure the hum using the open spaces which are crowded by men. Quite a few complained of being molested by passers-by and others when they went to defecate in the open spaces in the early hours of morning or sometimes late in the evening.

The squatters were highly dissatisfied with the provision of latrine facilities and said that this was the most miserable aspect of their life. This was particularly true of the settlements which are surrounded by other residential areas. However, the inhabitants of the settlements which are located on the peripheral areas of the city, or on the ridge or rural areas, do not experience much difficulty in this regard since vast open stretches exist near their settlements.

BATH ROOMS

The shortage of water supply precludes any substantial provision of common bath rooms. 90.3 per cent of the settlements have no bath rooms at all. Of the settlements having common bath rooms, one bath room is used by 26 to 50 persons in 20 per cent of these settlements,

while in another 30 per cent 51-75 persons depend upon one bath room. In the rest of the 50 per cent of the settlements one bath room is available for 75 or more persons. The availability of bath rooms is worst among the settlements with over 1000 households where none is found. The small sized settlements with 100 or less households are also grossly deficient in this facility since 95.3 per cent among them do not have it. Not more than 20 per cent of the other size group of settlements provide the facility of common bath rooms to their inhabitants. Of the total of 109 common bath rooms, 4.6 per cent are located in the settlements with 100 households or less, 66.1 per cent in the size group of 101-500 and the remaining 29.3 per cent in the size group of 501 and above households. The facility of common bath rooms is available to only 10.8 per cent of the total squatter population on an overall average of 78 persons per bath room. If we take the entire population of the squatters, there is one bath room for 720 persons. The following table shows the relative availability of the bath rooms in the various size group of settlements along with the number of users in them :-

TABLE - 25 T

AVAILABILITY OF COMMON BATH ROOMS IN THE VARIOUS SIZE GROUP
OF SETTLEMENTS AND THE NUMBER OF USERS PER BATH ROOM

Size group of settlements (No. households)	NUMBER OF USERS PER BATH ROOM					No bath rooms	Total No. of settlements	Total No. of bath rooms	Total pop
	25 or below	26-50	51-75	76-100	Over 100				
100 or less	-	1 (1.6)	1 (1.6)	-	1 (1.6)	61 (95.2)	64 (100.0)	5 (4.6)	1
101-500	-	1 (3.3)	1 (3.3)	1 (3.3)	3 (10.0)	24 (80.0)	30 (100.0)	72 (66.1)	2
501-1000	-	-	1 (16.7)	-	-	5 (83.3)	6 (100.0)	32 (29.3)	1
Over 1000	-	-	-	-	-	3 (100.0)	3 (100.0)	-	2
TOTAL	-	2 (1.9)	3 (2.9)	1 (1.0)	4 (3.9)	93 (90.3)	103 (100.0)	109 (100.0)	7

DRAINAGE & SEWERS

There are no sewers in the squatter settlements. There exist only uncovered cemented drains which are laid along the streets, lanes and by-lanes. Only 32 or 31.1 per cent of the total number of 103 settlements surveyed have drains. Even where drains exist, they cover only part of the settlements. It is only in 13 or 12.6 per cent of the settlements that between 75 and 100 per cent of the settlement area is served by drainage while between 50 and 75 per cent of the area in 8.8 per cent of the settlements is served by it. In another 3.9 per cent of the settlements, this facility has been extended to 26 to 50 per cent of their area. Drains exist in one-fourth or less than that portion in 5.8 per cent of the settlements. Not that the drains are insufficient, these are improper also since many among these have faulty gradients with the result that these remain choked with filthy water and refuse. The availability of drains varies between the different size group of settlements. 66.7 per cent of the settlements with over 500 households have drains while this is true for 50 per cent of the settlements in the size group of 101-500. Only 17.2 per cent of the small sized settlements with 100 or less households have drains. Most of the settlements in this size group are inhabited by construction workers and shift locations from one work site to another. The population yet not covered by a drainage system including that of the settlements partially served forms 65.9 per cent of the total population. Of

the total population uncovered by drainage, 19.7 per cent lives in the settlements in the size group of 100 or less, 30.8 per cent in the size group of 101-500, 18.0 per cent in the size group of 501-1000 and 31.5 per cent in the settlements with over 1000 households.

The following table indicates the relative situation in regard to the availability of drainage in the different size group of settlements according to the percentage proportion of the area of the settlements served by drains along with percentage proportion of population yet not covered both at the settlement and at the total level :-

PERCENTAGE PROPORTION OF THE AREA OF SETTLEMENTS SERVED BY THE DRAINS
AND THE PERCENTAGE PROPORTION OF POPULATION BEING NOT SERVED BY DRAINS

PERCENTAGE OF AREA SERVED IN THE SETTLEMENTS									
of the settlements	25 or below	26-50	51-75	75-100	No drains	Total No. of settlements	Total popula- tion	Percentage proportion of popula- tion of the settlement not served	Percentage proportion of the total sample unserve- population in each size
less	3 (4.7)	1 (1.6)	2 (3.1)	5 (7.8)	52 (82.8)	64 (100.0)	11583	87.9	19.7
0	2 (6.7)	1 (3.3)	6 (20.0)	6 (20.0)	15 (50.0)	30 (100.0)	26932	59.3	30.8
00	-	1 (16.7)	1 (16.7)	2 (33.3)	2 (33.3)	6 (100.0)	16910	55.1	18.0
000	1 (33.3)	1 (33.3)	-	-	1 (33.3)	3 (100.0)	23135	70.7	31.5
	6 (5.8)	4 (3.9)	9 (8.7)	13 (12.6)	71 (68.9)	103 (100.0)	78560	51840 (65.9)	51840 (100.0)

PAVED STREETS AND LANES

35.0 per cent of the settlements have brick paved streets or lanes. Like the drains, the pavement of the streets or lanes is partial. Of the total 103 settlements, 15.8 per cent have two-third or more of their streets and lanes paved while 50 per cent or more of the streets and lanes are paved in 11.7 per cent of the settlements. In 7.8 per cent of the settlements, less than half of the streets and lanes are paved while 65.0 per cent of the settlements have unpaved streets and lanes. The largest proportion of 81.2 per cent settlements with unpaved streets and lanes lies in the size group of 100 or less and the smallest of 33.3 per cent in the size group of over 1000 households. In proportion of settlements with unpaved streets and lanes in the size groups of 101-500, and 501-1000 varies between these two ranges. In terms of total population, 61.1 per cent live in the settlements or those parts of the settlements which have unpaved streets or lanes.

The following table shows the extent of paved streets and lanes in the various size group of settlements :-

TABLE - 27

PERCENTAGE PROPORTION OF THE AREA OF SETTLEMENTS HAVING PAVED STREETS & LANES

Size of the settlements (No. of households).	PERCENTAGE PROPORTION OF THE AREA OF SETTLEMENTS HAVING PAVED STREETS & LANES					Total No. of Settlements	Total Population	Percentage proportion of population living without the facility of brick pavements
	25 or Below	26-50	51-75	76-100	No Pavement			
100 or less	-	1 (1.6)	4 (6.3)	7 (10.9)	52 (81.2)	64 (100.0)	11583	86.3
101-500	1 (3.3)	2 (6.7)	7 (23.3)	7 (23.3)	13 (43.4)	30 (100.0)	26932	58.8
501-1000	-	2 (33.3)	1 (16.7)	2 (33.3)	1 (16.7)	8 (100.0)	16910	47.5
Over 1000	-	2 (66.7)	-	-	1 (33.3)	3 (100.0)	23135	61.2
TOTAL	1 (1.0)	7 (6.8)	12 (11.7)	16 (15.5)	67 (65.0)	103 (100.0)	78560	61.1

GARBAGE & REFUSE DISPOSAL

Whereas the front of individual dwellings or the spaces occupied by a homogeneous groups are well swept and clean, a sense of cleanliness at the community level particularly so in the large settlements is lacking. This results in refuse being thrown indiscriminately everywhere in the settlements. More often, trash, garbage and refuse are shoved into the drains or left on the streets. Only 44.7 per cent of the settlements have street cleaning and refuse disposal arrangements. Even in these settlements, there are a few trash bins or selected places where refuse and garbage can be collected. Additionally, there is a tendency among the squatter dwellers to depend upon the municipal sweepers to clean the streets and collect garbage from the various parts of the settlements. The services of the sweepers are not so regular in the settlements and in the absence of any effective organization to improve the sanitary conditions, the settlements lack tidiness. However in a substantial number of settlements, a consciousness of environmental improvement is discernible and this desirability of cleanliness is evident in the improved sanitary conditions. Most of the settlements showing relatively better sanitary conditions are those having the facilities of water, latrine, drainage and paved street to some extent and have been in existence for over seven years.

ANIMAL POPULATION

The animals in the squatter settlements further aggravate unhealthy and unhygienic conditions. There are in all 5442 animals in the 103 settlements consisting of cows, buffaloes, pigs, horses, donkeys. About 40 per cent among them are pigs, 35 per cent dairy cattle and the rest are horses, donkeys and goats. On the whole, there is one animal of one kind or the other for every four families. Whereas pigs, goats, horses and donkeys are owned by those who live in the settlements and are used for various purposes, most of the dairy cattle are owned by non-residents.

ELECTRICITY

Another environmental problem in the squatter settlements is inadequate street lighting, and many settlements are completely dark after the sun set. Although public lighting is a necessity in every area, 63.1 per cent of the squatter settlements have no street lighting. In the 38 settlements where lighting exists, the electric poles are located only in some portions of the settlements, leaving the other parts unlighted. This is evident from the fact that among the settlements having street lights, one electric pole exists for over 1000 sq. metres while it is so for 600 to 1000 sq. metres in 26.3 per cent of the settlements. Only 11 settlements or 28.9 per cent of those having street light have some-

what adequate lighting since there is one electric pole for less than 600 sq. metres. The population of the settlements having street lighting forms 50.6 per cent of the total. 81.3 per cent of the settlements in the size group 100 or less do not have street lighting whereas this is true for 33.3 per cent of settlements in all the other size groups. Of the 455 electric poles, 12.5 per cent are located in the settlements with 100 or less households, 39.4 per cent in the size group of 101-500, 22.4 per cent in the size group of 501-1000 and the remaining 25.7 per cent in the settlement with over 1000 households.

The following table indicates the extent of street lighting in the various size group of settlements and the size of area per electric pole :-

TABLE - 28

PERCENTAGE PROPORTION SETTLEMENTS WITH STREET LIGHTING IN THE
VARIOUS SIZE GROUP & SIZE OF AREA PER ELECTRIC POLE

Size of settlements (No. of households)	SIZE OF AREA PER ELECTRIC POLE IN SQUARE METRES					No street lighting	Total number of settlements	Total number of electric poles
	Less than 600	600-1000	1001-1400	1401-2000	Over 2000			
100 or less	4.7	6.3	1.5	3.1	3.1	81.3	64	57 (12.5)
101-500	23.4	13.3	13.3	3.4	13.3	33.3	30	179 (39.4)
501-1000	-	16.7	-	16.7	33.3	33.3	6	102 (22.4)
Over 1000	33.3	33.3	-	-	-	33.3	3	117 (25.7)
TOTAL	11 (10.7)	10 (9.7)	5 (4.8)	4 (3.9)	8 (7.8)	67 (63.1)	103 (100.0)	455 (100.0)

Commercial and Industrial Activities

There is one commercial or industrial establishment over 18 households residing in the settlements. In all 1193 such establishments have been found in the 103 sample settlements. On an average there is one shop of goods of daily necessities like grocery, vegetable, meat and eggs and fuel, for 54 households, one shop for 121 households providing services like barbers, tailors, doctors, vaides and hakims, shoe, cycle, stove, utensil and furniture repairing and thatch roof-making and repairing etc., while there are only 29 shops for clothes and other shopping-goods. About 108 households are served by one small restaurant-cum sweet shop and 'pan bidi' shops. There exists one cattle dairy over 215 households. There are 324 industrial establishments consisting of small scale and household industries like weaving, smithy, metal works, shoe-making, pottery, furniture making, carpet making, doll making and other crafts, mechanical repairing including motor and scooter repairing. On an average there is one such industrial unit for 64 households. These shops and establishments not only serve resident population but also the population outside the settlements. More significantly, these provide substantial employment to the inhabitants (approximately 10 per cent of the total workers).

The following table shows the composition of commercial and industrial activities located in the 103 sample settlements :-

Table 28X

Composition of commercial and Industrial activities located in the sample settlements

Shopping Items	No.	%	Shopping Items	No.	%
<u>I. Convenience Goods</u>			<u>V. Tea Shops etc.</u>		
1. Grocery	291		1. Tea shops, hotel and small restaurants	155	
2. Vegetables	53		2. Pan-bidi shops	36	
3. Meat, Eggs	14				
4. Fuel and others	26				
<u>Sub Total</u>	<u>384</u>	<u>32.2%</u>	<u>Sub Total</u>	<u>191</u>	<u>16.0%</u>
<u>II. Services</u>			<u>VI. Industrial</u>		
1. Barbers	17		1. Industrial Establishments and repair (like weaving, smithy, shoe-making, pottery etc.)	324	
2. Tailors	40				
3. Doctors, Hakims, Vaidis	22		<u>Sub Total</u>	<u>324</u>	<u>27.2%</u>
4. Others	92				
<u>Sub Total</u>	<u>171</u>	<u>14.3%</u>	<u>GRAND TOTAL</u>	<u>1193</u>	<u>100.0%</u>
<u>III. Shopping Goods</u>					
1. Cloths and other shopping goods	29	2.4%			
<u>IV. Dairy</u>					
1. Dairy	94	7.9%			

AVAILABILITY OF SPACE & DENSITIES

The squatter family in general does not occupy much of space. Per capita availability of space which includes both indoor and outdoor space and that under circulation network does not exceed more than 10 sq. metres in 57.3 per cent of the settlements and in 24.3 per cent of them, it ranges between 10 to 20 sq. metres. Only in 18.4 per cent of the settlements per capita availability of space exceeds 20 sq. metres. The lack of available space among the squatter population indicates overcrowding and congestion. This is also reflected in high densities. It has been found that of the 103 settlements, 17.6 per cent have densities of less than 200 persons per acre, 24.2 per cent between 200 and 400 persons per acre, 33.0 per cent between 400 and 600 persons and 25.2 per cent over 600 persons per acre. In terms of population, the proportion of population living at densities of over 600 persons per acre forms 44.1 per cent of the total while 20.1 per cent live in settlements with densities between 400 and 600 persons. 14.7 per cent of the squatter population live at densities of between 200 and 400 persons per acre, and those living at densities of less than 200 account for 21.1 per cent of the population.

The following table shows the distribution of population and settlements according to various densities.

TABLE - 29

DISTRIBUTION OF POPULATION AND SETTLEMENTS ACCORDING TO
VARIOUS DENSITIES (NUMBER OF PERSONS PER ACRE)

Density (No. of persons per acre)	No settlements	Percentage proportion	Population	Percentage proportion
Less than 200	18	17.6	16,643	21.1
200-400	25	24.2	11,576	14.7
400-600	34	33.0	15,753	20.1
600-800	13	12.6	11,375	14.5
Above 800	13	12.6	23,213	29.6
TOTAL	103	100.0	78,560	100.0

Though the physical environment of the squatter settlements continues to be degrading and the inhabitants suffer from several inadequacies with regard to basic amenities and services, reaching them in trickles during the last ten years, the very presence of some of these in some of the settlements has made an appreciable impact in improving the physical conditions. It was observed and reported by a large number of residents that a steady improvement has taken place in the environmental quality of the settlements with the progressive provision of services like water taps, hand pumps, pavement of lanes and streets, cemented drains, lavatories and street lighting. This improvement in the physical surroundings has been matched by a corresponding improvement in the structural quality of the housing by a substantial number of jhuggi-dwellers in those settlements where some of the public services have been provided. Such settlements where structural quality of the dwellings have been improved by over 40 per cent of their inhabitants form 25 per cent of the total number of settlements. Another aspect of the improvement in environmental quality is that it has occurred in the larger, older and centrally located settlements. Most of the settlements where some services have been extended are more than 7 to 8 years old. The smaller settlements, excepting those inhabited by service personnel, (mostly located within the residential areas) have not been able to gain from the provision of basic amenities and services. The main reason for this seems to be their small size, scattered location and ter

nature of their settlements. This is also true for the settlements at the periphery of the city or those located on awkward sites, or in the rural areas which can not be conveniently connected with urban service networks. In addition, getting facilities and services depends to a large extent upon the nature of community organisation that exists in the various settlements and the capacity of its leaders to lobby with the political leaders, municipal councillors and local authorities for the provision of various services. In the city where about one fifth of the population live in the squatter settlements, they become a force to reckon with in the power structure of the city. Political parties woo squatter dwellers and in turn the squatter dwellers also recognize the power of their vote for getting some of the facilities. It has been observed that the settlements with strong associations and large numbers to back them up, have been able to procure water taps, lavatories, paved lanes or streets or drainage and other physical improvements by seeing that promises made at the election time are fulfilled. This is one of the reasons that a very substantial proportion of whatever services that have been provided, have been done so during the election time. Although the major proportion of the basic amenities have been extended only recently (1970 and afterwards) under the environmental improvement schemes introduced in the last two years of the fourth plan, the selection of the settlements by the local authorities for the provision of these services has depended a lot, upon effective lobbying by their associations and leaders.

Another impact that the provision of services has made on the squatter dwellers is in nature of the consciousness of their being important and being recognised as citizens of De feeling of integration with the larger society has further created in them a desire to demand more of these services and through them to participate in the modernisation process. It has also led to some self help programmes especially in the direction of the maintenance and better use of these facilities. The significance of basic amenities in the life of the squatter dwellers is reflected in the tensions which prevails among the various groups in the settlements because the provision and location of the services has not been widespread enough to cover all sections of the squatter communities.

However, the process of improvement is confined to a small section of squatter population to whom some of the basic amenities are available to some degree but still the major proportion of squatter population live in appalling conditions of environmental degradation. They live in dwellings constructed with poor materials in highly congested and over crowded settlements with insufficient living space both indoors and outdoors. The per capita availability of 4-6 sq. feet within the dwelling and about the same outside can hardly be considered conducive to healthy family life and social well being. Basic amenities like water supply, lavatories, drainage, paved streets and street lighting are grossly inadequate as has been indicated by our study. To add to it in the absence of proper arrangements for

cleaning and garbage disposal, the open areas and circulation paths become filthy with excreta and refuse. Besides this, due to lack of proper drainage, rain and waste water accumulates at several places in many of the settlements brooding flies and mosquitos and spreading disease and ill health. A continued living in such degraded environment over a long period changes the attitudes of squatter dwellers to sanitary conditions and better physical conditions. They get used to a lot of dirt foul atmosphere and inhygienic conditions and insufficient services and try best to live with it since they have no control over it. They become a part of it and see nothing wrong in it. This weakens their sense of civic and social responsibility and also their ability to improve their surroundings. The task therefore is to eliminate bad environmental conditions in the settlements by extending basic amenities and services where these have not yet been provided while strengthening the improvement process where it has already been triggered by the provision of these services.

HEALTH FACILITIES

We have already analysed the extent of degraded environmental conditions in which the squatters live. It is obvious that in such an environment a large majority of the inhabitants are affected by several diseases. We interviewed a large number of inhabitants in group

meetings in regard to the most common ailments from which they suffered. It was reported by them that stomach disorders, fever and measles were among the most common diseases that afflicted most people in the settlements. It was reported by the doctors within the settlements and those of the municipal and other public dispensaries located near the settlements that dysentery, diarrhoea, hookworms, round worms, malaria and typhoid were endemic among the squatters. It was also mentioned by them that many of the inhabitants suffered from tuberculosis. It may be mentioned that the use of polluted water by a large number of inhabitants and the unhygienic conditions in the absence of a proper system of lavatories and drainage are the major cause of most of the common diseases from which the squatters suffer.

Health facilities, like public dispensary or clinic, mobile dispensary and doctors are not available in most of the settlements. There is only one municipal dispensary in one settlement with a population of 16,000 but the rest 102 settlements have no public dispensary clinic or health centre. Of the 103 settlements covered under the survey, only 9 have the facility of mobile dispensary while 18 settlements have 30 doctors, 11 homeopaths and 4 vaidis or hakims. Though 54.4 per cent of the settlements are located within one kilometre of distance of a public dispensary and another 11.7 per cent of hospital, the

inhabitans reported that they find it difficult to take advantage of these facilities and by and large these remain inaccessible to them. In the absence of the availability of public medical services, the squatters go to the private doctors, homeopaths, vaidis, hakims for treatment and have to pay a lot of money which they can hardly afford. This is one of the main reasons why they try home remedies, quacks and healers before going to qualified doctor. They also continue to adhere to folk notions of the causes of many diseases and treatment which are reinforced by their illiteracy. There are no health education programmes to inform them of the ways which can improve their health conditions or prevent ill health. There are no child welfare or maternity care centres in any of the settlements. Of the 103 settlements, 12 have nutrition programmes whereas 6 have family planning programmes. The family planning programmes are largely ineffective due to lack of constant propagation of ideas, suitable contraceptives and lack of intimate communication relating to sex and family planning practices. The nutrition programme is very popular in the settlement where it exists but its regularity and the distribution system needs improvement to make it more effective. It may, however be, mentioned that it serves a very small number of beneficiaries. Only 3000 or 16.6 per cent of the total child population of the age of 6 or under in the sample settlements benefit from the nutrition programmes.

The public health programmes like immunisation against cholera and small pox through

vaccination and national malaria eradication programmes including D.D.T. spray have been extended to the majority of the settlements. 64 per cent of the 103 settlements with over 70 per cent of the population have been covered under both these programmes. These programmes have been very effective in eradicating and controlling small pox, cholera and malaria among the squatters. The inhabitants also accept and understand the need of such preventive measures. However, there is a problem of reimmunization since people do not yet fully recognize the need for periodic vaccinations.

EDUCATIONAL FACILITIES

Of the 34,252 children in the squatter settlements, 47.1 per cent or 16,132 belong to pre-school going age. As against the need for some institutional facilities for child care and development for the pre-school children, there exist only 3 nursery schools or Balwadis in three settlements covering 150 children. There are 7 primary schools located within settlements or very near them which are specifically meant for the children of the squatters. 1500 children or 13.6 per cent of primary school going age children attend these schools. However, primary schools meant for the general population are located within a distance of $\frac{1}{2}$ kilometre of the 66 per cent of the squatter settlements where the children of the squatters can also seek admission. But apart from the difficulties stemming from the educational background of the parents of the children of the squatters, the economic, social and cultural gap between

them and the children of other segments of population precludes the children from the squatter settlements to derive the maximum benefit from the schools meant for the children for the general population. This has led to high rates of drop outs of squatter children from these schools. There is one middle school in the largest settlement serving about 300 children in this particular settlement. The rest of the 10,995 middle school going age children have this facility available within a distance of one kilometre in 67.0 per cent of the settlements, within 1 to 2 kilometres in 28.2 per cent and within 2 to 3 kilometres in the rest of the settlements. Similar problems affect this age group of children from the squatter settlements as those faced by the primary school going children in attending the schools meant for the general population. High schools are located within a distance of one kilometre in 58.2 per cent of the settlements, within 1-3 kilometres in 36.0 per cent and over 3 kilometres in the rest of the settlements.

A predominant majority of the inhabitants of the squatter settlements belongs to the economically and socially underprivileged sections of the society who have been living in a condition of backwardness for a very long time. The poverty and desire to improve their economic situation impel them to seek employment with whatever skill endowments they possess. The social background and backwardness and lack of vertical mobility further constrict the level of aspiration in regard to future possibilities. They have not yet the image of a

growing personality in a dynamic and development situation. Under the circumstances, they are not able to clearly foresee the requirements and pre-requisites for achieving the goals of life either for themselves or for their children. They therefore do not comprehend any positive value for formal education. Besides this, in some occupation groups like construction and cultural trades and skills, the children are expected to follow the same occupation as that of their parents. This does not require any education but learning the necessary skills through jobs situation. Lack of facilities for job and skill oriented education underscore the utility of available education. However, within these limitations, there is genuine demand among a large number squatter households, particularly so among Balmikis (Harijans) who send their children to school as a part of status striving since they see all around them that all well-to-do people send their children to school. But this schooling is limited upto certain age, usually upto 10-12 years on the outside limit, when they think that they should start earning a living. In poor families, there is also the question of spending money on further education which is hardly possible in view of the meagre resources. Thus the situation in regard to schooling of the squatter children consists of a pattern where children from the majority of the households go to primary school, but only some to middle school and very few beyond that. The girls go to primary school but much less in number than boys and when they reach the age of 8-10 years, they are genera-

lly withdrawn from further education since they are required to assist in household duties and to look after the younger siblings. It may be mentioned that unless the delivery system of education is geared to the needs and socio-cultural background of these groups, the present educational system may not be considered as relevant and useful by the majority of the squatter households as evidenced by a high rate of wastage and stagnation at both primary and middle school levels of education. The schooling of the squatter children to be effective both in terms of quantity and quality have to permit a great deal of flexibility regarding timings, age-groupings and syllabi.

Although illiteracy is widespread among the squatters, there are no organized activities to raise adult literacy and provide functional education to adults in any of the settlements except one. The one settlement which has adult education programme, has it in name only. It is conducted irregularly with a very limited participation of the inhabitants.

There are no vocational training programmes for adults and for youth in the age of 15-19 in any of the settlements. However some voluntary agencies have organised craft classes for women in some 15 settlements which are conducted by part-time instructors and provide training in tailoring, knitting and embroidery. The women bought their own material but there was no organisation to market the products made by women on a collective and co-operative basis.

RECREATION FACILITIES

The occupational life of the majority of the squatter dwellers is such that they go work in the morning and come back to their homes late in the evening. They feel exhausted after long hours of work and go to sleep early after taking food and attending to some household duties since they have to wake up very early in the morning to fetch water, take bath and go to lavatory before going to work. There is particularly no time left for leisure the daily routine of their life. Only on holidays and when they are not working they have some leisure time. But most of such time is spent on taking bath, washing clothes, chatting or relaxing in their jhuggis or sometimes visiting relatives and friends. There is no organised recreational activity for children or for other age groups. The absence of leisure time, adequate space and the decline of traditional forms of recreation of village life, of music, dancing and indigenous games and exercises at an inter-group or community level have severely limited adequate leisure time pursuits. This results in adding to the constant pressure of poverty and poor living conditions along with monotonous routine of activities. Young children seem to suffer most from this lack of recreation. They may stand and watch something, or loiter aimlessly or play in dirt, marbles or guli-danda in small groups in the lanes. Some park and organised recreation do exist nearby the settlements or in some of the schools but these largely remain inaccessible. The main form of

recreation among the adult males is gossiping and card playing in small groups. Very few among the squatters go to cinemas although when one is shown in the settlements, it attracts a large gathering. Listening to transistor either of their own or of others is very popular. The celebration of festivals like Holi, Dussera, Diwali or other religious festivals are the only occasions which provide collective recreation and community participation. In the large settlements the celebration of National days like the Independence and the Republic days elicit participation from large number of persons. Devotional songs and religious meetings like Kirtan and Katha, folk dancing and singing groups are organised occasionally with limited participation. Marriage and such other ritual ceremonies also provide situations for feast, festivities and fun but mostly at the inter-family or kin group level.

The inhabitants have constructed 52 religious institutions like temples and gurdwaras or mosques by self-help. These provide main focus of social and religious gathering. Persons from all parts of the settlements congregate at these places on religious occasions besides being attended by many for prayer and worship regularly.

Domestic chores fill the time of women who have not to go for gainful work. Washing clothes and utensils, fetching water, getting ration, and sweeping the houses and so on are

the activities in which they are engaged throughout the city. Women who have school going children have also to look after their needs when they are not busy in household work in the afternoons, and they indulge in gossiping while mending or darning clothes during this time. Women who have older daughters entrust them with baby sitting. In families where wife goes to work, it is usually a grown-up daughter who looks after the younger ones.

SHOPPING FACILITIES

The squatter dwellers only make small purchases daily for their necessities and all the needs of their daily shopping are provided by small shops within the settlements or by hawkers and vendors coming to these areas. For occasional purchases like clothes, utensils and such other goods they go to nearby shopping areas. The only difficulty that they face in this connection is the lack of adequate number of ration shops within the settlements specifically meant for them from where they could purchase grains and other cereals at controlled prices in small quantities and daily.

JOURNEY TO WORK

The information in regard to the distance of work place from residence has been collected on a settlement basis. The procedure adapted in this connection has been that the

distance of over 70 per cent of the inhabitants of a particular settlement cover to reach their work places has been considered as the distance to work place for the entire settlement. Accordingly, it has been found that of the 103 settlements, 50.5 per cent are located within a distance of 1 kilometre from the work place of their inhabitants, 24.3 per cent from over 1 kilometre but within 3 kilometres, 14.6 per cent from over 3 kilometres but within 5 kilometres and 10.6 per cent settlements are situated at a distance of over 5 kilometres from the work place of their residents. The following table shows the distance of the settlements from the work place of the majority of their inhabitants.

TABLE - 30

DISTANCE OF SETTLEMENTS FROM THE WORK PLACE OF THEIR RESIDENTS

Distance of work place from settlements (in kilometres)	Number of settlements	Percentage Proportion
1/4	40	38.8
1/4 - 1/2	5	4.9
1/2 - 1	7	6.8
1 - 2	10	9.7
2 - 3	15	14.6
3 - 5	15	14.6
Over 5	11	10.6
TOTAL	103	100.0

ACCESSIBILITY TO CENTRES OF COMMUNITY FACILITIES & DAILY NEEDS

Of the 12 centres of community facilities and essential daily needs, public transport terminus, primary school, and ration shop are within a distance of 1/2 kilometre for over 50 per cent of the settlements while over 60 per cent of the settlements are located within a distance of 1 kilometre from neighbourhood shopping centre, middle school and post office. In regard to dispensary or medical aid centre, 32.1 per cent of the settlements are located within 1/2 kilometre of distance, 22.3 per cent within 1/2 - 1 kilometre distance, 19.4 per cent within 1-2 kilometres distance while the rest of 26.2 per cent of the settlements have a dispensary located at a distance over 2 kilometres. 21.3 per cent of the settlements have a city hospital within one kilometre, 23.8 per cent within 1-3 kilometres whereas the remaining 55.4 per cent settlements are situated at a distance of over 3 kilometres from any of the city hospitals. District shopping centres are situated within 1 kilometre of distance from 31.1 per cent of the settlements, within 1-3 kilometres from 27.2 per cent and from 58.3 per cent at a distance of over 3 kilometres. 60.2 per cent of the settlements are located over 5 kilometres away from the city centre (Connaught Place), 26.3 per cent within 2-5 kilometres while the rest are within 2 kilometres of the city centre. 58.2 per cent of the settlements have a high school within 1 kilometre of distance whereas 44.6 per cent

have a police post within the same distance. It is evident that a large majority of the settlements are located at a convenient distance of accessibility in respect of most of the centres of community facilities and daily needs. The following table shows the distance of the settlement from centres of community facilities and essential daily needs

TABLE - 31

DISTANCE OF 103 SQUATTER SETTLEMENTS FROM CENTRES OF COMMUNITY FACILITIES AND DAILY NEEDS (IN KILOMETRES)

	$\frac{1}{4}$ Or less	$\frac{1}{4}-\frac{1}{2}$	$\frac{1}{2}-1$	1-2	2-3	3-4	4-5	5-7	7-9	9-15	15+
City Centre	1 (0.9)	3 (2.9)	3 (2.9)	7 (6.8)	8 (7.8)	11 (10.7)	8 (7.8)	7 (6.8)	6 (5.8)	24 (23.3)	25 (24.3)
Dis. Shopping Centre	8 (7.8)	10 (9.7)	14 (13.6)	17 (16.5)	11 (10.7)	11 (10.7)	7 (6.8)	22 (21.4)	2 (1.9)	1 (0.9)	-
Neighbourhood Shopping Centre	25 (24.3)	21 (20.4)	20 (19.4)	12 (11.7)	5 (4.9)	-	2 (1.9)	16 (15.5)	2 (1.9)	-	-
Public Trans- port Terminus	32 (31.1)	25 (24.3)	30 (29.1)	15 (14.6)	1 (0.9)	-	-	-	-	-	-
Primary School	38 (36.9)	30 (29.1)	14 (13.6)	19 (18.4)	2 (1.9)	-	-	-	-	-	-
Middle School	17 (16.5)	31 (30.1)	22 (21.4)	29 (28.2)	4 (3.8)	-	-	-	-	-	-
H.S. School	16 (15.5)	19 (18.4)	25 (24.3)	29 (28.2)	8 (7.8)	5 (4.9)	1 (0.9)	-	-	-	-
Dispensary or Medical Centre	12 (11.7)	21 (20.4)	23 (22.3)	20 (19.4)	5 (4.9)	2 (1.9)	5 (4.9)	13 (12.6)	2 (1.9)	-	-
City Hospital	14 (13.6)	2 (1.9)	6 (5.8)	8 (7.8)	16 (15.5)	6 (5.8)	9 (8.7)	12 (11.7)	9 (8.7)	28 (27.2)	3 (2.9)
Police Post	5 (4.8)	17 (16.5)	25 (24.3)	29 (28.2)	17 (16.5)	2 (1.9)	2 (1.9)	6 (5.8)	-	-	-
Post Office	19 (18.9)	24 (23.3)	24 (23.3)	27 (26.2)	8 (7.8)	-	-	1 (0.9)	-	-	-
Ration Shop	44 (42.7)	25 (24.3)	17 (16.5)	12 (11.7)	4 (3.9)	1 (0.9)	-	-	-	-	-

SELF-HELP PROGRAMMES

In twenty-six settlements, some programmes of self-help have been found to exist. Most of these programmes are being carried by self-help groups based on village regional or caste ties. The activities of such groups have been limited to providing hand pumps, undertaking sanitation programmes and maintaining public facilities at the dwelling or cluster level. These groups also secure employment for their members, provide mutual financial aid in times of emergency and unemployment. However greater participation is evidenced among the inhabitants in constructing temples, gurdwaras or mosques. In 27 settlements of large size voluntary associations of the inhabitants exist. These associations have also undertaken some self-help activities like augmentation of water supply, maintenance of public facilities, occasional sanitation and cleanliness programmes, collecting funds for celebrating religious festivals, constructing temples, organising cultural programmes on national days giving prizes to children on these occasions and for putting up number plates on the jhuggis. Their activities also consist of seeking aid of the local authorities, government agencies and voluntary organisation for providing public hydrants or hand pumps, lavatories, paved lanes, mobile dispensary, welfare services and preventing removal or demolition of jhuggis from the site of the settlement. They also try to settle disputes between the inhabitants and exercise social control over individuals and crime and against anti-social

activities in the settlements. However all these self-help groups including the associations are loosely organised and do not have regular programme of activities which could elicit participation by larger numbers of people. Much of the programmes undertaken by self-help groups can be done more systematically and they could perform wider-self help activities and make them more effective.

PRIORITIES FOR IMPROVING CURRENT ENVIRONMENT

Satisfaction or the lack of it provides important clues to the relative livability of the environment presently being experienced by the squatters. The purpose of this investigation has been to explore the general quality of livability in regard to specific aspects of the environment as perceived by the inhabitants themselves. It is often argued that the inhabitants of the squatter settlements are indifferent and apathetic to the environment in which they live. However, our investigation of their attitude and opinions about the environment do not confirm this view since they are able to identify the elements of the environment with which they are highly dis-satisfied and therefore have the fullest realisation of what makes a livable environment in an urban setting. These also indicate the recognition of certain needs and the express concerns of the squatter community and are thus related to the goals of improvement that the squatters actively want. We asked the inhabitants that in view of

the prevailing conditions, what were some of the aspects with which they were highly dissatisfied and to indicate the order of importance that they attach to various services and amenities in improving their living conditions. The procedure adopted in this connection was to elicit the opinion of various group leaders and office bearers of the associations along with those of the inhabitants by arranging group meetings and meetings of the inhabitants of the settlement as a whole. The respondents were asked to select five out of ten facilities and services in order of their preferences. The problems were first discussed with group leaders and office bearers of the associations and they were subsequently, requested to arrange meetings of the inhabitants. The majority view was taken as the opinion of the inhabitants of the settlements as a whole which were read out to them in these meetings for their final agreement. It might be mentioned that such meetings were attended by a very large number of inhabitants including women, in all the settlements. This further shows the enthusiasm and willingness of the squatter to improve their living conditions. It also manifests the expectation they have from the public authorities in doing something in ameliorating the environmental conditions under which they live and grow.

The following table shows the rank order of the amenities and services that were chosen by the various settlements as vital in improving the environmental conditions.

TABLE - 32

RANK ORDER OF VARIOUS FACILITIES & SERVICES CHOSEN BY MAJORITY OF THE CLUSTERS

1. Water arrangements
2. Health facilities, including nutrition, maternity and child welfare services
3. Lavatories and bath rooms
4. Ration shops
5. Street lights
6. Educational facilities
7. Paving lanes and physical improvements
8. Environmental sanitation
9. Recreation and culture facilities
10. Community centres

It will be seen that the five most important services that the squatters select are water, health facilities, lavatories and bath rooms, ration shops and street lights in that order of relative importance. The data provide some insights into the core of service needs to the extent that these seem to be important aspect of environment to the respondents, their ranking indicates the relative importance of the qualitative aspects of environmental improvement. It may be mentioned that since these are elements with which most of the squatters are highly dis-satisfied, their preferences express experience with current living environment including the programmes which have already reached them through various public agencies. While devising programmes for improvement and allocating priorities to the different elements of these programmes, it may be important to base them upon overt concerns expressed by the squatter communities instead upon board-room view if people's participation and involvement is to be ensured in their successful implementation and operation.

REORGANISATION & RELOCATION

We discussed with the inhabitants of the settlements that if proper facilities and services were to be provided and the environmental conditions improved, it may be necessary to relocate or recognize the settlements. In this connection the inhabitants were asked along with their priorities for services and facilities to express their views about physical

reorganisation and relocation. In response to this inquiry the inhabitants of 52.4 per cent of the settlements have opted for reorganisation at the same site where they presently live, while 33 per cent are prepared to be relocated within a distance of 3 to 4 kilometres of the present site. The inhabitants of the remaining 14.6 per cent of the settlements are ready to go anywhere in Delhi. In regard to the inquiry whether they wanted to built up tenements, 58 per cent have chosen plots and 42 per cent built up houses.

We have seen that like the provision of basic physical amenities, the availability of or accessibility to the social services to the squatters is highly inadequate. The problem here is not only of the gaps in the provision of individual services but also of their delivery systems. The current experience of the services like health facilities, nutrition and family planning programmes and school education points out that these are not oriented to the needs and socio-cultural background of the squatters. Additionally the procedure and the methods seem to be too complicated and sophisticated for these simple and most illiterate people to take advantage of these services where they are available. The result is that they not only remain deprived of these services but also reject the need of modern services altogether. Apart from this the concomitance of multiple needs and the interaction of a number of development requirements has to be recognised. A valid assessment of the needs

of social services and the deployment of resources for them must be inter-sectoral rather than piece meal. A starving child can not benefit from a nursery school however scientifically operated. Similarly in difference among children to schooling a high rate of drop outs among them can not be prevented without adult and functional literacy programmes for the parents. This requires a careful identification of a minimum combination of services of education, health facilities, immunizations, family planning and nutrition programmes etc. that are considered vital to social development. In the context of scarce resources, this approach is essential in formulating viable programmes of action.

The environmental degradation of the squatter settlement has also focussed attention to the fact that minimum level of physical amenities are required if the inhabitants of the settlements are to benefit from social services. Curative medical services can achieve relatively little so long as the inhabitants continue to use polluted water and live in most insanitary conditions. This integral relationship between the physical environment and social services suggest probable strategies. The programmes for improvement of the squatter settlements which include provision of clean drinking water, drainage and sewerage, latrines paving and lighting of streets must be closely co-ordinated with those of social services.

Under the circumstances where the city does not provide a residential environment which

the low income group workers can afford, squatter settlements do in fact perform the main functions demanded by their inhabitants. These represent the self-help housing efforts of the rural migrants in the form of residential settlements based on the empirical and traditional knowledge of the physical environment of the village and modified in accordance to the demands and constraints of urban situation. However there are certain aspects of the environment which the residents of these settlements can not provide for themselves like the modern urban services and community facilities and they therefore adjust to an environment which is severely deprived of such services. What comforts them throughout their travail of continued living in degraded environment is the hope that their children will obtain schooling, better health facilities and living environment, better jobs and respectability. What is needed is therefore is to think of environmental improvements not merely as preventive measures and holding actions but as positive measures which can lead to the fulfilment of future expectations. It is from this point of view that it becomes crucial to devise a minimum combination of physical amenities and social services that improves the quality of human resources and promotes social development.

CHAPTER - V

SOCIAL NETWORKS, LEADERSHIP & PATTERN OF SOCIAL CHANGE

We have seen that squatter settlements come into existence and continue to grow and expand because they meet social needs. The rural migrants need a place to live and the city needs them for labour. Small groups put up their shacks and huts on unused lands and gradually and aggregatively, these dwelling clusters develop into settlements and the settlements into communities. It was also observed that these groups consist of migrating individuals who have connections with each other based on kinship, caste, regional or other similar affiliations. Almost every rural migrant comes to the city to a known address, where lives a relative, or a villager, or a person from the same caste, religion or region. He helps him find job, and accommodation and provides social and emotional security in a new environment. The older residents thus act as agents in bringing people to settlements with whom they have some pre-established ties. Over the years, this process results in the formation of well defined settlements inhabited by homogeneous social groups characterised by kin, caste, regional and linguistic affinities. The settlements, particularly the large ones with over 200 households, as fully grown communities, do manifest heterogeneity but the diversity tends to be limited to few numerically homogeneous dominant caste or regional groups and the proportion of households belonging to several other caste, regional or

religious groups remain small. The families belonging to groups other than the numerically dominant live either in small compact areas interspersed in the areas of the majority groups or scattered throughout the squatter settlements. The smaller settlements consist mainly of one or two homogeneous social groups. The squatter settlements as a whole consisting of the rural migrants speaking diverse language and belonging to various caste and region groups manifest simultaneously a process of mixing and segregation. However, it may be mentioned that inter-caste or inter-regional relationships do not pose any serious problem in any settlement.

The nature of the job of the inhabitants of the squatter settlements provide the most important link for interaction with the larger urban society and provides a new environment for enculturation promoting modern and urban values. The occupational role of the squatter has its social structural concomitants of determining the nexus of his social relationships by bringing him into contact with multiple reference groups and enlarging the possibilities for both social and cultural mobility. The squatters are involved in diverse occupational roles. Firstly, there are unskilled and skilled construction workers. While some among them flow back and forth between the city and their home villages, the majority stays on finding work in other construction activities after the completion of previous work. In a growing city, construction is an ongoing industry and workers always find or hope to find work. Secondly

there are those employed in low paid jobs as unskilled workers, porters, loaders and unloaders in the markets, shops and railway stations, rikshaw pullers, horse cartsmen, bullock cartsmen, scooter, bus and taxi drivers, domestic servants, cooks, waiters, workers in transport and repair workshops, and other miscellaneous manual occupations requiring no specialised skills. Then there are those engaged in public undertakings and government and semi-government agencies as peons, watchmen, other unskilled office workers, semi-skill and technical and service personnel. In the manual occupational category are those include who work as mechanics, fitters, metal workers, electrician, plumbers, wiremen, moulders, painters, tailors and other manual occupations requiring some skill or vocational training. Fourthly there hawkers, peddlers, wayside restaurant owners, vegetable and fruit sellers, cigarette and bedi shop-keepers, cycle repairers, grocers and other petty retail traders. Fifthly, there are those engaged in traditional occupations and cultural trades as scavengers, leather workers, carpenters, blacksmiths, basket-makers, washermen, barbers, weavers, doll-makers, potters, book-binders, craftsmen and others occupied in varied household and cottage industries. Sixthly there are the workers employed in various industries, as skilled, semi-skilled and unskilled labourers. Lastly there is a small proportion among the squatters who are employed as semi-professionals like compounders, dressers, midwives, school teachers and white collar workers like clerks and accountants.

Thus the workers among the squatters are integrated in the urban economy at lower levels and labour intensive service sectors associated with its demand of modern goods, services and other needs.

PATTERNS OF SOCIAL NETWORKS

The purpose of describing the social and economic context of social life has been to indicate the complex network of groupings in which squatters are involved in the city that shape their structure of social relations, values and attitudes and life styles. The squatter families constantly move back and forth from the world of association based on kin, ethnic and regional similarity and familiarity to participation in groupings which cut across such affiliations particularly in economic and occupational activities, education and other modern social services. To understand this, one must have a clear appreciation of the two important networks of contact and reciprocal relations which are at work. Family, kin, ethnic and regional ties are all constituted and bounded by a small-scale social field which comes into existence to meet the needs of those who form these groupings. In such a world, the core of cultural and social activities, is the cement of the social networks which act as support, protection and guidance of the individual and the group alike. Identification based on kin, culture, language or religion takes precedence over the

continually changing large scale environment participation in which is determined by quite different demands. The large scale social field is a different network of relations. It is a world of goods and services, of mobility and chance of opportunity and failure. This large scale social field of the city offers scope for the kind of activity which induces social development and modernisation. The participation in the large social field with its modern institutions, education and social services, skills and occupational structure exerts pressures on individuals and groups alike not only to adjust to the urban environment but also to consolidate and adopt increasingly a distinctive and modern style of life. These two social fields and their numerous sub-fields provide the basis of the squatter's social life in the city. Convergence and separation of these fields is constant. Small-scale group activity is related to the large scale social field for individuals and groups alike to achieve new goals. Likewise, the large scale social field largely depends on the existence of the smaller and more intimate social ties to provide the kind of environment in which kin, caste and regional group can and do operate.

The squatter community is the social and physical habitat for about one fifth of Delhi's population. It consists predominantly of rural migrants who have decided to seek alternative ways of making a living for a variety of reasons. This implies that for a large number of rural migrants whether of recent or short residence, whether they constantly

circulate between the city and village, whether they are urban residents of longer duration, urbanism as a way of life will become an increasingly distinctive feature for social development and modernisation.

It is in the squatter community where the acculturation of the rural migrants take place. He acquires progressively skills, habits, attitudes and values for coping with and eventually finding a secure place in the urban social order. In this process of acculturation or socialisation, various patterns of social relations are involved which bring about different network of individual and group relations.

What forms of groupings typically occur which act as mediating agencies in the process of acculturation in the squatter community? To indicate some of the characteristics of these groupings, we are using the concept of social network as a model for analysis of various types of groupings. Such a formulation helps to chart out the channels of interaction between persons and extent of regularities which give a minimum of order and coherence to communities which have no clear structure of discrete groups. The squatter community as a whole resembles the village community since rural migrants from various caste groups and regions have brought with them not only a network of relations but also those corporate institutions which make up the total structure of their home communities. Although the

squatter community reproduces the basic structural categories of the village society of the various regions to which the inhabitants belong, it functions in an urban setting or field of relationship. It does not operate as a particular kind of social system in which social relationships are organised within a distinctive structural and cultural framework. More specifically it functions as an adaptive mechanism. It provides a guide to behaviour in situation of casual interaction. It provides the primary badge of identity to which even the smallest child is able to respond.

At the core of the social networks in the squatter community, lie the kinship relations, caste, communal or regional affinities which link together large number of individuals in several groupings and introduce an element of stability in a fluid situation. They serve as a means of ordering heterogeneous population in meaningful social categories. The basic social unit among the inhabitants of the squatter settlements is typically a man and his wife and children, or two brothers or other combinations of the relatives sharing a household and few other families bound by kinship ties. Such groups constitute 6 to 8 families. However, the size of such groupings depends upon the characteristics of the homogeneity of its members and the possibilities of enlarging the network of relationship while maintaining coherence. The small kinship based groups when connected with similar groups solidarity is further cemented by similarity of occupational background. This type of grouping is typical of

Rajasthanis. However when kin-based networks do not extend to include caste and village ties as in the case of inhabitants of the Eastern U.P., they operate as small scale units confined to 8 to 10 families. The primary groups are also based on caste, religion village or regional ties where the kinship network is loose. This is true for high and intermediate caste Hindus, Sikhs, Muslims and those coming from distant regions. In the settlements inhabited predominantly by those coming from South, the primary groups are formed on the village ties although such groups may include some small kin groups. But all these groups are linked with each other to form a well integrated local community bound by overall regional ties, very unlike the inhabitants of other regions. In the squatter settlements inhabited by single caste or at best two caste groups, the basic social networks are formed on the basis of kinship ties and village affinities while those consisting of families from single region but multi-caste, it is the caste which is the basis of primary groupings and the kin groups are formed as components of the caste groups. In connection with the type of social networks that exist among the inhabitants of the squatter settlements, the institution of Jamadars should be mentioned particularly in regard to those who are employed in construction activity. The Jamadars are skilled or experienced construction workers who supply labour to the construction industry. They procure labour from the regions they come and mainly from among the members of their own kin groups and castes. Thus each Jamadar has

a group of his own consisting of 15 to 25 families who are bound to each other through their affiliations of caste and kin with the Jamadar

The basic social units as is evident, comprise of small scale groups consisting of 2 to 30 families on the outside limit whether based on kinship, caste, village, religions or regional ties. These are the groups which function as units of effective relationship. These groups also form small territorial units in the form of dwelling clusters occupying compact areas. However, it may be mentioned that in the case of kin based networks, the amplitude has been limited to few relatives and they generally exist as components of group formed on the basis of caste ties or on the affinities of home community. The basis of forming these groups is increasingly becoming dependent on personal choice than on conventions and traditional obligations although the choice is still made from amongst kinsmen, caste, village fellows or co-religionists but it is the mutuality of interests that conditions the choice.

Such networks provide the rural migrants in the squatter settlements with identity, security, mutual aid and support in the new urban environment. To stand alone with limited resources and skills is impossible. The need for a supportive structure is imperative. Such groups function as units of social control, commensality and co-operation. Disputes

among the members are decided within it. Such groupings often give a strong emphasis to a "we group" feeling. In doing so, members of such groupings have developed a structured social network which supports the individual in meeting virtually any contingency that he might face. The participants of such groups help each other, financially and with labour for the construction of dwellings. They assist one another in getting jobs, frequently at places where they work and finding accommodation. These networks also function as self-help groups which collect funds for putting up hand pumps, keeping their area clean and looking after the children in turns and organize recreational activities like folk dancing and singing, and other festivities. They often function as small political pressure groups in providing position of power to its members in the local squatter association if it exists, for bargaining for the provision of facilities and services with it or with the local authorities or political leaders. It is through them that the individual generally communicates with the outside world and participates in the local squatter community and in the urban social system.

The second type of grouping is larger, looser and somewhat more extensive than the first. However, it resembles the first type in that the bonds of solidarity are strictly based on social homogeneity characterised by caste, village, regional and religious identities or origins. All those belonging to same caste, region, religion or community

are potential communicants although only in few instance all those eligible become actual participants. The important thing is that the constituent individuals feel to be interlinked regardless of their participation in regional or caste networks and thus constitute a community. It is a community of cognitive recognition and not so much of participation. Marriage, death and other ritual ceremonies and festivities bring the fellow members of the caste, region or religion together but only temporarily. The caste and regional groupings are generally linked with caste or regional associations at the city or inter-settlement level. These groupings function as resource groups for the constituent participants in the first type of groupings. Their functions are broadly the same as of the first type of groupings but involve larger number of individuals. However, these are loosely organised. They also perform adaptive functions. These groupings are mainly concerned with social, cultural, economic and political activities on a wider plane and undertake activities for promoting the welfare of those belonging to similar caste, region or religious community. One of the most important aspects of these groups is, that they function as agencies for political mobilisation and loci of power at the settlement level for the respective caste or regional or religious groups. But they do not play a significant or central role in the daily life of the squatter as do the first type of groupings.

The third type of grouping found in the squatter settlement is that of caste panchayats which mainly the evolution of the second type of groupings in a structured form. They are a very important feature of the settlement life and most of the inter-personal problems get settled through them. They act as a representative body of the concerned caste groups both at the settlement level and to outsiders. Some persons are designated or elected to carry out the corporate business in the name of all and the all in whose name Panchayats act as corporate entity form a collective body with determinate boundaries. Besides enforcing the social sanctions of the caste, they act as courts for arbitration of disputes, they undertake activities for the improvement and welfare of the caste members by negotiating with government and local agencies and with the settlement association for the provision of educational and other modern facilities and services for their caste members. These Panchayats also sometimes organise self-help programmes connected with putting up of Panchayat Ghars, construction of temples, hand pumps, levelling of land, filling up ditches and cleaning drains etc. The scope of such activities is yet very limited.

The fourth type of grouping is based on common interests and is associational rather than ethnic, regional or communal in structure. The individual involvement is voluntary. This is in the nature of secondary interest group. It has a formal structure in the sense

that it has a membership and officialdom. Not many settlements have these associations which cut across the caste, regional and community affiliations and are primarily interested in identifying the problems of the settlements and solving them or engaging in activities for the improvement and development of the inhabitants of the settlements as a whole. Of the 10 settlements surveyed, only 27 or 26.2 per cent have associations. Even in the settlements where such associations exist, the majority of the inhabitants are non-joiners, and mainly remain confined to the primary group relationship of kinship, caste, village, regional and religious ties. However, whether the majority or minority participate, the association is characteristic of the widening of social networks of the inhabitants and the emergence of a new core of identity based on secular and modern goals. The kinship, quasi-kinship and ethnic basis of relationships are supplanted by the association, on the basis of rationally derived interests. Recently a city level Jhuggi-Jhonpri association has been formed to which settlement associations are getting affiliated. Another development in this direction has been the formation of inter-settlement association at zonal or area level, a process through which the association of the various settlements in the same area federate to constitute a large collective body to protect the interest of Jhuggi-Jhonpri dwellers. Thus associations at various levels are gradually emerging as surrogates of kinship, caste, regional and communal social networks. The main functions of these associations

are economic, political and developmental and are a means of mobilising community resources for the improvement of the living conditions in the squatter settlements. They negotiate with government officials, local authorities and political leaders for the provision of basic amenities and social services. These also organise several small scale self-help activities for improving the living conditions of the jhuggi dwellers. Besides, they provide mutual aid, support and friendship and settle the disputes in the settlements. Unlike the kinship, caste or regional groups, these do not serve sectional interests of a particular group. They also function as pressure groups through political mobilisation of the jhuggi dwellers and thus try to become an important force in the power structure of the city so as to lay claim on the allocation of greater resources of the city for their improvement. Another major role that these associations play is to provide a collective security against eviction or clearance of the squatter settlements from the present sites. The associations also provide an institutional framework for the articulation of the demands and rights of the inhabitants and thus link the squatter community to the rest of urban community and through it to the national institutions. Sometimes, the framework of association among the inhabitants deviates from the general pattern of affiliations when the basis of formal membership is of regional or linguistic affinities

like the South Indian Workers Welfare Association. Although the membership is limited to a particular regional group, the organisational structure, the objective and the functions are the same as that of other voluntary associations. All these associations are in the incipient stage of development, loosely organised and have not yet developed a well-established institutional framework of voluntary association and interest group activity. This is largely due to the mass illiteracy of the inhabitants, continuance of traditional network of relationships and the lack of capacity and leadership in running formal organizations in an urban situation. They tend to become multi-functional and extensions of kinship, caste and community structure. The primary loyalties are synchronised with secondary group relations by blending apparent divergent aims and interests. On the one hand they lean on kinship caste and regional affinities and obligations, on the other they emphasises the secular basis of relations, modern outlook and establish new social practices. What is more significant about this duality is that by incorporating familiar informal networks, the associations make the innovations less strange and play an important role in initial socialisation of the inhabitants of the squatter settlements to a modern way of life.

The fifth type of social networks are loosely organised small friendship groups based on reciprocal interests generally limited to 4 to 6 members. They are based on non-ethnic and

non-communal considerations and are totally voluntary. They function in the nature of small credit groups, recreation, card playing or gambling groups or may be formed at work places because of similarity of occupational background or job situation. Most of these networks are transitory and serve only short range and immediate needs. They do not provide the individual with a set of clearly defined relationships which have predictability and regularity over time. If the inhabitants shift from settlement to another or visit their homes, such networks terminate and these have to be formed all over again. They lack the cohesiveness and formalness of kin-based networks. They are ever shifting and amorphous but the distinctive quality of these networks is that they are constantly manipulated and that however limited they may be, they always exist and provide security and support to the rural migrants in the city.

Finally, there are large scale city level regional associations, caste associations and caste panchayats like the Bhojpuri Samaj of those belonging to Eastern U.P., Prajapati Samaj for the potters, Dhobi Panchayats for the washermen, Bhairvan Samaj for the Bhairvans of Rajasthan, the Balmiki Sangh and the Harijan Welfare Association for the Balmikis and Harijans and the South Indian Workers Welfare Association for the South Indian workers in the city and many such other associations representing various caste and regional interests to

which the inhabitants of squatter settlements affiliate according to their caste, regional or community composition. The development of such associations is mainly for political organisation. These associations are of higher order and have comprehensive infrastructure for making effective use of the political means, for gaining power and accessibility to the resources of the community. But these associations are not meant exclusively for the caste, community and regional groups in the squatter settlements but for all those belonging to these groups in the city as a whole. The functions of these associations include caste reforms, social and economic betterment, promotion of educational facilities, economic assistance and providing jobs to their constituent members. The Jhuggi-Jhonpuri dwellers derive various benefits by joining these associations. Besides these, the inhabitants also participate in occupational associations and trade unions which are meant for promoting economic interests, employment prospects and wages of those engaged in the particular occupations. However, participation in such unions and associations is limited to construction labour, factory workers, those engaged in public undertakings, municipal corporation and domestic servants. Among the stone quarry workers, some are also members of the co-operative society.

It may also be mentioned that though inter-group interaction and integration is weak,

an individual act of crime becomes everybody's concern in the settlement. Many examples of organised resistance to illicit distillation, gambling, prostitution and other anti-social behaviour are available. The interference of outside agencies quite often frustrates their efforts to bring about reform. However, social control and sanctions have greater effectiveness in the control of vice, crime and anti-social activities here than anywhere else in the city. Another aspect of the social life of the squatters is that quarrels and squabble between different groups are settled with apparent spontaneity and through consensus. Outside help is very rarely sought in settling the disputes in the squatter settlements, particularly of police whom they dislike. Reference to a law court is generally abhorred. It is not that the squatter settlements are devoid of conflict. Often there are factions, competing with one another for power and prestige and struggling to claim leading positions to represent the affairs of settlement before the outsiders. Elections bring to the surface this inter-group struggle in the social life of the squatter community.

We have thus seen that every inhabitant of the squatter settlement is involved in some kind of network of relations, composed of ties with kinship, caste, community or regional groups, with neighbours, workmates, friends and acquaintances. Each of these networks cater for different social categories and serve different ends. The squatter

though involved in association and interest based networks is anchored in primary social groups. All primary social networks have their basis in traditional forms of relationship in the village community. However, the squatter community manifesting the dominance of primary social networks can not be understood as a simple transplantation of village in an urban context. The continuing importance of primary groups based on kin, caste, regional or community ties in organising the social life in the squatter settlements is the function of urban social situation. The inhabitants drawn from the small village communities dominated by primary relations, shaped by kinship and caste, close interdependence and group reciprocity face a metropolitan city with social complexity, social differentiation and anonymity. They can not exist in vaccum. They tend, of necessity, to find base in social networks and forms with which they have been familiar and these provide the mechanisms of spontaneous adjustment to the new urban environment.

The basic social networks though keeping the traditional form are modified in their content by taking up the functions of voluntary and secondary groups. These networks also increasingly begin to depend upon the mutuality of interests of the constituent participants. On the other hand, the associations partake some of the character of kin and caste groups as their functioning shows and serve the needs of these groups. It does happen that some

groups remain incapsulated in these primary ties and are not involved in the urban-melting pot like some groups among the Rajasthan and the basket makers belonging to ex-criminal tribes of Punjab. A most significant role of these primary social networks is that they provide a crucial communication link between the modern metropolitan structure and the rural community and in this process act as integrators of the orientations of folk values and universalistic modern values of urban society. As the inhabitants get gradually socialised in the urban milieu, their range of contacts extend from primary social networks to secondary and association based networks. This results in widening the field of choice which the Jhuggi-Jhonpri dwellers can make in social, economic and political life. This is the essence of change and modernisation which gives rise to new networks cutting across and involving the entire urban social system.

PATTERN AND FUNCTION OF LEADERSHIP

To understand the pattern of leadership in the squatter community it is important to recognise the varied contexts in which it operates. We have already analysed the organisation of social life and pattern of social networks or groupings among inhabitants of the squatter settlements. It is centred around small-scale groups composed of 15 to 30 families bound by the traditional ties of kinship, caste, village and religion. All these groups have a large

stable core whose participants change but slowly and when they do they are replaced by similar linkages. This type of network creates a high degree of internal cohesion and solidarity. The tensions and conflict generated within these small groups are rarely projected outside. The other type of groupings which link large number of individuals together and much more extensive than the first ones are the large homogeneous caste, and regional groups constitute of several of the first type of groupings. The ties of individuals to these networks are based more on the consciousness of kind than on actual participation. Though based on primary identities, they perform secular functions like securing economic benefits, jobs or special concessions and modern services and facilities and political power by articulating particular group interests. They increasingly function as an interest group organisations and provide a larger system of participation. They exist either in the form of formalised structure of caste panchayats or outside of it as an informal pattern of social networks in the various settlements. The third dimension of the social life of the inhabitants is based on secular, associational and modern grounds manifested in the form of settlement associations or some form of local community identification both cross-cutting the particularistic loyalties of kin, caste, village or region. The associational and secular pattern of social life based on expanding network of interrelationships is still in its incipient stage of its development in the settlements. We have already observed that these networks

are formed in response to the process of socialisation or acculturation in the urban social system of the rural migrants living in the squatter settlements. These forms of integration are basically 'adapational devices' providing an anchorage for social stability and adjustment to urban conditions and social and cultural change implicit in a situation of new opportunities and demands, new forms of differentiation, stratification and competition. It is an extremely involved process of adjustment expressed in the various forms of groups.

These groups form the social base of the leadership structure among the squatter settlements. They are linked to two types social systems - the modern and the modified traditional since it is these systems through which the leaders are involved in meeting the prime needs of the inhabitants of the squatter settlements for social stability, security and adjustment to the process of urbanisation and modernisation. The leaders that emerge at various levels of grouping are tied to particular conditions and problems of that group and the amount of support they can muster from the urban society or the local community in handling the varied and complex problems that arise as a part of urban living. The authority of the leaders and the exercise of their influence are also confined within the context of groups at different levels.

First there emerge what can be called "grass root" leaders who are drawn from the

different, kin-cum-caste or village based social groups whose members reside together in compact areas in the various settlements. Such leaders draw their strength from the traditional mutual bonds that exist between them and other members of the groups. He is a rallying point for individuals linked together by kinship, caste, village ties at the dwelling cluster level. They are thus leaders of groups of families forming residential units and symbolise the internal unity and cohesion of these groups. Recruitment to this type of leadership role though based on traditional principles is not strictly ascribed and is achieved by unanimous consensus and acceptance of the groups members. In small settlements their number ranges from 4 to 6, and in bigger settlements there are 20 to 30 such leaders while in the settlements of over 1000 households their number can go upto 100 depending upon the number of residential units composed of groups of families having effective social relationships between them. The leaders of these groups are known as 'choudharies', or Jamadars (Headmen) and exercise their authority within the limits of dwelling clusters or small compact residential units.

The second stratum of leaders is found at the level of larger groupings of single caste, religious or regional groupings, whose members may or may not form a compact spatial unit in the settlements. This may be drawn from the leaders of the small groups at the dwelling cluster level or may be in close touch with them. Leadership at this level is not confined

to a single individual but consists of few individuals. If there exist formalised caste panchayats in the settlements, the members of such panchayats are regarded as the leaders of the caste or community groups. They generally consist of a council of 6 to 8 members and are elected democratically or through implicit acceptance on the basis of consensus by the members of the concerned caste or community. These panchayats may be linked to inter-settlement or city wide level panchayats and in that case those representing higher level panchayats become automatic leaders of the local panchayat or in some cases persons from the settlement may be appointed to act as leaders. Not all castes have panchayats, It is predominantly a lower caste phenomenon.

Even among the castes where panchayats are formed, leadership exists outside the fold of panchayats. In both cases leadership depends upon the support and allegiance that it can muster from the leaders of the primary groups. It may however be mentioned that solidarity of the caste or community groupings is structured into a diffuse network of various segments of the caste depending upon its numerical strength. Therefore, the leadership of single caste groups consists of the leaders of the various segments of the caste although drawing the corporate power of the entire caste. Another aspect of the caste leaders is that unlike the primary groups, the mobilisation of group support follows rather than precedes. The

leadership roles at the level of regional groupings are patterned in the same manner as that of caste or community groupings with the difference that there exist no regional associations at the settlement level. It exists only at an informal level except in the case of one settlement inhabited by South Indians. This settlement functions as a part of regional associations of all South Indians living in the various settlements and the leadership role is vested in a single individual who not only represents this settlement in the South Indian Workers Welfare Association but holds an important official position and in this capacity he commands the following of all the people living in his settlement. In all other settlements, the leaders of the regional groupings are drawn from the caste leaders and the strength of leaders of regional grouping depends upon the alignment of caste leaders. However, if there exist associations at the city wide level, the representatives to them chosen from the settlement on an informal basis, also command leadership in the settlement. In the case of Rajasthanis who are mostly engaged in construction work, Jamadars having a large following are also accepted as leaders of the regional groupings. Like caste group leaders, the leadership consists of few individuals and is not vested in a single individual. But it is much more broad-based than the caste groups.

There are also few leaders whose social base is secular cross-cutting caste, community

and regional allignments, and have influence over the entire squatter community. In the settlements where associations exist, they are democratically elected by its members. The emergence of such leaders depends upon the support and acceptance that they get from the various regional and caste group leaders, and this largely depends on the influence that they command with government officials, local authorities and political parties or inter-settlement associations in securing benefits of various kinds to the inhabitants of the settlements. Leadership among the inhabitants is thus not only variegated but depends on complex structure of social base. However, in all cases except that of the leaders of the small scale groups, it is still undeveloped and dispersed with the result that in each settlement, particularly so in the large settlements, the effectiveness of the leaders in social mobilisation and group action is confined to limited number of families. The bases of leadership support and organisation are still segmented rather than collective. These consist of leaders of each important segment which is homogeneous in some ways but at the same time divided into so many spatial social groups. In such a situation leadership structure articulates special interests and through them the interest of the local community as a whole are expressed.

The functions of the leaders of the small social groups at the residential unit

level consist of these activities that relate to the maintenance of the internal unity of the group and the continuity of ongoing interrelationships between the members of groups. This they do by exercising social control over the behaviour of their members and settling the disputes between them. They also assist in organising weddings and other ceremonies. By keeping the corporate entity of the groups, they are able to provide social stability and security so essential for the members in the new and highly diversified environment. Besides these duties, the most important function that they perform is the solutions of the varied problems internal to that group. The effectiveness and the acceptance of leadership role depends upon their extent of ability to solve these problems. These involve helping the members to get ration, job, aiding them financially in times of crises or emergency, accommodation and securing services and other benefits from government officials, local authorities, leaders of the panchayat and other leaders of the squatter community. They must be able to manipulate the world external to the group in a manner which facilitates the adjustment of the group members to the urban life while at the same time extending their participation in a wider network of opportunities and in the modernisation process. They act as a communication channels for groups. They represent it to outsiders in all matters. In this context, the role of Jamadar among the construction workers is very important. He not only provides the group members with jobs, accommodation

and financial support but also is responsible for bringing the members of his group to the city. An omniscience is imputed to him in all matters some of which he can aid in and some of which he cannot.

The leaders at the caste, community or regional grouping serve as mechanisms of mobilising support and group position to secure maximum benefits, allocation of resources and social power among various social group within the settlements, and among settlements if these settlements are homogeneous in terms of caste, region or community. By enlarging the effective range of relationships on caste, regional, or communal identity, these leaders impart an associational frame-work to these groups through which they can bargain or negotiate with government officials, local authorities and political leaders in securing social and economic interests and facilities that improve the living conditions of their particular groups in the settlements. Besides perform the ritual and ceremonial role, they maintain law and order by exercising social control over the group. The caste and regional group leaders perform all services similar to those performed by the leaders of primary groups with the difference that they have to perform them for larger number of individuals. The inhabitants of the squatter settlements suffer from many deprivations and face many problems in their process of socialisation in urban living which they themselves can not solve. They look to these leaders to meet their needs both in traditional and modern

terms and help in reducing some of their deprivations through their linkages with the urban society and influence with the power structure of the society. If they fail to manipulate the urban system in resolving some of the problems, their position is relegated to a nominal and ceremonial role. Thus the effectiveness of these leaders not only lies in the internal integration of their caste, regional and community groups, but also and more importantly through an external integration of these groups in the more inclusive field of opportunities facilities and services, economic prospects and social development in the urban society at large. In this context, they are able to introduce many programmes of development of health education and environmental hygiene.

The function that leaders at the community level either as informal leaders or office bearers of formal associations mainly consist of bringing basic amenities and services to the settlement and in promoting the improvement of the living conditions of the inhabitants through lobbying with local authorities, political authorities and other agencies. One of the important and primary function is that of preventing the removal or eviction of the squatter settlements from the present site. They also perform the function similar to those performed by the leader of primary groups, caste, regional and community groups but for the community as a whole and not for particular segments.

Leaders of all levels, as we have seen, act both as agents of social stability and

change by facilitating the adjustment of the inhabitants to urban life and incorporating them in the main stream of urban society. They articulate the interests and the problems of the squatters and secure them larger allocation of resources of the urban community for meeting their needs and improve their living conditions. Through political articulation and welding them together into an organised group at various levels they enhance their social power in the structure of the power system of the urban community. They act as link-men between the urban society at large and the squatter community. They also play an important role in modernising the rural migrants through enlarging their participation in the national culture and society and are vital factors in avoiding traumas and social tensions that are generated in the process of adjustment of rural migrants to the process of urbanisation and modernisation.

We have attempted to locate leaders in individual settlements by finding out to whom people turned for help and problem solving, whose judgement was respected and who took initiative in doing things for the community, and who were involved in decision making organisational participation and social mobilisation. On the basis of these criteria, 146 leaders have been identified which compose of those at the primary group level, regional, community and caste group levels and at the settlement community level, of

participation. A majority among them are those who function at a larger and more inclusive levels of participation. Having analysed the nature and function of these leaders, we have also inquired into the socio-economic characteristics of the leaders identified by us.

In terms of income, 37.7 per cent of the leaders earn Rs.200 or less while those earning over Rs.300 account for 33.5 per cent. The majority of the leaders are drawn from higher income groups among the inhabitants of the squatter settlements. 20.7 per cent among the inhabitants earn over Rs.200 while it is true for 62.7 among the leaders. The average income of the head of the household is Rs.149 as against of Rs.261 among the leaders. The following table shows the income distribution among the leaders :-

TABLE - 33

Percentage Distribution of Leaders among the various income groups

Income Groups	Percentage Proportion
200 or less	37.7
201-300	28.8
301-400	26.0
Over 400	7.5
Total	100.0

The major proportion of leaders are engaged as skilled manual workers, shop keepers and petty businessmen, semi-professionals and white collar workers and those engaged in traditional trades and skills. Only 34 per cent among them are engaged as unskilled workers while this is so for 71.1 per cent of the earners among inhabitants. 55.3 per cent among the leaders are daily wage earners while 44.7 per cent are regularly employed. The occupational composition of the leaders is indicated below :-

TABLE - 34

Percentage Distribution of leaders among various occupations

Occupations	Percentage Proportion
Unskilled manual workers	34.0
Skilled workers	21.0
Shop keepers and petty business	21.0
Traditional trades and skills	13.0
Semi-professional and white collar workers	11.0
Total	100.0

N.B. : Data given in tables No.33 to 40 has been collected in Phase III of the Survey.

28.0 per cent of the leaders have high school or higher level of education whereas 47.3 per cent among them are educated upto middle school standard. Only 24.7 among them are illiterate. The following table shows the educational status of the leaders.

TABLE - 35

Educational status of the Leaders

Educational status	Percentage Proportion
Illiterate	24.7
Literate	7.5
Primary	23.4
Middle School	16.4
High School	25.3
Intermediate/BA/MA	2.7
Total	100.0

Since the majority of the inhabitant belong to young age groups, the majority of the leader are also young. 42 per cent of the leaders are 35 years old or less while only 24 per cent among them are more than 45 years old. The age distribution of the leaders is shown in the following table.

TABLE - 36

AGE GROUPS OF THE LEADERS

<u>Age groups</u>	<u>Percentage Proportion</u>
25 or below	7.5
26-35	34.9
36-45	33.6
Over 45	24.0
<u>Total</u>	<u>100.0</u>

It has been observed that most of the leaders have long experience in urban living and have urban commitment or involvement as revealed by their long years of continued residence in the city. 65.0 per cent have lived in the city for more than 15 years whereas another 20.0 per cent among them have a duration of stay in the city ranging between 11 and 15 years. Only 15 per cent of the leaders have a duration of stay in the city of 10 years or less. Considering the length of residence in the particular settlements in which they happen to be leaders, it is found that 46.6 per cent among them have stayed in the same cluster for over 10 years while only 15 per cent have residence in the same cluster of 5 years or less. The following two tables show the length of residence of the leaders in the city and in the particular settlements :-

TABLE - 37

DURATION OF STAY OF LEADERS IN DELHI

<u>Number of years</u>	<u>Percentage Proportion</u>
5 years or less	15.0
6-10	11.0
11-15	20.0
Over 15	65.0
Total	100.0

TABLE - 38

DURATION OF STAY OF LEADERS IN PRESENT SETTLEMENTS

Number of years	Percentage Proportion
5 years or less	17.1
6-10 years	36.3
Over 10 years	46.6
Total	100.0

31.2 per cent of the leaders belong to upper caste Hindus, although the upper caste caste Hindus account for only 16.0 per cent of the total population of the inhabitants of the squatter settlements. Sikhs also contribute a higher proportion among the leaders than their share in the total population. The reverse is true for the lower and intermediate caste groups. 53.5 per cent of leaders belong to lower castes although their share in the total population is 64.7 per cent. This implies that leadership is not confined within particular caste groups and increasingly getting secular being determined by criteria other than caste. However, where the network of social relationship is based on caste kinship and

communal ties the recruitment to leadership is strictly on the basis of caste but in regional groupings and multi-caste associational networks, caste is not the only determinant for leadership roles. The following table shows the caste and community composition of the leaders :-

TABLE - 39

CASTE & COMMUNITY COMPOSITION OF THE LEADERS

Caste and community	Percentage Proportion
HINDUS	
Upper castes	31.3
Intermediate castes	4.2
Lower castes	53.5
MUSLIMS	2.7
SIKHS	8.3
Total	100.0

The neighbouring regions of U.P., Rajasthan, Punjab, Haryana and the rural areas of Delhi account for 88.7 per cent of the inhabitants in the squatter settlements. The numerical strength of these regions is reflected in the regional composition of the leaders. The largest proportion of leaders come from the state of Uttar Pradesh followed by Rajasthan, the refugees from Pakistan. Since most of the people belonging to distant regions are clustered in single region settlements, they provide the leadership from their own people. In large and heterogeneous settlements, each regional grouping provides its own leadership. In the context of settlement Associations, the numerical strength of a particular region or combination of several small regional groups to match the numerical strength of a particular region may be an important consideration in deciding the regional composition of the leaders. The following table indicates the regional composition of the leaders :-

TABLE - 40
REGIONAL COMPOSITION OF THE LEADERS

<u>Regions</u>	<u>Percentage Proportion</u>
Uttar Pradesh	41.1
Rajasthan	19.9
Haryana	3.4
Punjab	4.1
Delhi (Rural Areas)	11.6
Himachal Pradesh	1.4
Tamil Nadu	1.4
Bihar	0.7
Gujrat	0.7
Refugees	15.7
Total	100.0

It can be seen from the analysis of the socio-economic characteristic of the leaders that education, income and occupation are considered important attributes for recruitment to the leadership role since these qualities enhance the range of interaction and participation and communication with the urban society at large. They help the leaders in manipulating the urban conditions and in mustering support from the various segments of the power structure both of which are necessary to fulfil the problem solving functions. A greater experience of the understanding of the working of the complex urban institutions and involvement in the urban system helps the leaders in their negotiations with government officials, local authorities, political leaders and outsiders for securing benefits for the inhabitants as well as dealing effectively with the problems that arise in the process of adjustment to urban life. This comes with longer and continued residence in the city. It has been observed that an increasing proportion of leaders belong to higher income groups, better occupational position and educational status and longer duration of residence. A majority of them come from younger age groups. Caste and regional affinities as criteria for determining leadership roles are losing hold in multi-caste and multi-regional environment. Income, education, occupation and length of residence are very important considerations for the choice of leaders even among the particularistic groups based on kin, caste, regional and communal ties.

PATTERN OF SOCIAL CHANGE

Since the squatter settlements are composed mainly of rural migrants, the study of the pattern of social change is mainly concerned with what happens to people steeped in the values and social organisation of a village community when they confront the economic, social and cultural order that is engendered by modernisation in an metropolitan society. Although sociologically the squatter community is in some sense marginal between the modern and traditional society, for significant number of inhabitants, it involves changes in many spheres of life. They find themselves in an urban occupational environment where modifications in thinking and behaving are required by the inherent demands of the situation. They live in an interacting system. The multiplicity of reference groups induces changes in the value system, aspirations and style of life.

The new economic opportunities offered by the city provides a wide range of occupational choices. It can be also seen as a shift from traditional to non-traditional occupations; availability of facilities for better wages and greater income, higher prices for goods and a wider network of marketing facilities. A whole range of occupational categories is found among the inhabitants of the squatter settlements. They are employed as skilled, semi-skilled workers in factories or in other institutions, in miscellaneous,

service occupations, in construction, in commerce and trade and in small scale and household industries. They have opted for occupations which most suit their skills, capacities and aptitudes. In the closed system of village society not only that the occupational roles are limited, they are ascribed and embedded in the kin, caste and community groups. Specialisation of tasks tends to be by households and cluster of households and therefore tends to be hereditary. The approach to the recruitment of personnel into urban occupations is achievement oriented and a given occupational role and its role occupant are distinct and separable so that one can move from one occupation to another. The occupation available to the inhabitants of the squatter settlements are not only varied but also removed from the context of kin, caste and community status. It is particularly true for scheduled and lower castes, forming the large majority of the inhabitants of the squatter settlements, whose occupational choices in the village society are not only limited but also have been fixed. Although a significant number among them continue to pursue the traditional occupations, but they do so for greater profitability and higher incomes. Potters, scavengers, leather-workers, washermen, and barbers and others follow their occupations in a different social setting not governed by traditional constraints. On the other hand a large number among them have taken to other occupations which may not have been possible in the village community. This applies to all other castes and communities to whom alternative employment

opportunities and work situations are available depending upon their possession of different skills. Thus a continuity of traditional occupations goes hand in hand with the change in occupations.

In the modernisation process, the functional differentiation of occupations provides the possibility of social mobility. However due to poverty, lack of education and skills, and history of backwardness, the inhabitants of the squatter settlements have only been able to achieve low status urban occupations and the mobility from one stratum to another has been very limited. But there have been considerable changes from one occupation to another at the same status levels but with possibilities of wider opportunities for learning new skills and higher incomes. This horizontal mobility should be seen as a part process of upward social mobility and it is through this process that backward and under privileged groups become aware of the new opportunities and with continued urban residence they are able to break through their backwardness. Another dimension of occupational choices available to the inhabitants is that it makes possible for them to achieve individual mobility which is generally possible through group mobility in the village community. This however does not mean that the traditional order of the village has been completely replaced among the inhabitants of the squatter settlements. It is true that

kinship, caste, regional affinities are no longer significant in determining the choice of occupation per se, but the personal obligational system has remained viable and functions to link together as many individuals as possible. Through a feed-back process of linkages, it influences the recruitment of personnel to various occupational categories so that even under persistent secular urban pressures, preferential access to the employment opportunities are assured by kinship, caste, regional or community ties. Thus both the traditional and modern axes are operative in bringing about occupational changes and social mobility. Nevertheless, there is an overall tendency to move from particularistic to universalistic system of values.

We have observed that there is tendency among the inhabitants of the squatter settlements to cluster around people with whom they have linguistic, local, regional, communal, caste and kinship ties and that the associational network of social relationships has not yet been well developed. It has been argued that the articulated voluntary associations are only confined to urban educated and well-to-do classes who are attuned to modern society but the lack of such associations and the bonds of traditional ties among lowly placed and illiterate working classes hinder their participation in the functioning of the large society and keep them tied to narrow and parochial loyalties. Examining the functions

of the caste associations, panchayats, regional and other communal organisations, we find that these not only act as communication links and leadership support for the inhabitants of the squatter settlements but also form an important basis for joint and voluntary action. Such networks adapt the indigenous social structure to the exigencies of competitive adjustment in the allocation and reallocation of resources and power among various groups. While retaining a good part of traditional modes of integration, these traditional groupings not only perform functions performed by voluntary associations but also assume in some way their form. What does take place in this process is the widening of the base of institutional organisation in which on one hand, particularistic and narrow loyalties take to new forms of articulation thus changing the very ethics of social system by diminishing the importance of its ritualistic and ascriptive base, on the other hand, more diverse forms and interest identifications emerge, both contributing to an increasing participation in the broader network of relationships. In addition to the existence of the modified traditional forms, associations or organisations provide a system of containment of conflicts and angularities that facilitates the process of transition to a modern society. Thus caste, communal, regional and other particularistic ties, however, provide channels of communications and bases of leadership and organisation which enable these still submerged in the traditional society and culture to transcend the political

illiteracy which would otherwise handicap their ability to participate in the larger urban community and gain access to its power system.

The family pattern and value system found in the squatter settlements act as counter-forces to the environmental degradation. The family extends beyond the individual unit being a part of a cohesive small social group constituting of kins, caste fellows or co-villagers having a homogeneous socio-cultural background. The world is viewed from this socio-cultural system. Everything outside this group is seen as a means to its survival in the city and a medium which enables to adjust to urban life. There is a tendency among the squatters to be 'person oriented'. They aspire to be individuals within the groups and it is through them that they participate in the local community and through this community in the urban society. The structure and form of this group is increasingly changing. With a marked tendency towards nuclearisation of families, the network of relationships in these groups revolves round the norms of reciprocity of interests in a manner where the members of the group subserve the needs of each other. As a group, it functions as a problem solving entity, as a mechanism of adaptability to modern values of life in the urban situation and enables them to enhance their accessibility to urban resources and benefits by providing them social stability. Of course the groups are still based on primary affinities and homogeneous socio-cultural background

since it is within this framework that they can be operationally effective. Thus the orientations and value frameworks of the squatter is not so much related to the maintenance of the traditional obligations ensuing from these ties but rational ordering of these relationships in order to meet the mutual needs of group and deal effectively with the problems that arise in the process of being urbanised. Even where joint or extended families exist, the range of relationships has been reduced to very few kins. Some families exist as extensions, or complementary units to their families in the native place so that when the units are put together, they form a whole, for example the earner and his son may be in the city, while his wife and younger children may be in the village. It can have various combinations of family members, some of whom may be divided between the city and the native place.

About 17 per cent of the families constitute of singletons. It indicates, besides other things, that due to inadequacy of accommodation, and insufficient income or irregularity of employment, many do not bring their families to the city. However, this trend is also partly due to the practice prevailing among certain immigrant groups like those from Eastern U.P. of not bringing their families even though they might have lived in the city for years. Singletons, however, do not lead an isolated or lonely life. They live in the

company of kins, fellow villagers or castemen. Sometimes all the singletons from the same village or neighbouring villages may live together so that we find 4 to 6 singletons sharing a single hut. A feature of such group living is that they share a common culture and have common problems to face in the city.

A process of cultural change is taking place among the squatters as expressed in their changing life styles particularly so among the scheduled and lower castes. This happens through emulation of customs, ritual and way of life of the more urbanised and better placed social groups. Since the squatters live in the context of the multiplicity of social groups, it is not that the way of life of a particular group is imitated but the reference model constitutes of many social groups with which the squatters come into contact in the various situations in the city. The cultural change consists of changes in dress, food habits, ritual, vocabulary, material, culture, customs and mode of travel and type of conveyance. Factory made textiles, ready made garments, terylene shirts and nylon sarees have replaced the home spun clothes in many cases. Ladies do not tailor clothes for family members; professional tailors do the job. The hair style among many youths in squatter settlements is the same as that found among the youth of the middle classes and elite groups. Some women use lipstick and cosmetics. The mode of dress has

changed considerably. Trousers and shirts are getting popular among the male members. Food habits are also changing. Tea and soft drinks are common place. Commensal restrictions between the different castes have considerably been relaxed. Small restaurants like Dhabas and tuck shops are being used in the same style as the better placed social groups use the tea and coffee houses and better quality restaurants. Lower caste people are adopting the rituals of upper castes and the ceremonies and festivals are also celebrated in an urban style rather than in a folk manner; many terms of English language like clerk, councillor, leader, penicillin, injection, municipality, DDA, Master Plan, doctor, station, officer, minister etc. have now become part of the ordinary conversation and are linguistic motifs of modernisation. There may be contextual variations in meaning of these terms but that is less important considering the elements of 'psychic mobility' and the sphere of interaction which these phrases imply for the squatters.

Bicycles not only form a part of material culture, it has also become a popular conveyance. Bus and other modern means of transport are also used. Kerosene stoves, transistors, wrist watches, steel and aluminium utensils, tumblers and cups are increasingly becoming the part of material possession. Film songs and music are very popular. Folk songs use popular film tunes. Other cultural media of folk tradition are borrowing themes from contemporary urban life. Even devotional songs, bhajans and kirtans are borrowed

from the films.

The significance of such changes in the life styles can be explained by the fact that the squatters being placed at the bottom of the social and economic hierarchy attempt a realisation of the aspiration directed goals through non-institutional means. Certain aspects of the expression of the aspirations of change may be mentioned. The reference groups whose life style are being adapted are economically better off and that it has many occasions to interact with modernising and better placed social groups at social, cultural and economic levels. It is not so much the extent of actual improvement achieved in the living conditions that matter but the orientation towards change and development. It may be considered as an initial phase of modernisation which though being now manifested in the imitation of life styles of higher status groups would lead to greater social and economic mobility, educational achievement and learning modern skills and to developmental innovations.

An aspect of the social situation of the squatters is that he lives in the midst of a tremendous information system of the urban society. Various means of mass media convey to him the various development programmes that are being undertaken to improve the living conditions of the underprivileged social groups, the changes that are taking

place in the external world outside his social context and the whole gamut of new conceptions and values of life. Because of their proximity to the mass means of communication, the squatter communities play a significant role as mediators of social change. The messages are toned down and filtered by the existing traditional social patterns, without causing too much anxiety. The messages take time to effect. But once accepted the squatters themselves become communication channels for transition.

The democratic pattern of polity and the corresponding ideal of social equality have percolated into every segment of squatter population and has become deeply rooted in the texture of their social life. The idea of one man one vote has given them a new sense of personal worth and the recognition that he is as vital as anybody in the functioning of society. The fact that his vote counts in determining the composition of power structure has tremendously enhanced his position as part of collectivity of the similarly placed persons viz-a-viz the other social groups. It induces the squatters to enter larger identities and brings him closer to the main stream of society.

Aspirations of the squatters are tied to the improvement of their social and economic life and those of their families. They believe in working hard and enduring all kinds of hardships so that their children can live better, can get better education and

can achieve a higher social status. Of course their immediate concern is job security and survival against threats of eviction and removal. Once they feel secure against these threats, they begin to interact with larger urban system through participation in the affairs of local community. They have highly a pragmatic approach to their problems and there are primarily concerned with local-oriented interests expressed at the various levels of social networks discussed earlier in this chapter. The prevalence of such networks and modified traditional values provide social stability and cohesion to the social life in the squatter communities. Through the medium of these networks, mutual help and co-operation are practiced in a wide field of activities.

Socially, the squatter areas do not seem to be destructive and unstable as their physical appearance usually suggests. These are relatively free from serious crimes and anti-social behaviour due to effectiveness of the traditional agencies of social control. Considerably few people from the squatter areas are involved in crime and vice. Besides, the mutual need for protection and stronger bargaining base with city officials and political leaders make it necessary to control the undesirable elements. It is readily apparent that the squatter communities emphasising a value system of social stability, aspirations for social change and development, conformity with social norms and identifi-

cation with common values of urban society can not contribute by any stretch of imagination to the disorganising and disintegrative tendencies. The argument that the squatter areas will be involved in violence and other forms of anti-social behaviour is based on the assumption that rural migrants living in the squatter settlements filled with hopes and aspiration feel frustrated with their lives, unable to adjust to urban life and forced to live in filthy surroundings, become dehumanised and indulge in anti-social behaviour and violence. We have seen that squatter communities are basically primary group communities characterised by intimacy, "We" feeling and psycho-social security. They are not aggregates of rootless individuals. Hence the tendencies to dehumanisation arising from degraded environmental conditions are kept in check by social norms and primary social ties which provide the squatters security and anchorage in the strange urban environment. However, it needs to be emphasised that if large segments of urban population continue to live in a degraded environment, barred from participating in the gains of development and continue to be condemned as evils in the urban society without any tangible improvement being effected, they will eventually be dissociated from the common value system and are likely to get involved into political and social explosion.

The increasing politisation of the squatter communities is contributing to their greater integration and participation in the larger polity and society. The squatter communities through their pragmatic experience have found that the very survival of their community depends upon their ability to be on the right side of the power structure. Since politicians need votes and support, they accept mutually beneficial exchange of favours. Many squatter communities have seen that schools, paved streets, water taps, electricity and medical facilities and other welfare services have been provided only with the help of politicians who can influence the bureaucracy. They have also been able to seek jobs from them. In this way the power structure of the squatter community gets linked with the power system of the larger community. The local and national political parties to begin with remain unresponsive and only incorporate the leaders of the various groups as minor functionaries to propogate their political interests by providing them with personal favours. However, the supporters of the leaders in the squatter settlements soon come to know of the situation and press them to pay attention to their demands or face substitution by more effective persons. They, in turn, force the political parties to do something for the groups they represent. Because of the parties need for votes, they have to concede to some of their demands. It is through this linkage that these leaders effectuate the integration to the squatters in the larger society. The various leaders of squatter

community through their own social networks tend to make political activity more democratic and distributive. It is in this way that particularistic social groups begin to act as pressure groups and through the medium of politics perform a vital integrative function. However, it is possible that with the improvement in the conditions of the squatter settlements, community interest may become more broadened, enlightened and welfare oriented.

The squatter settlement as a community of fellow rural migrants stands at the cross roads of two value systems, the folk-traditional and the modern. The folk-traditional system of values emphasise social stability, continuity, commitment to normative standard of behaviour while the modern values stand for secularism, functional differentiation, innovations and development. The groups that constitute it have aspirations for socio-cultural change and development. The direction of this change is being determined by the reference models of various social groups, both traditional and modern with whom they interact in the urban situation. They want to make new lives for themselves and for their children. This will largely depend upon their participation in the common resources and values of the emerging urban society and its culture. The squatter community can not be viewed in terms of rural urban dichotomy or rural urban continuum. Though in its outward form and social organisation it resembles the rural community but basically and

intrinsically it is engaged in forging a reintegration of traditional forms of social life in new forms of associations relationships and syncretised folk-modern cultural values and life styles in a manner that best suit their capacities and are to their advantage.

CHAPTER - VI

APPROACH TO THE IMPROVEMENT OF JHUGGI-JHONPRI SETTLEMENTS & THE FUTURE PERSPECTIVE

Several policy measures and action programmes have been envisaged to tackle the problem of Jhuggi-Jhonpri settlements in Delhi during the last 15 years or so. These include action programme recommended as a part of urban renewal and redevelopment in the Master Plan for Delhi (1962-81), the Jhuggi-Jhonpri removal scheme (1960), and the Environmental Improvement Programme of the National Five Year Plan (1974-79). A brief analysis of the content of these programmes will be helpful in appreciating the present dimension of the problem of squatter settlements and their possible future improvement.

MASTER PLAN PROPOSALS FOR JHUGGI JHONPRI SETTLEMENTS

The overall approach to the solution of problem of slums and squatter settlements in the master plan was linked to the restructuring of urban environment in a manner that the living conditions and community facilities would progressively get equalised between different areas of the city and between different socio-economic groups including those living in squatter settlements (bastis) and the basic social objective of providing minimum acceptable living environment to all, achieved as the plan gets implemented during its perspective period of

20 years. The policy of improving the living environment of the bustis (Jhuggi-Jhonpri settlements) was based on their progressive integration with the metropolitan community and also of developing an urban environment in the future where conditions leading to the formation of squatter settlements were controlled. Notwithstanding this overall policy goal, the approach towards the jhuggi-jhonpri settlements in the plan is characterised by an ambivalent attitude. On the one hand the master plan recognised the inevitability of the formation of jhuggi-jhonpri type of settlements in the process of metropolitan growth as a consequence of increasing migration of the low income groups from the rural areas but on the other hand considers the formation of such settlements as disruptive to the planned development of future metropolitan community. The negative attitude of the planners is reflected in such statements as "Bustis are plague spots in any urban setting and are concentrated areas of insanitation, crime and vice, which are both a disgrace and source of dangers to the city as a whole".*

It was estimated that 50,000 families lived in several bustis at the time of plan preparation (1958) constituting about 11 per cent of the total urban households in 1961. Approximately 50 per cent of bustis were found to be located in old Delhi. The plan postulated that these bustis were to be cleared and the families relocated in new areas

* Work Studies Vol I-P.P 223 - Master Plan for Delhi - Delhi Development Authority.

since in the opinion of plan makers, the improvement in the living environment of the busti dwellers could not be effectuated in situ. Relocation and clearance were the two basic proposals suggested for solving the problem of busti dwellers in the overall programme of urban renewal and redevelopment of the Master Plan. However, as a parenthesis, it was also mentioned in the plan that it was not feasible to clear all the bustis in the next two decades i.e. by 1981. It can be inferred from the plan document that it favoured a selective relocation of large size bustis particularly in old Delhi and lands which were needed for better use and community facilities as a part of overall scheme of the proposed land use plan of the metropolitan community of the future. It was also recommended in the Plan that developed land wherever available near the city or near the work places of those to be relocated should be reserved for relocation of the busti dwellers displaced as a result of the clearance operations. It was suggested that all resettlement schemes should form part of larger composite neighbourhoods consisting of a mix of low income, lower middle and middle income groups.

It was also realised in the Plan that among the large number of rural migrants who migrate to Delhi every year, a great majority do not have the economic means either to pay rent for the available accommodation or to purchase land for building their own houses. It was felt that because of the factors leading to the formation of jhuggi-jhonpuri settlements,

relocation and clearance of the bustis existing at the time of Plan preparation, would not by themselves prevent the future growth of such settlements unless the efforts of the migrants to find shelter were channelised and regulated by providing adequate low cost settlements. To provide for the need of residential environment for a large majority of the low income rural migrants, it was stipulated that reasonable areas should be earmarked in several zones of the city in a manner that they may not be far away from the work places of the rural migrants. The plan clearly indicated that the areas to be earmarked for low income rural migrants should not be located on the periphery of the city since it will create problems of transportation to the place of employment and it will not be possible for these low income group families to bear the cost of transportation for long distances out of their meagre resources.

It was further suggested that the future areas to be earmarked for the low income residential settlements should form an integral part of the surrounding neighbourhoods and should not be segregated in any way. The areas were to be developed on the basis of "Site and Service" programme with proper layout and basic services and community facilities. Space standards for community facilities like schools, open areas etc. were to be in accordance with the density on which the layout was to be planned. However, the building bye-laws were recommended to be considerably relaxed to allow the construction of low cost

cheap houses.

It was also proposed that a total of 110,000 dwelling units were to be built during the perspective plan period of 20 years for rehousing the squatters and slum dwellers (approximately 50,000 dwellings for squatters and 60,000 for slum dwellers). It was suggested that 5000 dwellings were to be of the 'core housing type' to be built in stages at an initial minimum investment "sweat equity" method of financing.* The financing of squatter housing was proposed in a manner where the cost of land and the site development plus the utility core was to be provided as a subsidy in the form of capital grant. The cost of constructing the house would be partially subsidised depending on the proportion of "sweat equity" provided.

Thus rehousing of the households living in the jhuggi-jhonpri settlements that were already established, and provision of land sites for low cost settlements on 'site and service basis' in the various parts of the city to accommodate low income rural migrants constituted the major policy measures suggested in the Master Plan for Delhi to tackle the problem of Jhuggi-Jhonpri settlements. However, it did not spell out the schemes in detail that were required to implement the proposals but limited itself to a sense of direction or general framework. The working out of detailed programmes for implementing the proposals was left to the local authorities.

* If the proposed occupant contributes 25 per cent of the labour, the "sweat equity" would be equal to 15 per cent of the total value of the project as labour represents 60 per cent of the total cost of the project.

JHUGGI-JHONPRI REMOVAL SCHEME

On the recommendations of the Advisory Committee for Delhi set up in 1958, by the Ministry of Home Affairs, Govt. of India, a special scheme for clearing the jhuggi-jhonpri settlements (squatter settlements) from Government lands and relocating the squatters in laid out colonies was formulated. This scheme was known as Jhuggi-Jhonpri Removal Scheme. Its implementation was entrusted to Municipal Corporation of Delhi in 1960, and was made responsible for rehousing the squatters both in Delhi and New Delhi municipal areas. The salient features of the scheme were as follows :-

- (a) The sites were to be selected for relocating the squatters in the different areas of the city by taking into account the future development of these areas envisaged in the Master Plan for Delhi and the availability of essential services such as roads, sewerage, water supply and electricity etc.
- (b) Although 50,000 families were estimated to be living in the Jhuggi-Jhonpri settlements at the time of plan preparation (1958) on public and private lands, only 25,000 families squatting on public lands were to be relocated on about 900 acres of land at a gross density of 30 families per acre.
- (c) Each squatter family was to be allotted an open developed plot of 80 sq. yards plinth, washing platform with a water tap, and a water borne latrine. The relocated families could build their huts on these developed plots and subsequently with the improvement in their economic means, could build a two room tenement by covering 65 per cent of the plot area which would have given them a built up area of about 475 sq. feet. The ownership of these plots was to be given on 99 years lease on paying their cost of plot, subsidised to the extent of 50 per cent, in lump-sum or in monthly instalments spread over ten years. A ground rent at the rate of 2½ per

cent of the actual cost had also to be charged after every 6 months. The actual cost of the developed plot was estimated to be Rs.2,200 and the allottees were expected to pay only one half of the cost.

- (d) Schools, dispensaries and community centres to be provided by Delhi Municipal Corporation.
- (e) A census of squatters was to be undertaken. On the basis of this census, only those with a monthly income of below Rs.250 were to be allotted plots on subsidised rates. Others with higher incomes were to be given the plots by paying the actual cost price, in one instalment. Allotment was not to be made to those not included in census after the clearance of the selected areas. Fresh squatters on these areas were to be evicted without any claim for an alternative accommodation.
- (f) Squatters having shops were also to be allotted shop plots at commercial rates.
- (g) The entire scheme of relocation was to be implemented within the two years of its formulation. The necessary funds for implementing the scheme were to be advanced by government of India to the Delhi Municipal Corporation on the basis of 50 per cent as grant and 50 per cent as loan.

The Delhi Municipal Corporation decided to implement the scheme in two phases. A total of 13 sites covering about 900 acres of land was selected in consultation with Delhi Development Authority and the Town Planning Organisation. In the first phase 440 acres at seven different sites were to be developed and in second phase the remaining area was to be developed in six localities. During the course of two years since 1960, six colonies were developed for providing 3864 developed plots. However, due to unprecedented increase in the number of squatter families on public lands and the increased cost of land acquisition

and development, this scheme was revised in 1962.

The census conducted in 1960 revealed that there were 44,000 families squatting on government lands as against the estimated 25,000. A subsequent survey by Delhi Municipal Corporation, in 1962, found that the number of squatter families on government lands had increased to 66,000.

To meet the requirements of rehousing for the increased number of squatter families on government lands, the revised scheme made the following provisions:-

- (a) The squatter families were classified as 'eligibles' and 'non-eligibles' on the basis of the year of their squatting. All those found to be squatting before 1960, were considered as 'eligibles' while 16,000 out of 66,000 families were declared as 'non-eligibles' since they were considered to have occupied the government lands after 1960.
- (b) It was envisaged that for the eligible squatters, 5000 two room tenements will be constructed in two storey blocks. In addition to this, 20,000 80 sq. yard plots and 25,000 25 sq. yard camping sites were to be developed. The tenements, the 80 sq. yard plots and the camping sites were to come up side by side by the same colonies.
- (c) All the 'eligible' pre 1960 squatters were to be taken first to the developed camping sites in the new areas, where the plots and tenements were to be later provided. The shifting was to be completed within one year. Non-eligible squatters on government lands were to be evicted and dispersed.
- (d) Common facilities for water and sanitation were to be provided at the camping sites and each eligible allottee was to pay a ground rent of Rs.3.50 per month for a camping plot on the basis of 50% subsidy plus Rs.1/- per month as water and conservancy charges.

A payment of rent varying from Rs.8 to Rs.14 for 80 sq. yards developed plots and Rs.18 to 32 for two roomed tenements on the basis of income was also fixed.

- (e) The permanent relocation of the squatter families from the camping sites to other types of accommodation was to take three to five years. During this period, each family was allowed to build a temporary hut.
- (f) The squatters owning animals and keeping dairies were to be shifted by Delhi Administration to urban villages as suggested by the Master Plan for Delhi.

In 1968 the Jhuggi-Jhonpri Removal Scheme was transferred from Municipal Corporation of Delhi to Delhi Development Authority. During the period when the scheme was under the administrative charge of the M.C.D. for implementation, it cleared 19 bustis (Jhuggi-Jhonpri Settlements) and relocated about 16,000 families as against the target of 50,000 families. Of those rehoused, about 3,500 were given 80 sq. yards open developed plots, 4000 two roomed tenements and the rest 8,500 25 sq.yard camping sites. After 1968, the development of 80 sq. yards open developed plots was suspended and only 25 sq. yards plots were laid out. A total of about 26,000 plots were developed. The total expenditure of the scheme incurred by the Municipal Corporation was about Rs.70 million, of which 40 million was spent on land acquisition and Rs.30 million on tenements and development of plots. Of the area of 1021 acres made available to Delhi Municipal Corporation for relocating squatter families only 825 acres were developed.

A study group was set up by the Home Minister, Govt. of India, to further review the working of the J.J. Schemes by the Municipal Corporation. It was felt by this group that the implementation of the scheme suffered from several inadequacies and deficiencies. It was pointed out that the implementation of the J.J. Scheme was very slow and the targets for clearance and relocation were hardly achieved within the scheduled period. The allotment procedure was found to be defective and no proper vigilance was exercised to control the resale of plots to unauthorised persons and that considerable squatting had taken place on un-alloted plots in the developed and laid out J.J. colonies. Further, there was a huge back log in the collection of licence fees and other sums due from the allottees. One of the greatest failure in the implementation of the scheme was the lack of adequate provision of amenities and services in the J.J. colonies and more than the inadequacy was the gross neglect and improper and insufficient maintenance of the amenities and services provided. The result of all this was that the living environment of the relocated colonies was so degraded that it was in no way better than the Jhuggi-Jhonpri settlements which were cleared. The study group pointed out that one of the main reasons for entrusting the implementation of Jhuggi-Jhonpri Removal Scheme to Delhi Municipal Corporation was that the municipal services like roads, drainage, water supply, lighting, sanitation, conser-

vancy, health, medical aid and schools will be properly provided and maintained as part of the functional responsibility of the municipality. This expectation had been completely belied. It was also felt that the political pulls and counterpulls inside the Corporation hindered the speedy implementation of the J.J. Removal Scheme.

In view of the shortfalls, pointed out by the study group, in the implementation of the relocation scheme, it was decided to transfer the scheme from D.M.C. to D.D.A. Meanwhile 40 new Jhuggi-Jhonpri settlements had come into existence besides 147 settlements which were enumerated in the census of 1960, in addition to the considerable increases in the number of squatter families in the old jhuggi-jhonpri settlements. At the time of the transfer of the scheme to the D.D.A., it was estimated that there were 34,000 'eligible' squatter families remaining to be relocated besides 66,000 ineligibles.

The scheme was further modified to include the provisions as stated below :-

- (a) All squatters on the unallotted plots and the lands in the relocated J.J. colonies were to be cleared without any alternate provision for land sites.
- (b) 'In-eligible' (post 1960) squatters were to be moved, on humanitarian considerations, to camping sites to be laid out on the periphery of the city, where absolutely minimum facilities like drinking water and community facilities were to be provided.
- (c) All further construction of tenements and development of 80 sq. yards was to be

dropped; only 25 sq. yards camping plots were to be developed for allotment to pre 1960 squatters on the production of census slips issued to them.

- (d) The transfer on long term lease and hire purchase basis of ownership was accepted in principle but the details of terms were left to be finalised later.

The transfer of the implementation of the Jhuggi-Jhonpri Removal Scheme from Delhi Municipal Corporation to Delhi Development Authority, was effected with the sole object for speeding up the process of "busti" (Jhuggi-Jhonpri) clearance and the relocation of squatters. It was also meant to ensure a more efficient handling of relocation procedure and a much better management of the relocation colonies.

Since 1968, the D.D.A. has relocated another 29,000 families, bringing the total number of families so far relocated to about 45,000. Of the total number of families so far relocated about 12,000 are ineligibles (post 1960 squatters) and the rest eligibles. A total of 16 J.J. relocations have been developed so far, of which 12 are for 'eligible' squatters (as per 1960 census) and 4 for ineligibles as per 1962 census. The four colonies for the ineligibles have been developed by D.D.A. whereas the development of 12 colonies for the eligibles was initiated by Municipal Corporation of Delhi. Till March, 1975, a total of 49,312 25 sq. yards plots and 3671 80 sq. yards plot were developed in addition

to the construction of 4000 two roomed tenements. A provision of Rs.12.5 million was made for D.D.A. in Fourth Plan proposals of Delhi Administration (1969-74) for undertaking the relocation of squatter settlements.

ENVIRONMENTAL IMPROVEMENT SCHEME

A national programme for environmental improvement of the slums and squatter settlements of 17 large cities was introduced in the Fourth Five Year Plan from the year 1972-73 onwards. This scheme provided for financial assistance to the various states (at the rate of Rs.150 per capita) for expansion of water lines, water taps or hand pumps, community sanitary latrines and sewers, drainage, street lighting and improvement of open spaces. This programme, as part of the national scheme, was also implemented in the slums and squatter settlements of Delhi. This scheme is based on the recognition of slums and squatter settlements as they exist in the present locations since it is not possible due to heavy budgetary constraints to mobilise resources for proper rehousing of a significant proportion of the slum dwellers and those living in Jhuggi-Jhonpuri settlements, minimum livability conditions must be ensured through environmental hygiene. However, it is intended as an interim and holding measure as it is being operated in those squatter settle-

ments and slums that would not be cleared in the next 10 years. This scheme is currently being implemented as a part of the National Minimum Needs Programme of the Fifth Five Year Plan (1974-79) and has been introduced in 17 squatter settlements of Delhi covering a population of about 60,000.

ASSESSMENT OF THE PROPOSALS TO TACKLE THE PROBLEM OF SQUATTER SETTLEMENTS

The Master Plan for Delhi was basically a blue print for a new metropolitan community of the future, guided more by the concept of 'city beautiful' than by city livable as reflected in this statement, "Delhi is being planned at a level where human considerations, physical disposition and social structure are in keeping with the high standards required for a metropolis of a country like India with its growing importance both national and international.....".* It was primarily based on the ordering of land use patterns, transportation networks and hierarchical activity and service systems and development controls. This is not to say that it did not concern to develop an urban environment which would be socially satisfactory to a very large proportion of population of 4.5 million that was anticipated to live in 1981; but this was sought to be achieved by

* Master Plan for Delhi - work studies - Vol. I p-206 - Delhi Development Authority.

heavy capital investment in physical facilities to effectuate the long range spatial plan rather than through an integrated planning for the delivery of a package of social services including health, education, preventive and curative medicines, family planning, nutrition, maternal and child health care and other social development activities. Land use objectives were sought to be achieved through developmental and land use controls rather than through positive development action programmes. Within this overall framework for guiding urban development in the future, the urban renewal and redevelopment was conceived, by and large, as a physical environment by clearing over crowded and congested areas (slums) and squatter settlements in neatly laid out residential neighbourhoods equipped with necessary physical facilities. It not only entailed huge capital investments but also of the demolition of the existing housing stock to be replaced by new housing which will only take care of what was being demolished. Thus ultimately the urban renewal and redevelopment programme got reduced into a cycle of demolition and replacement thus limiting the creation of additional new housing which could accommodate the increasing population.

Another basic feature of the plan was the spatial organisation of the city by zoning areas of exclusive activity and regulation concerning land uses which disrupted the link

between people and activities. The renewal plan was based on the assumption of an urban structure wherein zoning defines the harmony and proper functioning of all human activities. No where did the plan specify what was meant by 'efficient', 'attractive' and 'organic environment' although this was precisely what the redevelopment proposed to bring about. The redevelopment was intended to do away with disorganised congestion and chaotic land use and to rationalise the residential densities to reduce over crowding. But no attempt was made, in the plan, to evaluate space standards for a minimum per capita livable space although it recommended low density settlement pattern and a high capital investment with low yields built into it.

The new physical environment and the spatial organisation conceptualised in the Plan, for the future did not take into account the composition of social groups that would make up the metropolitan community, their location in occupational structure, their incomes and their specific needs although it did take into consideration the overall requirements of residential space, physical facilities and social services of the future population rearranged in various density groups as statistical units. It did not fully recognise the implications of social, cultural and economic pluralism as reflected in the mixture of modern, traditional urban and rural life styles and activity patterns while making proposals of the spatial system for the future metropolis.

The Plan, predominantly focussed on the modern sector, thinking that the large majority of its future residents would consist of upper and middle income groups and upwardly mobile lower middle classes who would be increasingly engaged in modern sector development in the hope that the unorganised economic sector and traditional urban and rural social patterns of life with its apparent disorderly, unhealthy and unclean physical manifestations would somehow cease to exist in the course of linear temporal succession by the modern sector and the social groups associated with it. The naivete of conceiving the direction of change in this manner can be seen in the simultaneous growth of the unorganised, traditional and 'bazar' sectors and modern development, along with their critical linkage and inter-penetration between them. As a matter of fact, the process of urbanisation since the plan was made has led to the enormous growth of the 'lumpen' proletariat consisting largely of migrant groups who have sought social development by seeking employment as craftsmen, production process workers, construction labour, transport occupations, porters, loaders, semi-skilled and unskilled labour, domestic servants, unskilled office workers, hawkers, street-vendors, petty shopkeepers and traders and many other lower level service personnel. What was overlooked in the Plan is the fact of gradual adaptation of the traditional socio-economic system to the modern forces of economic development and social change through a process of incorporating

the modern in the traditional sector in some kind of loose confederation but not as separate and unrelated aspects of socio-economic life.

The physical framework of plan failed to recognise the interdependence of the dual socio-economic systems in developing metropolis of a country like India and therefore did not attempt to accommodate the entirely two different space requirements necessitating a dual land use pattern and regulation in a single integrated system. As such it did not suggest selective planning proposals applicable and appropriate to deal with consequences of urbanisation, (during a period of twenty years) at each stage of the process as well as in the context of their cumulative impact. The result of all this has been the growth of two cities almost equal in size - one the planned, modern, equipped with all urban facilities and social services and the other unplanned, spontaneous, unorganised and suffering from gross environmental deficiencies - with accompanying conflicts in their requirements and needs. Thus planned intervention become ineffective in large areas of the city which have developed since the plan was made.

The co-existence of the duality of the socio-economic system was no where more overlooked as in the case of plan proposals for housing, improvement of slums and

squatter settlements and the provision of social services and community facilities for a very large number of social groups engaged in the various unorganised and traditional sectors. It was estimated at the time of plan preparation that 82 per cent of the households had incomes below Rs.250, and 72 per cent among those living in rented accommodation did not pay more than Rs.25.* Even if it was assumed that during the course of twenty years the income would have been doubled, it would even then mean that 50 to 60 per cent of the population would still be in the income groups of less than Rs.250. It would imply that when total population was expected to be three to four times larger in 1981 than at the time of plan preparation, the total number of households that would not have either the capacity to afford a conventional housing or pay for the minimal urban facilities and amenities would be three to four times more than what they were at the beginning of the plan period, besides the income improvement being processual itself.

In its search for solution for providing housing for the population in the metropolis, the Plan adopted a policy which favoured a housing unit of a permanent nature and creation of a large number of housing sites for the same, whereas a large proportion of the projected

* Master Plan for Delhi - Work Studies - Vol. I P.P.189 and 187 - Tables 9.2 and 9.6
Delhi Development Authority.

population being close to subsistence level could afford minimal house sites with access to group or communal urban facilities and services. Since it did not recognise the need for housing of temporary and semi-temporary nature for a very large number of households below the urban amenity thresholds for then it would be tantamount to accepting village like settlements (mainly consisting of kucha houses) as a permanent fixture of the urban landscape, its efforts for improving the housing of urban poor instead of being concentrated in eliminating gross environmental deficiencies of the existing squatter settlements and slums were mainly reoriented to rehousing and clearance projects. What was suggested beyond squatter rehousing, was a mere general recommendation for earmarking reasonable areas for housing the low income rural migrants in several zones of the city. In the absence of a positive development action programme for low cost settlements for providing the need of shelter for a great majority of low income migrant families, these groups arriving in the city with its rapid growth found excluded from the housing programmes because of high cost, even though subsidised. These newly urbanising groups together with some section of resident urban population flooded into existing squatter settlement or built new ones on available vacant land.

The Jhuggi-Jhenpuri Removal Scheme for relocating 50,000 families from large squatter

settlements, because of its frequent revisions in the proposals and changes in the administrative agency, had chequered course of implementation and did not fulfill the objectives for which it was meant. It was intended that once the squatter settlements were cleared and the families living in them were relocated, there would be no more squatter settlements in the metropolitan Delhi. Since its inception in 1960, 45,000 families were relocated consisting of 33,000 eligibles (pre 1960 census) and rest ineligibles (post 1960 arrival in Delhi). In 1973, a total number of about ^{1,42,000}~~14,000~~ families lived outside the relocated colonies in the various squatter settlements. Thus the programme of relocation covered only 23 per cent of the total universe of the families living in the squatter settlements.

The classification of squatter families between "eligibles" and "ineligibles" for two different schemes of relocation was illogical. This distinction also led to the denial of basic amenities to the ineligibles except for the provision of water and community latrines. The ineligibles were shifted to what were euphemistically called camping sites on the periphery of the city and were supposed to live in them as mere temporary residents; where as a large proportion of eligibles were shifted to the 25 sq. yards sites with the assurance that in due course of time they were to be given permanent rights of ownership of the plots which were allocated to them. There was also discrimination between the 'eligibles' and

ineligible squatter families in regard to the scale of expenditure laid down for their rehabilitation. A sum of Rs.1000 to Rs.1200 was allocated for land acquisition, development and provision of amenities per family for eligibles as against Rs.600 to 800 for ineligibles for the same purpose. The ground rent or licence fee was also differently charged from the eligibles and the ineligibles i.e. Rs.3.50 from eligibles and Rs.6.50 from ineligibles. The entire classification between eligibles and ineligibles on the basis of the year of squatting was rendered useless since those found squatting after 1960 far outnumbered the pre 1960 squatters. It was expected that following discriminatory and negative measures in rehabilitating those squatting after 1960, would somehow discourage further squatting since it was thought that improved living conditions and better environment in the relocated colonies induced families to squat so that they would take advantage of the facilities provided in the relocated colonies, including land ownership. It needs hardly any emphasis to point out the lack of ability of those concerned in devising and implementing the Jhuggi Jhonpuri Removal Scheme to appreciate the forces and reasons for squatting, particularly so when no acceptable options for the needs of shelter of low income rural migrants and other urban poor were being created through planned efforts.

The shifting of those to be relocated was done in a haphazard manner and without information to those involved in the process. Moreover, it was done on the basis of individual family without regard to the social networks or to the community ties that existed between the various families and without realising that living in such settlements involved symbiotic relationship between social and spacial systems. It also ignored that the major determinant for the location of the settlement at the various sites was the proximity to place of work for an overwhelming proportion of their inhabitants. Shifting to the far off sited relocated colonies from the existing squatter settlements and the manner of shifting adopted not only disrupted established social patterns but also dislocated them from places of livelihood. This created a feeling of insecurity and instability among the inhabitants of relocated colonies where they had to adjust to the new environment as well to make new arrangements for social and economic life all over again.

Many of the sites that were cleared by demolishing the squatter settlements were not developed over a long period of time and put to use since the landowning government agencies were not decided upon the utilisation of the land as also it was not possible to ascertain the specific land use of these from the Master Plan in the absence of

zonal development plans of the areas where the cleared sites were located. This led to fresh squatting.

In addition to this, squatting also took place in a large measure on the underdeveloped land and vacant plots of the relocated colonies. In both cases it necessitated fresh clearance.

The development of 80 Sq. yards serviced plots and construction of two room tenements on permanent ownership was given up because of large scale "bonami" (illegal) transactions. Only 25 Sq. yards plots were developed. The procedure adopted for allocating was that the eligibles were shifted to transit camps on a temporary basis and were later on to be permanently settled on adjacent sites. This dual obligation of the authorities to providing both temporary and later permanent solutions for each family caused extra costs and delays besides creating the feeling of transitoriness among the families themselves. This factor in addition to the disruption in social and economic life already undergone in the process of relocation induced many families to transfer illegally their plots to more affluent groups who could afford to build permanent (pucca) houses later on and they returned to the existing squatter settlement or established new ones. It was estimated by an earlier survey of the J.J. relocated colonies, conducted by Town & Country Planning Organisation, that about 45 per cent of those allocated

25 Sq. yard plots and about 80 per cent among those given 80 Sq. yard plots and constructed tenements were involved in such transfers. The relocated colonies have therefore gradually become settlements for the upwardly mobile lower middle class.

A large amount of the ground rent and licence fee could not be recovered from the allottees and the accumulated arrears effected the implementation of the scheme. The relocated squatters were reluctant to pay any rent since they were habituated to live rent free in their previous settlements. Rent collection was not also strictly enforced with penalties attached in case of default. Moreover to begin with, since the allotment of 25 Sq. yard plots had been made on a temporary basis, the allottees felt that no ground rent should have been charged from them. As sufficient basic amenities were not provided, and whatever was provided had not been properly maintained, service charges were also with-held. Once the rentals and service charges got accumulated, the payment in equal instalments of both the arrears and current rent posed serious problems. However, with the transfer of the scheme from Municipal Corporation to Delhi Development Authority the recovery of the ground rent and licence fee were substantially improved.

The relocated colonies were planned as self-contained neighbourhoods on a site and

service basis including the provision of basic amenities and social services. The scheme laid down that civic amenities as would be provided to the relocated colonies on a scale as specified below :-

- (i) One latrine for 20 persons or 4/5 families
- (ii) One filtered water hydrant for 40 families or one hand pump for 20 families
- (iii) One bathing enclosure for 6 families
- (iv) Approach road
- (v) Surface drains
- (vi) Street lighting
- (vii) Schooling facilities and
- (viii) Medical aid in the neighbourhood or mobile dispensaries

The families were shifted to the relocation sites without the development of the basic services and amenities of these places, although it was stipulated that no family would be evicted from the squatter settlements proposed to be cleared, unless the provision of services and amenities on the scale mentioned above was made in the relocation colonies. Even in the later phases, the provision of amenities and services had been made far too

short of the prescribed scale. The maintenance of the basic services was also poor though the relocated families were made to pay Rs.1 for the running cost of water supply and conservancy.

The main or service roads in the majority of the colonies for the eligibles were metalled and tarred but the internal streets or lanes were left unsurfaced. In the camping sites for the 'ineligibles' no provision was made for either service roads or internal lanes. No drains were laid out in the camping sites whereas in the colonies developed for the eligibles, drains were laid out without proper gradients with the result that they got clogged with garbage and rain water. No proper arrangements were made for their regular cleaning up. Only few water taps were provided in some colonies. It was not only that the pressure of population per water tap was more than twice the proposed scale for them but also the water supply limited to few hours had low pressure. A large number of families, in these colonies, had to seek water from the areas. Among the colonies where hand pumps were installed, only in few places the water was found potable, but in the rest of colonies including those for 'ineligibles', the water was brackish and unfit for drinking and cooking. Moreover the handpumps frequently went out of order and remained unrepaired for a long time.

One of the serious shortcomings in the provision of services in the relocation colonies was the inadequacy of community latrines and the filthy condition in which they were maintained. Since all the latrines were of dry type, their irregular cleaning resulted in their becoming unserviceable besides being spots of insanitation and health hazard. This led the people to resort to defecation in the nearby fields or other open spaces, a practice which they followed before relocation. Street electric lights were provided along the main streets or service roads but internal lanes were not covered so that a large portion of the residential area remained dark. In the case of camping sites for the ineligibles no street lighting was provided.

As regards community facilities like health, education, shopping, transportation, community centres, parks and playgrounds, it is only the schools which were fairly well provided, although the education provided was not work oriented and geared to the socio-cultural background of the families in the relocated colonies. As regards shopping, though the areas for shopping were earmarked in the layout, but very few shops were built and that too in one or two colonies. Unorganised shopping therefore developed either within the premises of dwelling or in the front portion. No facilities in the shape of dispensaries or small health centres

were provided except that in two colonies where facilities for a mobile dispensary were made available. Parks and playgrounds were not developed and the open spaces provided for these in colonies were being used as open air latrines.

Some of the colonies had bus stops nearby and the residents of these did not experience much difficulty, in regard to transportation, except the burden of extra cost on their meagre incomes for reaching the work places and getting back home. In the case of colonies which were located far away from the bus routes or on the periphery of the city, transportation posed a serious problem specially so when work opportunities were not available in the vicinity of these colonies. There were hardly any other modes of conveyance available in these areas. Postal facilities were also found to be inadequate.

In brief the environmental quality of the relocated colonies for the eligibles was only marginally better than that prevailing in the built up slums and the settlements which were cleared. In the case of slumping sites, these looked like exact transplants of squatter settlements from the inner areas of the city to the periphery of the city without any improvement in their living environment. However, during the course of last three years substantial upgrading of the living environment of both the colonies for the 'eligibles'

and the camping sites for the ineligibles has been effectuated as a result of the extension of the national scheme of environmental improvement of the slums and squatter settlements, to these areas.

The original intention in the J.J. Removal Scheme was to allot the 80 Sq. yards plots on a 99 year lease basis to relocated families considered as eligibles. Later, when there was a large resale of such plots, the development of these plots was stopped and only 25 Sq. yard plots were developed. The whole basis of allotment was also changed to one of temporary possession for which a licence fee was charged instead of ground rent. It was thought that till decision for permanent allotment was taken, these would be considered as only camping sites. In the case of 'ineligible' it was declared from the beginning that the sites allotted to them would be considered temporary without any claim for permanent allotment later on. However, though the families were not sure of the ultimate legal tenural basis, many of them after some years of continued residence, have constructed permanent structures (pucca houses) both in the colonies for 'eligibles' and ineligibles. In most colonies the proportion of pucca structure account for nearly 50 per cent whereas in few others it is as high as 70 per cent. Thus a very good opportunity in promoting planned

and organised building of houses was missed.

To conclude a synoptic review of the Jhuggi-jhonpri Removal Scheme, it can be stated that it was purely based on physical-cum-engineering approach "of bull dozing" the existing bustis (squatter settlements) and transplanting them in relocated colonies and communities. This was found to be of limited utility not only in preventing future growth of such settlements but was also rejected by a large proportion of the population for which it was intended. In view of its being tied up specifically with an eradication programme, a complementary scheme for upgrading the squatter settlements which could not be cleared because of slow rate of development of house sites and their continued fast growth was not evolved. The scheme was visualised as a total replacement of the existing squatter areas but not as an additional option of housing accommodation for those living in the squatter settlements or to meet the fast increasing demand for such housing, by the low income communities.

The process of formation of squatter settlements is rooted not only in the physical but also in socio-economic factors. As such a programme of clearance has slender chance

of achieving its objectives unless it is integrated with a programme of social development. The squatter settlements, however unorganised and deficient in physical environment may serve a vital function. They act as agencies of socialisation of the millions of newly urbanising population. They provide accommodation close to work and provide essential social support in unemployment and other kinds of difficulty to their residents. The private housing market does not cater to these groups and individuals. Therefore a "public works" approach of eliminating the squatter settlements at public cost and residents housed in cleaner environment oversimplifies the problem. It limits the opportunities for an effective exploitation of the potentialities, latent in the process of squatter formation. A shack, hut or a jhuggi is an ample proof of the poor residents' will and sustained effort to survive against heavy odds and build a shelter on a self-help basis, without any assistance except for the illegal occupation of public land. This illustrates the initiative and drive of the inhabitants of the squatter settlements to use their own limited resources and labour for building a shelter for themselves. Any programme for the improvement of squatter settlements and provision of low cost settlements for the great majority of the low income groups have to be based on the potentialities and drive for social development of the groups themselves. Self-generated

communities like the squatter settlements thus, provide a framework for utilising not only the human resources but also for maximising the opportunities for low investment housing.

THE FUTURE POPULATION LIKELY TO LIVE IN JHUGGI-JHONPRI SETTLEMENTS

For devising any programme of social development and improvement of the living environment for the low income communities that make the squatter settlements as also to restrain the unplanned growth of squatter settlements, it becomes necessary to estimate the probable size of population in future in the metropolitan Delhi for which it is designed. If the programme for improving the living conditions of the low income communities is to be effective, it has to take into account both the continuing growth in this population stratum and the size of the population in existing squatter settlements.

It is rather difficult to project the size of population that would live in squatter settlements in the city at some future date; partly because the forces which have led to the formation of such settlements in the past are diverse and complex, which in turn keep on changing in their intensity according to changing socio-economic conditions within the city and beyond and partly due to interventionist policies and measures ,

taken by public agencies, planning and municipal authorities. There are many built-up areas in the city, today, which started as purely jhuggi or squatter clusters, for example certain areas of Qutab Road and Paharganj (Jhuggi-Areas in 1911), Motia Khan (jhuggi areas in 1948-50) and recently new unauthorised colonies like Baljit Nagar on Anand Parbat. With the passage of time these jhuggi clusters started getting municipal facilities and acquired property rights of the land on which they had made the jhuggis and with the improvement in their income, the residents converted the temporary structures into permanent ones. Then Delhi has seen a certain large scale clearance of jhuggi-jhonpri settlements and their rehousing in the relocated colonies. It has been found that a large proportion of the relocated families have again reverted to the new jhuggi-jhonpri settlements and the plots allotted to these families in the relocated colonies have gone to next higher income group population, who have made permanent built up structures on them in majority of the cases.

The projection of population living in squatter settlements in future, thus, at best can be an estimate of that population which may live in jhuggis if the past trends of the socio-economic conditions continue without radical change and no large scale intervention is effectuated by city planning and development authorities and other public agencies.

However, the use of projection is basically to assess the consequences of the continuation of the present trends in the future so that planned intervention can be envisaged to achieve a future state of affairs that is desirable and an action programme formulated which may be feasible within administrative, organisational and fiscal resources of the community.

The important factors which have a bearing on the size of the future jhuggi population in Delhi are :-

(a) AVAILABILITY OF LAND FOR THE FORMATION OF SQUATTER SETTLEMENTS

Delhi is a planned city in which land use and economic activities have been given a definite pattern upto 1981. The present squatter settlements are located all over the city near the economic activity complexes and the planned residential colonies especially of the well-to-do classes where the demand for the people living in these settlements for work is concentrated. Keeping the work place distance in mind, people have made their jhuggis on the unusable or undeveloped land in the city. Viewing the total city situation, it is found that squatter settlements have a tendency to concentrate outside the central and inner areas of the city towards the peripheral areas along with outward

growth of the city (see chapter II of the report). There are large areas of land beyond the urbanisable limits of Urban Delhi (1981) and quite large chunks of vacant areas on the ridges and unusable lands within urban Delhi that can provide sites for the formation of squatter settlements. Besides, there is sufficient land within many of the jhuggi-jhonpri settlements that can still accommodate further growth. It can therefore be safely assumed that land in itself may not act as constraint for further growth. However, if the future jhuggi settlements spread beyond the urbanisable limits of Delhi, these would come mostly on private land with nominal land rents (such examples already exist even within urbanisable limits) or outright purchase of land, in contrast to the present situation where the great majority of squatter settlements are located on public lands.

(b) MIGRATION & PREVIOUS STAY JHUGGI OF POPULATION IN DELHI

The survey results reveal that the components of the squatter population and of its past growth have been mainly three, namely i) more than half of the present squatter population has directly migrated to this setting from the rural areas beyond Delhi ii) around one-third of the present squatter population has come from the built up areas of Delhi. A great majority of them are also rural migrants who came to Delhi and stayed previously

in the built up areas of Delhi (mainly slums) in rented rooms. Lately they have shown a tendency to move to the jhuggi setting, since the rents of the tenement accommodation have increased from around Rs.10 to Rs.50 or more. Besides, there are no vacant rooms available in the built up slums of Delhi and with the expansion of the family over a generation, part of the family has no other alternative but to move to the squatter settlements for their habitat. (iii) Since a very large proportion of the families living in the squatter settlements consist of young age groups, natural growth within the squatter settlements is also sizeable. All the three factors will continue to operate in the future also. The old slums of Delhi being highly over crowded and congested, a very large proportion of low income rural migrants with less education and skills are likely to directly move to the squatter settlements.

It is not possible to use the above information for projecting the likely population in squatter settlements as the projection of future migration to the city is itself a complicated process which is further made complex by the necessity of projecting the proportion of a particular socio-economic status among the total migrants.

(c) OCCUPATIONAL STRUCTURE

The predominant occupations of the earners among the inhabitants, as revealed by the survey, consist of construction workers, low level service personnel, unskilled manual workers, and factory labour (see chapter II of the report). Although it is possible to estimate the proportion of workers in the various occupations living in the squatter settlements to that for the city as a whole (see chapter II of the report) for census years and use it for future projections of population likely to be accommodated in the jhuggis, it is felt that in the changing situation of the pattern of the metropolitan economy of Delhi, such a method of projection may not yield meaningful results.

(d) INCOME

In view of the economic situation of the country like India and in the context of the concern of social policy with welfare for achieving social and economic equality, the distribution of the future population in various income groups may serve as a very useful method for projecting the population that may live in the squatter settlements. From the distribution of the total households of Delhi in the various income groups, it will be possible to determine the proportion and size of the low income communities who may not

be able to afford a conventional housing unit and pay for the basic urban amenities and services. The income pattern of the population of the city, for past, present and even for future are available in certain scientifically conducted socio-economic surveys. The details of the distribution of the present squatter population in the various income according to the period of residence in Delhi is also known (see chapter III of the report).

Assuming that living in the squatter settlements is related to a particular level of income, it may be possible to project the proportion of future population falling in various income groups that may reside in squatter settlements, if public agencies do not resort to large economic subsidies for providing them with conventional housing units and adequate urban services and amenities.

The National Council for Applied Economics Research in their techno-economic survey of Delhi, 1971, has indicated the broad pattern of income distribution of the total number of urban households in Delhi for 1971 and have also worked out the distribution of the income groups for the year 1983-84. By comparing the distribution of the 1973 squatter households in the various income groups with that of the estimated income distribution pattern for the estimated number of households in Delhi for 1973, the proportion of those living in

squatter settlements have been worked out for each income group. Accepting Delhi's population as 5.5 millions (10,12,000 households), as projected by N.C.A.E.R. for 1983-84, and assuming the distribution of the households in the income groups indicated in column 4 of the table No.41 and also assuming that the proportion of the squatter households in each income group remaining constant both in the base year (1973-74) and the terminal year (1983-84), the total number of households expected to reside in the squatter settlement would be about 1,82,000 (population 724,000). If we assume the population to be 6.5 million for 1983-84 as projected by Town & Country Planning Organisation, the total number of squatter households would be 2,11,000 (population 844,000) in accordance with the same set of assumptions. The following table indicates the distribution of squatter and urban Delhi households in broad income groups for 1973 and projected number of squatter households in 1983-84 under two population assumptions for 1983-84 :-

DISTRIBUTION OF SQUATTER & URBAN DELHI HOUSEHOLDS IN VARIOUS INCOME GROUPS FOR 1971 & PROJECTED NUMBER OF SQUATTER HOUSEHOLDS IN DELHI FOR 1983-84

Income groups (Based on annual income in Rs).	Total No. of squatter holds in Delhi in 1973* (2)	Total No. of Households of Urban Delhi in 1973* (3)	Proportion of squatter households to total households (4)	Total No. of Delhi Urban households in 1983-84 *** (5)	Projected proportion of squatter households in 1983-84 (6)	Total No. of Delhi Urban households in 1983-84 (7)	Projected proportion of squatter households in 1983-84 (8)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
3000 & below	100,820	197,200	51.1	253,000	125,300	295,000	150,700
3001-7500	39,050	347,100	11.3	445,300	50,300	519,200	58,700
7501-20,000	2130	197,200	1.1	253,000	2,800	295,000	3,200
20,001 & above	-	47,300	-	60,700	-	70,800	-
TOTAL	142,000	788,800		10,12,000	182,400	11,80,000	2,12,600

* (Column 2) Figure drawn from the survey.

** (Column 3) Population distribution in various income groups on the basis of N.C.A.E.R. Techno Economic survey of Delhi on the basis of concentration ratio 0.46 and estimated population for 1973.

*** (Column 5) Population figures for 1983-84 as a projected in N.C.A.E.R.'s survey and its distribution of income groups on the basis of concentration ratio of 0.46.

**** (Column 7) Population projection of Town & Country Planning Organisation but the distribution of this population in various income groups based on the proportion of income groups estimated by N.C.A.E.R.

Another projection of the squatter population for 1983-84 has been attempted on the basis of extrapolation of data of the growth of squatter population collected in the first phase of the survey (see part I of Survey report). The total number of squatter households at various time points in accordance with data collected in the survey were as follows :-

<u>Year</u>	<u>No. of Households</u>
1951	12,749
1956	22,414
1961	42,814
1966	73,693
1971	115,961
1973	141,755

The extra-polation of above data has been done by fitting the third degree curve by the least square method. (The choice of this curve was made because the semi-log curve of the data was curve-linear). The final equation $p = -0.75 + 7.88t + 0.82t^2 + 0.47t^3$ gives a satisfactory fit and the following results :-

<u>Year</u>	<u>No. of squatter households</u>	<u>Population</u>
1976	1,78,000	7,20,000
1981	2,56,000	10,24,000
1983-84	2,93,000	11,72,000

Keeping in view the two sets of population projection for 1983-84 for urban Delhi as a whole we arrive at two corresponding sets of lowest and highest projections for the total population expected to live in squatter settlements. Assuming the total number of households of the city to be 10,12,000 in 1983-84, the total number of squatter households of 1,82,400 is lowest through income method whereas the highest number of squatter households through extra-polation method comes to 2,93,000. According to income method, the projected squatter population forms 18.0* per cent of the total number of households in the terminal year while it is 28.9 per cent on the basis of extra-polation method. Accepting the projected number of squatter households based on the extra-polation method in the context of the projected number of 10,12,000 households for the city as a whole would imply that about 68 per cent of the households added to the city in the next 10 years would be living in the squatter settlements. This seems to be rather unrealistic even if we assume that no further

* The percentage proportion of squatter households remain the same in 1983-84 as in 1973. considering in terms of population, the proportion of squatters to total projected population of urban Delhi for 1983-84 is 13.3 same as in 1973.

improvements take place in living environment of Delhi and attempts to increasing housing accommodation for the low income communities remain more or less the same. It will also mean that the proportion of those below an annual income of Rs.3,000 in the new households to be added is more than 80 per cent, since even now not all low income groups are concentrated in the squatter settlements. On the other hand, the projected number of total jhuggi households based on the income method seems to be low as not only a greater number of rural migrants will find accommodation only in the squatter settlements because of the lack of absorption capacity of the built up areas due to existing high densities and 'extreme overcrowding but also due to the fact that other alternatives for low cost settlements commensurate with the paying capacity of the rural migrants are not created fast enough so as to meet the additional demand for the same. It is expected that due to these factors a higher proportion of those in the lowest income groups as well as from the lower end the next high income group may move to squatter settlements. Under these circumstances, the proportion of the squatter households in 1983-84 is expected between 20 and 25 per cent of the total number of households for the city as a whole.

However, since the projection of the urban Delhi's population of 6.5 million or 11,80,000 households for 1983-84 is being accepted for planning of future transport and

other urban services like water supply and for other programmes, we also accept the same population for the city for estimating the population that is likely to be accommodated in the squatter settlements. Applying the methods based both on income and extrapolation, we find that it varies from 2,12,600 households by income method to 293,000 households by extrapolation and would consist respectively 18 and 25 per cent of the projected population of 6.5 million (11,80,000 households) for the city as a whole in 1983-84.

For the reasons explained in the preceding paragraphs, a reasonable estimate would lie somewhere between these two projected figures assuming that in the next decade (between 1973-1983) the proportion of the squatter households to the total households added to the city remains more or less the same as that evidenced between the intercensus years of 1961 and 1971, i.e. about 29 per cent. This would mean an addition of 1,13,000 households to the number of squatter households in 1973 or a total number of about 2,55,000 squatter households in 1983-84. This would mean that the proportion of the squatter households would be about 22 per cent to the total households of urban Delhi in 1983-84, 80 per cent more than that in 1973. On the basis of an average size of squatter household of 3.9 persons (as revealed by the survey) the total squatter population would be about 1.0 million.

THE ENVIRONMENT QUALITY OF THE SQUATTER SETTLEMENTS

Squatter settlements manifest a developmental process where a large number of rural migrants with limited skills, education and resources seek improvement in their socio-economic conditions under the circumstances of urbanisation in metropolitan Delhi. They evolve as 'self-generated' communities and create settlements, though occupying unauthorised lands, and a socio-spatial structure that reflects their use of limited resources for improvement in their environment in terms of their own priorities and minimum standards. The improvement in the living environment of the low income rural migrants is an integral part of the ongoing process of adaptation to urban life which is effectuated through the mechanism of squatter settlements. People living in the squatter settlements are thus in the process of becoming progressively assimilated with the physical, social and economic system of the metropolitan Delhi. They are neither peripheral nor marginal to the metropolitan community but consist of those social groups of the community who are at their initial stage of social development. They are here as much, because Delhi provides them a setting for earning a livelihood and an environment where they can fulfill their own expectations of better living and for their children; as much and certainly no less because the city also needs them for its varied functions. The emerging socio-economic configuration, where the

modern and the organised are intermixed with unorganised and modified traditional sectors, is more comprehensive than the planned and organised spatial system with the result that a parallel spatial structure, but based on minimal standards of environment with possibilities of minimal cumulative improvement, grows to accommodate the newly urbanising groups who come to perform varied essential functions interlined with the modern and organised socio-economic sectors of the city though structurally existing outside of it.

The existence of those who live in the squatter settlements as essential elements of the metropolitan socio-economic system is being tacitly acknowledged by the public authorities and planning agencies as well as the reality that Delhi can not have a standard of living environment far removed from the general standard of living environment available to an average Indian is being increasingly accepted. As a result, municipal services, health and educational facilities and other schemes for upgrading the environment are being extended to the existing settlements. However, the extent of the improvement of squatter settlements is dependent upon its location in relation to the urban area as a whole, its accessibility to the network of services such as water, sewers, transport and electricity besides the organisational capacity of its inhabitants as a community to persuade and pressurise the public authorities for extending these services to their settlement. The availability of

and accessibility to health, education and other social services also depend upon the location of a particular settlement and the mobilisation of community efforts for having them. The extension of certain physical facilities and individual social services over time and the efforts for environmental improvement by the inhabitants have had certain cumulative impact on the total livability of the various squatter settlements. However, all the squatter settlements do not exhibit the same level of achievement of environmental improvement or to say in other words in a situation where the overall environmental conditions of the squatter settlements as such are highly deteriorated, the degree of the severity of environmental deficiencies in the different settlements varies to the extent that improvement in one or several aspects of the total environment has been achieved by the individual squatter settlements.

An attempt has been made to assess the extent of livability as a totality in each of the settlements as well as relative to each other. The level of livability has been conceived as the level of total environmental quality obtaining in a squatter settlement over a period of time as a result of the availability of and accessibility to physical facilities and social services and existence of certain socio-economic conditions. The measurement of the environmental quality has been done by constructing a general

index for the level of environmental conditions as a whole. It is based on two elements : the combined impact of the various components of the environment put-together on a particular settlement and their distribution in the various settlements.

Twenty-one components, grouped under two aspects of environmental quality, namely, physical and social, have been identified to observe their combined impact on the livability of the squatter settlements. The components falling under the respective categories of physical and social aspects of environmental conditions are :

Physical Components

1. Land on which the residential site is located.
2. Environmental disadvantage due to location.
3. Settlement pattern.
4. Structure of the dwellings.
5. Availability of water.
6. Street light.
7. Community latrines
8. Public bathrooms.
9. Sanitation.

10. Brick paved streets in the settlement.
11. Brick paved or cemented drains.
12. Public transport terminus.

Social Components

1. Home-work relationship.
2. Health facilities.
3. Education.
4. Welfare services available.
5. Shopping facilities.
6. Post office.
7. Family stability.
8. Social integration and community involvement.
9. Household income.

The identification of the components has been done on the basis of their relevance in effecting the environmental conditions of the squatter settlements. However, these have been made as extensive, as it was possible to collect information about them. Once

the components were selected, it was required to give quantitative expression to these components to measure the relative condition of individual component as well as the combined impact of all the components. Each component covers a great number of factors referring to environmental conditions in its perspective field. Accordingly, several indicators have been selected for each component aiming at full coverage of the various elements that make the component. In order that particular indicators become comparable and amenable for aggregation, the indicators have been converted into indices on a 0 to 100 value scale. The zero and 100 value for each indicator of a component has been fixed on the basis of following logic. Zero value has been considered that value of an indicator which makes no contribution to the improvement of environmental conditions at all or below which survival itself becomes precarious. The setting of squatter settlements itself reflecting highly degraded environmental conditions in metropolitan Delhi, the worst values found for various indicators in any of the settlements also gave a clue for fixing the zero value. The 100 value has been taken as that value of an indicator which is considered as minimum requirement level based either on the minimum standards laid down in schemes for upgrading the environmental conditions of slums or squatter settlements or based on a value judgement of their being feasible within available resources. However, for some

of the indicators, the minimum requirement level has been assigned lower values than 100 on the ground that their contribution in promoting environmental improvement relative to other indicators of the component is less important. It is admitted that it is a subjective evaluation but has been arrived at by empirical experience of the elements that are crucial to the living environment of the squatter settlements and knowledge of the weightage given to these indicators in the improvement programmes by the public authorities. Some of the indicators identified can not be expressed by a continuous series of cardinal numbers, but can only be expressed by ordinal numerals i.e. given ranks (such as first, second or adequate, inadequate). In such cases numerical values have been assigned to correspond to the sub-ranges of cardinal indicators. The intermediate points of 25, 50, 75 have been arrived at by taking mid-points of the two extreme scale values. Each component has been given equal weightage.

The scoring format indicating values assigned for each indicator of the components is presented below :-

SOCIAL LIVING ENVIRONMENT
(COMPONENTS & INDICES VALUE)

Component & Indices	Fixed or Zero & 100 values	Index marks for those components which are descriptive in nature					Remarks
		(0)	25	50	75	100	
1	2	3	4	5	6	7	8
1. Home work relationship	Zero and 100 value	work place 10 Kms. or more away from the cluster					Work place 2 Kms. and less from the cluster
2. HEALTH							
i) Preventive public health measure	Fixed	No programme in the cluster		Only one of the two programmes		Both the programmes	i) Malariadical Survey & D.D. ii) Vaccination
ii) Visiting Govt. mobile dispensary or doctor	Fixed	Not available				Available	
iii) Pvt. doctor or available within the cluster	Fixed	Not available		Available			

1	2	3	4	5	6	7	8
) Dispensary or primary health centre	Zero & 100 value	Beyond 5 Kms. from the cluster.					1 Km. or less from the cluster
) City hospital	Zero & 100 value	10 Kms. & more away from the cluster					3 Kms. or less from the cluster
) Nutrition programme for the children (Delhi Admn.)	Fixed	Not available			Available		
) Family planning & related programmes	Fixed	Not available			Available		

EDUCATION

Balwari or Nursery within the cluster	Fixed	Not available					Available
Primary school	Zero & 100 value	1 Km. or more away from the cluster					Within $\frac{1}{2}$ Km. from the cluster.
Middle school	Zero & 100 value	3 Kms. or more from the cluster					Below 1 Km. distance from the cluster

	1	2	3	4	5	6	7	8
iv) Higher Secondary school		Zero & 100 value	9 Kms. or more away from the cluster					Below 4 kms. distance from the cluster
4. <u>WELFARE MEASURES AVAILABLE WITHIN THE CLUSTER</u>		Fixed value	Not available		Any one available			i) Craft ii) Library iii) Adult iv) Organ. - recre
<u>SHOPPING</u>								
i) Ration shop		Zero & 100 value	1 Km. or more away from the cluster					$\frac{1}{2}$ Km. or less
ii) Non convenience shopping		Zero & 100 value	7 Kms. or more away from the cluster					1 Km. & less
5. <u>POST OFFICE</u>		Zero & 100 value	7 Kms. or more away from the cluster					1 Km. & less

1	2	3	4	5	6	7
<u>FAMILY STABILITY</u>						
i) Sex ratio	Zero & 100 value	Less than 500 females to 1000 males				800 or more females to 1000 males
ii) Single man household to total household ratio	Zero & 100 value	30 per cent single man or more households to total households in the cluster				5 per cent single man or less households to total households in the cluster

SOCIAL INTERACTION & COMMUNITY INVOLVEMENT

i) Self help programme done at cluster level	Fixed value	Nil				Some Programme
ii) Residents Association	Fixed Value	Not existing				Existing

INCOME OF HOUSEHOLDS

Ratio of households earning less than Rs.150 M. to total households in the cluster	Zero & 100 value	More than 50 per cent households				Less than 10 per cent of the total households
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PHYSICAL LIVING ENVIRONMENT
(COMPONENTS & INDICES VALUES)

Name of Component and indices	Whether fixed value or zero and	Indice Marks for those components which are descriptive in nature					Remarks
		100	(0)	(25)	(50)	(75)	
1	2	3	4	5	6	7	8
1. Land on which cluster exists							
i) Type of land	Fixed	Storm water drain and railway line	River bed and low lying	Hillock	Plain		
ii) Ownership of land	Fixed	Private land or Trust land	Gram Panchayat, Cantonment and Railways	Central Government	Local bodies other than Gram Panchayat and Cantonment		
iii) Committed use of land under city plan	Fixed	Roads & Footpaths, land left for safety, and community facilities		Industrial and city green	Residential		
2. Environmental Disadvantages due to location	Fixed	Three factors or more	Two factors	One factor	No environmental disadvantage		Factor considered i) No: ii) Smc iii) Smc

1	2	3	4	5	6	7	8
							iv) Stagnant water v) Stone dust vi) Fire hazard vii) Bad approachability

Cluster Type

Permanent or Temporary according to jhuggi dwellers	Fixed	Temporary	Permanent
Physical pattern of the J.J. cluster	Fixed	No pattern either at total cluster or part of the cluster	Pattern either at cluster level or sub-clusters level
Sizeable open space around the cluster	Fixed	Not available	Available
Age of the J.J. cluster	Zero & 100 value	Less than three years	15 years or more
Size of the cluster	Zero & 100 value	50 households and less	750 households and more
Space available per person	Zero & 100 value	4 Sq. metre per person or less	15 sq. metres per person or more

1	2	3	4	5	6	7
4. Dwelling structure	Zero & 100 value	90 per cent dwellings or more in the cluster with mud-walls and thatch roof				25 per cent dwellings less with mud-walls and thatch roof
5. <u>Availability of water</u>						
i) Hand pump or non-potable water	Fixed	200 or more persons per hand pump	100 persons or less to one hand pump			
ii) Potable water (Municipal tap)	Zero & 100 value	200 or more persons per tap				60 or less persons per tap
6. <u>Street Light</u>	Zero & 100 value	One electric pole per 2000 sq. metres of land area and above				One electric pole for 600 sq. metres of land area and less
7. <u>Public Lavatories</u>	Zero & 100 value	One seat for 75 persons or more				One seat for 30 persons or less
8. <u>Public Bath rooms</u>	Zero & 100 value	One bath room for 150 persons and more				One bath room for 60 persons or less

	1	2	3	4	5	6	7
9. <u>Sanitation</u>							
i) Street cleaning system	Fixed		Not available	Partially available		Available	
ii) Garbage Disposal system	Fixed		Not available	Partially available		Available	
iii) No. of animals	Fixed		50 and above	Below 50		Nil	
10. <u>Brick paved streets in the cluster</u>	Fixed		Nil	0-25 per cent paved	25-50 per cent paved	50-75 per cent paved	75-100 per cent paved
11. <u>Brick paved or cemented drains</u>	Fixed		Nil	0-25 per cent paved	25-50 per cent paved	50-75 per cent paved	75-100 per cent paved
12. <u>Public Transport terminals</u>	Zero & 100 value		2 Kms. and more away from the cluster				Less than 1/4 Km. away from the cluster

In arriving at the general index for the environmental quality, we have first converted the values of indicators into component indices by aggregating or compositing the indicator values. The component indices then in turn have been aggregated to form the general indices of the environmental quality as a whole. The transforming of indicator values into an indicator index has been attempted, both at the level of individual components and that of general index level on the basis of arithmetical averaging of the values scored by each of the settlements in respect of these.

Following the method explained in the preceding pages, the values scored on the general index of environmental quality for each of the sample settlements (103) have been worked out. These have been grouped into four sub-ranges on the basis of their scores in relation to the mid-point between the two extreme scale values of 0 and 100. The sub-ranges thus formed are i) 1-25, ii) 26-50, iii) 51-75, and iv) 76-100. The same exercise has been repeated for working out physical environment index and social environment index separately, to highlight the specific areas where the conditions are highly undesirable and therefore require greater and earlier attention.

The squatter settlements scoring 50 or below are considered to be having worst

environmental conditions requiring extensive efforts in improving the conditions in respect to almost all the components of the environment. In this group, those scoring 25 or less reflect the lowest quality of living environment in the universe of squatter settlements. In many of these settlements, (those scoring 50 or below) upgrading of their environment may not be possible without redevelopment, relocation or physical reorganisation on site particularly in those cases whose physical or social index values are less than 25. The squatter settlements scoring between 51-75 on the general index, are those where total environmental conditions, though still inadequate have experienced considerable improvement in large number of physical and social components of the total environment and with further efforts their environment can be upgraded to satisfy minimum requirement level over a short period of time. Finally settlements scoring between 76-100 are those where the total living environment except in the case of some components is tolerable.

Probably arranging squatter settlements on the basis of different environmental conditions as is being attempted here by a general index of environmental quality may not be considered of absolute significance to the policy planner or to an implementing agency. It may be argued that all squatter settlements reflect severe environmental deterioration.

However, as explained earlier in the report, the formation and development of squatter settlements is a process and in this process the environmental conditions of the settlements depend upon their location in relation to network of municipal services and community facilities, physical characteristics of the settlements, socio-economic characteristics of the inhabitants, the level of improvement already achieved as a result of accessibility to and availability of basic amenities and services in some measure. Therefore the appropriate extent and composition the efforts for improving the environment will depend upon these factors especially so when it is intended to take the maximum advantage of the limited resources.

The utility of a general index for the quality of environment, despite its obvious limitations, lies in providing some framework for evolving a total programme of improvement at the city level as well as at the individual squatter settlement level. Classification of the settlements in the various groups of index values helps in focussing attention on environmental conditions from group to group and to chose a rational and logical package of schemes for upgrading the environmental condition or to select a group of components where programmes for improvement may be required on a priority basis in view of the resulting impact of their level of deterioration on total living environment of the settlements. To

illustrate, in some settlements improvement of water and surface drainage may be a top priority whereas in others provision of some minimum health and education services may be required. Although ideal schemes for improvement of the squatter settlements would

to substantially upgrade the living environment in the squatter settlements so that each of them satisfies minimum standard of environment, but it may not be feasible to bring about instant and radical changes in all the components of the environment over a short period of time. It may therefore be desirable to aim at gradual upgrading of squatter settlements falling within a particular group to the next better group. Besides the utility of index of environment quality for evolving appropriate programmes of improvement, it helps to evaluate the impact of each of the programmes on the quality of environment of the squatter settlements over a period of time and can also serve as feed back mechanism in further modifying the package of schemes for various settlements and in intensifying the efforts.

Applying the general index for the quality of environment to the different size group of squatter settlements, we find that 75.7 per cent of the squatter settlements accounting for 73.7 per cent of the population have an index value ranging between 26 and 50 and thus signify highly deteriorated environmental conditions. The lowest index value of 25 or less is scored by only one settlement having 0.2 per cent of the

population whereas none has index value of over 75. 23.3 per cent of the settlements having about 26 per cent of the population have an index value varying between 51-75, indicating considerable level of improved conditions in a large number of components of the environment. Among the settlements which have an index value of 50 or less, 69.6 per cent belong to the size group of 100 households or below accounting for 17.6 per cent of the population of this index value group. 13.6 per cent of the settlements having an index value of 50 or less fall in the size of 100-300 households consisting of 14.4 per cent of the total population of the corresponding group. Thus 83.2 per cent of the settlements with an index value of 50 or less are in the size group of 300 households or less. Analysing the environmental conditions of the various size group of squatter settlements one finds that the majority of the settlements of 100 households or below suffer from severe environmental degradation as reflected by their index values. All the squatter settlements having 1000 or more of households show similar environmental conditions as that of the smaller ones. A substantial proportion of (41.7%) squatter settlements in the size group of 100-1000 have an index value ranging between 51 and 75. Thus it can be inferred that it is the large and small sized settlements which reveal greater environmental deterioration as compared to the medium size settlements.

Considering the physical index value of the various squatter settlements, it is

found that 27.2 per cent of the squatter settlements consisting of 15.3 per cent of squatter population reveal the worst or the lowest quality of physical environment (physical index value 25 or less) among all the squatter settlements. Among this group, 89.3 per cent are those with less than 300 households and account for 41.3 per cent of the total population in this group. The next group (physical index value 26-50) whose physical environmental condition are slightly better than the previous group though still grossly inadequate, consist of 58.3 per cent of settlements accounting for 65.3 per cent of the total population. 85 per cent of the settlements in this index value group belong to the size group of less than 300 households with 30.6 per cent of the population of this group. 14.6 per cent of the settlements with 19.4 per cent of the total samples squatter population, live in a physical environment which is not far removed from the proposed minimum standards for the same. None of the squatter settlements satisfies minimum standards of improvement.

The level of social environment of the squatter settlements in terms of accessibility to community facilities and social services and socio-economic characteristics is much better than that of the physical environment. None of the squatter settlements have a social index value of 25 or less whereas about 2 per cent of the squatter settlements with 4.3 per cent of total population are within the range of minimum requirement levels. 72.8 per cent of

the settlements with about 87 per cent of the total population have social index value ranging between 51-75 signifying that satisfactory conditions of social environment are not grossly unsatisfactory in these squatter settlements.

The following table shows the index values scored (physical, social and general or composite index) by the settlements according to their size and population involved. The index values scored by each of the sample settlements according to size both on the physical and social environment index are also presented in the accompanying scatter diagram.

SQUATTER SETTLEMENTS BY SIZE, POPULATION & INDEX VALUES

ROUP (Households)	PHYSICAL INDEX VALUE				SOCIAL INDEX VALUE				COMPOSITE INDEX VALUE				TC SE MI TC FU
	1-25	26-50	51-75	76-100	1-25	26-50	51-75	76-100	1-25	26-50	51-75	76-100	
below	No. 22	38	4	-	-	20	44	-	1	54	9	-	
	Pop. 3987	6671	925			3586	7997		111	10097	1375		1
300	No. 3	13	8	-	-	6	17	1	-	14	10	-	
	Pop. 1326	9022	5892			3287	11796	1157		8374	7866		1
500	No. 1	4	1	-	-	-	5	1	-	3	3	-	
	Pop. 1563	6939	2190				8502	2190		4771	5921		1
1000	No. 1	3	2	-	-	-	6	-	-	4	2	-	
	Pop. 2933	8628	5349				1610			11561	5349		1
above	No. 1	2	-	-	-	-	3	-	-	3	-	-	
	Pop. 3136	19999					23135			23135			2
	No. 28	60	15	-	-	26	75	2	1	78	24	-	
	Pop. 12946	51259	14356			6873	68340	3347	111	57938	20511		7
	% (15.3)	(65.3)	(19.4)			(8.8)	(86.9)	(4.3)	(0.4)	(73.7)	(26.1)		(

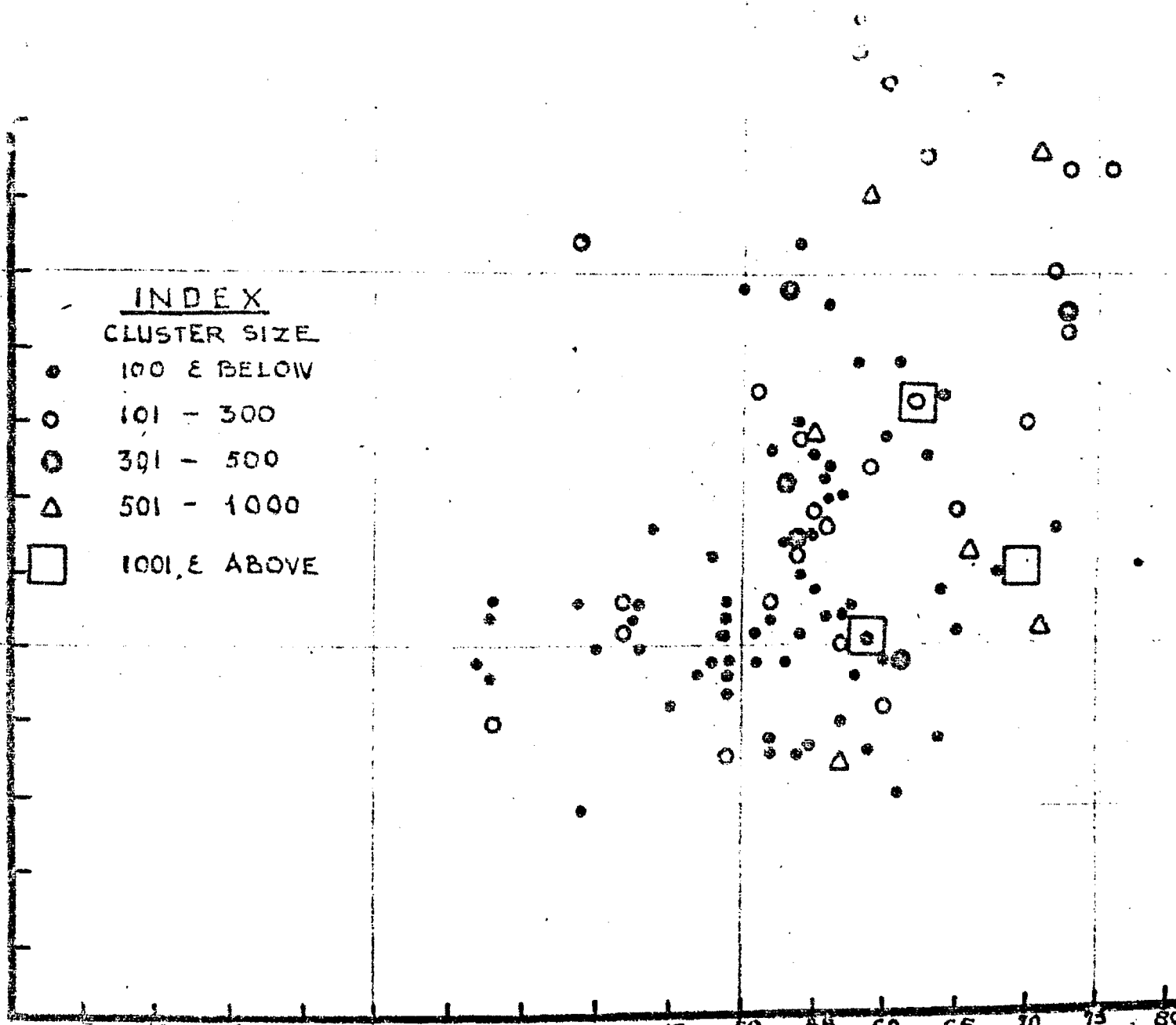
PHYSICAL INDEX VALUE (PHYSICAL LIVING ENVIRONMENT)

0
5
10
15
20
25
30
35
40
45
50
55
60
65

INDEX
CLUSTER SIZE
● 100 & BELOW
○ 101 - 300
⊙ 301 - 500
△ 501 - 1000
□ 1001 & ABOVE

SOCIAL INDEX VALUE (SOCIAL LIVING ENVIRONMENT)

5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80



An overall view of the environment quality of the squatter settlements as revealed by the general index would suggest that though a large majority among them suffer from environmental deficiencies, it is largely due to the combined impact of the highly deteriorated conditions of the various physical components. There is also the evidence that about 10 to 15 per cent of the settlements may have to be relocated or physically reorganised particularly those falling in the size group of 300 households or less since their location, or the nature of site and overall physical conditions rule out improvement. It can also be inferred that though major efforts have to be concentrated for improving physical living conditions, it will be necessary to complement the physical improvement programme by integrated social development scheme for effectuating greater possibilities for subsequent improvement in the general environment. Appropriate packets of schemes required for improving the environmental situation of the existing squatter settlements in accordance with the index values, will be discussed in the subsequent section of this chapter.

The national scheme for improving the living environment in the slums and squatter settlements under the National Minimum Needs Programme in the Fifth Five Year Plan provides for the provision of water supply, community latrines, pavement of streets,

street lights, sewerage or brick paved surface drainage in the squatter settlements which are not to be cleared in the next 10 years and are otherwise amenable to improvement. Keeping in view the total impact of the provision of these facilities on the quality of environment, we have tried to evaluate the initial environmental conditions in this regard by constructing an environmental facilities index. This will not only help to assess the needs for environmental improvement both at the city level and the individual squatter settlement level but also the resources required to upgrade the physical environment in accordance with proposed minimum requirement levels for these facilities, (refer to component and indicator values for physical environment index). It will also serve to evaluate the extent of improvement achieved in this direction at the end of Fifth Five Year Plan.

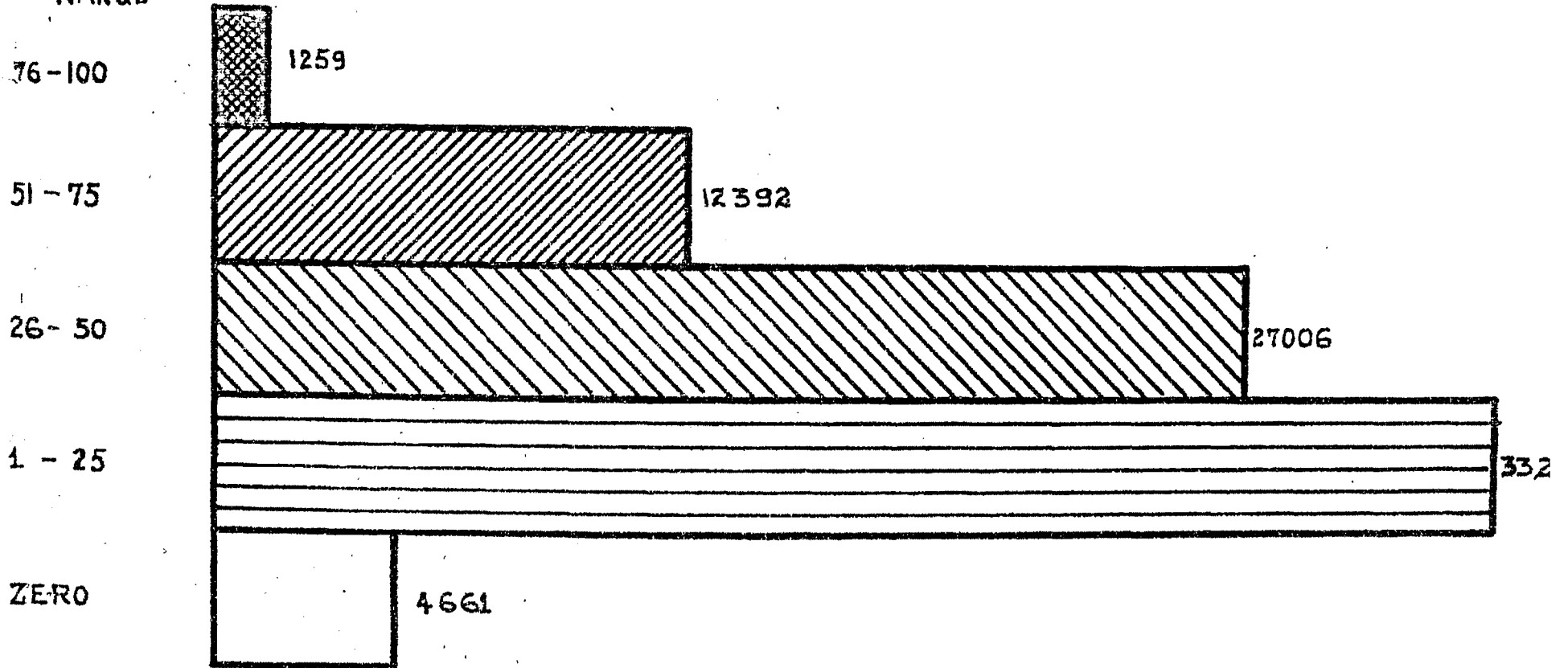
It is revealed by an examination of values scored by various sample settlements on the environmental facilities index that 51.5 per cent of the settlements having 42.3 per cent of population have a score of 25 or less and thus reflect that these settlements are highly deprived of the most of minimal environmental facilities and even if some of them do exist, these are grossly inadequate to serve the needs of the population living in them. 13.6 per cent of the settlements having about 6 per cent of population have zero

score and thus reveal worst conditions in regard to the provision of environmental facilities, since it is implied that none of these facilities exist in these settlements. 21.4 per cent of the settlements with 34.4 per cent of the population have an index value in the range of 26-50, signifying that the provision of physical facilities is slightly better than the previous groups but still highly inadequate and requiring extensive provision of environment facilities. Like the previous groups, it is dominated by settlements of 300 or less of households (81.8%). Among the settlements scoring an index value of 50 or less, 85.3 per cent are those with 300 less of households comprising about 30 per cent of the total population of these settlements. There are 10.7 per cent of the settlements consisting of 15.8 per cent of the population which have been provided with considerable extent of environmental facilities as revealed by their index value score in the range of 51-75 and with the provision of some of the environmental facilities these can be shifted to the group which falls within the minimum requirement level. Of the total sample settlements, 2.9 per cent with 1.6 per cent of population have an index value score of above 75 and are within the range of the minimum requirement level with respect to the environmental facilities. Summing up, it may be mentioned that as in the case of total environmental conditions it is the settlements with 300 or less of households and

those above 1000 households which are most deprived of the environmental facilities and would therefore require extensive efforts for upgrading their environment. The following table shows the environment facilities index value of the settlements according to their size :-

DISTRIBUTION OF POPULATION COVERED IN SAMPLE CLUSTERS ACCORDING TO
THE COMBINED INDEX VALUE FOR ENVIRONMENTAL FACILITIES
(WATER LAVATORIES, STREET LIGHT, STREET PAVEMENT & BRICK PAVED DRAINS)

SCALE VALUE
RANGE



TOTAL SAMPLE POPULATION = 78,560

TABLE - 4.2

ENVIRONMENTAL FACILITIES INDEX VALUE

(Water, Community latrines, Street light, Brick pavement of streets and cemented or brick-paved surface drainage)

SIZE (No. of households)	INDEX VALUE RANGE					Total
	1-25	26-50	51-75	76-100	0 value	
100 & below	37 6976	13 1933	1 234	2 559	11 1881	64 11583
101 - 300	9 5447	5 3635	7 5242	1 699	2 1217	24 16240
301 - 500	2 3208	2 4355	1 1566	-	1 1563	6 10692
501 - 1000	3 8764	1 2797	2 5349	-	-	6 16910
1001 & above	2 8847	1 14288	-	-	-	3 23135
TOTAL	53 33243 (42.3)	22 27008 (34.4)	11 12391 (15.8)	3 1258 (1.6)	14 46610 (5.9)	103 78560 (100.0)

FRAMEWORK FOR AN ACTION PROGRAMME

The formulation of an action programmes in tackling the problem of unorganised or squatter settlements of low income migrant communities should be based on the recognition of the socio-economic context in which they arise, the forces that determine their growth, the process of their formation, the functions that these serve in the socio-economic development of their residents and the future magnitude of those social groups who are likely to live in such settlements. It should also take into account the socio-cultural and economic characteristics of the inhabitants, the settlement patterns that emerge and the environmental changes that are brought about with the resulting impacts of such changes for the inhabitants and for the city as a whole. These aspects of the unorganised residential settlements of the low income migrant communities have been dealt with in great detail in the various chapters of the report. To recapitulate, the basic issues involved in seeking a solution to the problems of these settlements are summarised in the subsequent paragraphs.

The study has revealed that the squatter settlements consist social groups who, though lying at the bottom of heap of the socio-economic system of the rural communities, are seeking opportunities for economic improvement and social development and a better

future for their children where they would have better schooling, health services, jobs, social status and respectability. As socio-economic development proceeds, the groups lying at the low end of the socio-economic scale of the social structure, would seek upward mobility and social development and therefore move geographically to areas where such development is possible. The metropolitan city, more than any other community, provides such a socio-economic situation where potentialities of enlarged action are great. An ongoing process of social change and modernisation would therefore lead to increasing proletarianisation of the city through a large inflow of rural migrants getting absorbed or hoping to get absorbed in low paid wage employment in the unorganised sectors requiring less skills and education as well as in those sectors providing many of the social overheads and supporting services to the modern and developed sectors without the need for extensive investments. This implies that for a large number of rural migrants whether of recent or short residence, whether they constantly circulate between the city and village, urbanism as a way of life will become an increasingly distinctive feature of social development and modernisation. Under these circumstance of new urbanisation, there will not only be a large proportion of groups with low income, skills and education but also those whose life styles and social patterns would resemble

those of folk or rural communities. Thus the existence of such groups in the metropolis of Delhi should be considered as a necessary concomitant of the urbanisation process in the developmental context of India. Another aspect which may be kept in mind is that though initially the socio-cultural patterns of these groups resemble that of rural communities, they are continuously involved in gradual modification of their socio-cultural patterns in the process of adjustment to urban life and modernisation.

Since the institutional spatial organisation of the city does not provide land or housing and a living environment equipped with basic amenities and services within the reach of the means and needs of the rural migrants, they improvise their own institutional arrangements by putting up shacks and huts in residential settlements on unusable or undeveloped lands and workout a living environment based on village patterns and making use of amenities and services that they can have access to in a totally inadequate context. They thus provide shelter fulfilling the current needs of the poor within their means, in a situation where allocation for housing and social services are highly inadequate. These settlements function as receptor areas for a great majority of rural migrants and the newly arrived migrants are generally distributed in those settlements where earlier arrivals are located. These residential settlements are

formed by those who are bound by primary affinities of kinship, caste, village, region or language. The settlements as a physical entity exist only as a community. As stable primary communities they act as mediating agencies in the process of acculturation. They provide an anchorage to the rural migrants to articulate a corporate or group existence whereby it functions as a supporting structure to the constituents in finding a job, acquiring progressively, skills, habits, attitudes and values for coping with and eventually finding a secure place in the urban social order. In addition, these settlements besides providing, within themselves, a wide variety of employment in household and small scale industries and retail trading to their inhabitants also give them social security in times of crisis and emergency. Thus though their environmental conditions are highly undesirable, they are functional to the modernisation of a very large number of low income, illiterate, unskilled and socially underprivileged rural migrants and enable them to gain access to the developmental processes in the city. Besides, they become informal regulators by which rapid population growth in the cities is accommodated and social changes effected, outside the control of public agencies. It has not only saved vast sums of public money but also enabled the city to adjust to new socio-economic pressures in a way that formal planning could never do.

The location of squatter settlements and their subsequent growth are related to the ecological structure of the city, location of various employment opportunities and the distribution of old immigrants in the various areas of the city. The spatial structure of these settlements is closely related to the pattern of social networks of the rural migrants. The physical layout of the settlements reflects a process of accretion or aggregation of groups with homogeneous socio-cultural background clustered in compact residential blocks. The grouping of dwelling units and their accessibility to some common space is a governing factor in not only determining the use of space but also regulating the range of social relationship. It has been observed in the study that the life styles of these people is such that most of the activities are carried at the communal level. Out of a 24 hour cycle of activities, only about 8 hours are spent indoors which gets further reduced during the summer months. The dwelling unit is mostly used for storing material possessions and as a place for privacy and retiring. The spatial and social system are integrated with each other facilitating incorporation of the common space as parts of private spaces which is shared between the families for various activities both in terms of time sequence of their occurrence and spatially. The spatial system that is evolved is geared to the need of enlarging effective space by the multiplicity of its use.

In Delhi, standards incorporated for physical development controls had the unintended effects of restricting the ability of the people to provide adequate shelter and living environment for themselves since these were too high to be applied and followed by those with limited means. The long term effect of well intentioned development controls to enhance the aesthetics of urban environment led to polarisation in the physical structure of the city. People built what they could and in the way they knew, in areas out of the reach of the development controls or in contravention of them. Two types of physical environment came into existence. In one, which was legal, authorised and sustained by development controls, the well-to-do resided in permanent structures in residential neighbourhoods equipped with high standard of urban services and community facilities. Apart from the built-up slums, the other living environment which came into existence consisted of illegal and unauthorised residential settlements where the low income migrant communities lived. These settlements resembled village patterns in their physical characteristics and spatial organisation comprising semi-permanent and temporary structures (huts and shacks and such other dwellings). These were not only unplanned and unregulated but also suffered from severe environmental degradation in the absence of minimum basic amenities and social services. It is these rural or

neo-rural type of settlements which has been the fastest growing segments of the urban Delhi's residential environment during the last 15 years as it is in these settlements that an increasing proportion of the population growth of Delhi has been accommodated. The current pattern of environmental changes have not only accentuated the disparities in the quality of life available to different groups of people but also has created conditions where a very large number of families are forced to live in most squalid and degraded kind of urban existence. This adversely affects their mental health and physical well being, capacities to work, social well being and seriously thwarts their ability for social and economic improvement. The continued existence of residential settlements with highly degraded environment over a long period is bound to induce social dis-organisation, crime vice and other forms of anti-social behaviour.

GOALS & OBJECTIVES OF THE PROGRAMME OF IMPROVEMENT OF SQUATTER SETTLEMENTS

Taking into account the current patterns of urban development and the imperatives of moulding the future urban social order in a manner where large segments of under-privileged and newly urbanising groups would be able to secure social and economic development, the broad objectives for the programme of improvement of squatter settlements should be oriented to the tasks which are set to overcome the problems inimical

to the physical and social well being of their inhabitants and to enhance the quality of their human potential so that they directly participate in the process of modernisation and socio-economic development and increasingly share the gains from such development. What then is of crucial significance is that the programme from the outset should be so designed that when implemented it mobilises the immense human and social potential and communicates the awareness of such a potential for chain reaction of social development throughout the low income migrant communities and other urban poor. It would imply setting down two broad objectives :-

- (a) Provision of minimum acceptable living environment for low income rural migrants and urban poor.
- (b) Providing a set of social services that are made available and their delivery systems tailored to the needs of poor. This would also include vocational training for improving their skills so that their job opportunities are enlarged.

These objectives at a general level indicate planning and programming tasks that can be implemented within the available resource opportunities. It must be realised that paucity of resources precludes the adoption of massive crash programmes for immediate improvement. The programmes for improvement therefore need to be incremental in nature and cumulative in their impact over a period of time. It needs to be further recognised

that it should be capable of being repeated on a large scale and must benefit large sections of urban poor. Specific care should be taken that the programme does not end as a demonstrative project oriented to the selected few among the poor. All this would mean that the programme aimed at should involve minimum subsidies and at the same time should not be so minimal as not to make any visible or distinguishable impact on the living environment of the low income communities. It follows that the strategy for action to be adopted should aim at solving those problems which the people can not solve and providing those elements which the inhabitants of the squatter settlements are unable to generate for themselves. Public authorities should therefore confine to development and planning of physical facilities, social services, and community facilities and the land use needs for them in addition to acquiring land for greatly increased supply of low cost settlements to prevent the growth of squatter settlements in areas and patterns that preclude their eventual development into healthy urban living environment. Such a programme would lead to maximising low investment housing, releasing the resources for other priorities. The overall aim is to plan for self generating settlements.

OUTLINE FOR AN ACTION PROGRAMME FOR METROPOLITAN DELHI

As revealed by the survey, there were 142,000 households living in the squatter settlements in 1973-74. It is estimated that another 113,000 households would be added to these types of settlements by 1983-84, since they would not be able to afford a conventional housing accommodation. The minimum cost of 'standard' house of RCC structure covering a living space with basic services and sanitary facilities provided at individual household level comes to Rs.7000 whereas that with asbestos or metal roof is Rs.5000. (both at 1971 prices). If public authorities were to provide housing for all 255,000 households at this scale, the capital investment for such a programme would be approximately of the order of Rs.180 crores or Rs.1800 millions for the first category of accommodation and Rs.128 crores or Rs.1280 millions for the second category. The average income of the squatter household is Rs.237. Assuming the maximum paying capacity of this income group at about 8 per cent of the annual income* for a period of 15 years, the contribution that the squatter households can make amount to Rs.87 crores or 870 million. If we add the interest on the capital investment made by the public authorities at about 6 per cent,

* The housing expenditure in the expenditure group of Rs.43-55 as revealed by National Sample Survey (19th round 1964-65) on consumer expenditure, All India urban, works out to be about 5 per cent of the total consumer expenditure in this group.

the subsidy involved would be about 56 per cent for the first category of housing and about 36 per cent for the second category. It is thus obvious that providing a minimum living environment based on these standards would be far beyond the scope of the resources of public agencies, at present. It would thus be essential to find another alternative which though providing substantial improvement on the existing conditions would not involve lumpy capital investments.

Within the constraints mentioned above, the problem is to be tackled at two levels. First a short terms action is needed to prevent further deterioration in the environmental conditions of the existing squatter settlements and secondly to restrain futuro proliferation of unplanned and uncontrolled squatter settlements by substantially increasing the supply of low cost settlements within the general resource availability and the ability of the low income communities to pay. Thus in the case of urban Delhi, the first objective of providing minimum acceptable living environment has two components, namely :-

- (i) Upgrading the living environment of the existing squatter settlements.
- (ii) Providing low cost settlements so that the future growth of low income migrant households and urban poor can be accommodated in a living environment on an organised and planned basis.

UPGRADING THE LIVING ENVIRONMENT OF THE EXISTING SQUATTER SETTLEMENTS

It has been pointed that these settlements act as receptor areas for the newly arrived migrants and it is through them that the process of migration is regulated and channelised in the city. It has also been discussed that the migrants take three to five years to stabilise, and find stable employment and income. The family is also not fully formed during these years as is evident from the size of family among them which is much smaller than the general average size of 3.9 for the squatter households as a whole. (see chapter III). During this period their priority for better housing in terms of space and construction is of far lesser importance than better employment, water supply and other physical facilities, health and education services etc. A majority of the settlements, particularly the large ones are more than 10 years old. Relocating these into entirely new settlements would not only be financially impracticable but also socially disruptive and destructive of the established mechanism of adjustment of rural migrants to the social, economic and physical system of the city as a part of an ongoing process of rural to urban migration. Clearance and reconstruction of these settlements further would involve a loss of Rs. ⁵²~~250~~ million which the households have already invested in this setting and even if they were to be provided with 25 sq. metre

plot equipped with facilities on a communal basis, it would involve an additional investment of about Rs. ²⁵⁰~~360~~ million by the public authorities. Furthermore, the relocated households would have to put additional investments to put up new dwellings on these sites. Relocation would require some lead time before it is fully effectuated. In the meanwhile squatter population would have increased substantially, thus further adding to the cycle of clearance and relocation. Under these circumstances, improving them will be much less costlier than relocating them. It thus becomes necessary to preserve the existing stock of shelter and conserve the existing investments. It is suggested that by and large the existing squatter settlements have to be accepted as more or less permanent or semi-permanent fixtures of the urban spatial structure.

Having accepted their existence, the task is to improve their environmental quality. The extent of improvement and the component or groups of components where the improvement is desired can be determined by the level of environmental conditions as indicated by the index of environment quality or by the indicator values of particular components of the individual settlements. These have been discussed in the previous sections. Depending upon this, the package of schemes required to achieve a certain degree of improvement within a particular time frame and within the resources available can thus be arrived at

for a particular settlement. The important consideration to be kept in view in this regard is to select those components for improvement for which there is a felt need by the inhabitants and their significance in improving the totality of the environmental conditions.

Keeping in view the national programme of environmental improvement of the squatter settlements, following iterative or interim standards for the provision of various environmental facilities are suggested. They correspond to the 100 value or minimum requirement level on the Index of Environment Quality for these components. It may be further added that they do not define the 'right' service level of these components but are geared to the actual environmental conditions and the possibility of substantial improvement on these conditions within possible resource availability. It can be further mentioned that if these standards are achieved within the next 5 years, the extent of environmental improvement experienced would be, three to four times better than the existing conditions benefiting about 90 per cent of the existing squatter population. These standards also do not preclude future upgrading. It is also admitted that this iterative process can not be an exact exercise and is based on certain value judgements based on benefits obtained from them. Nonetheless, they indicate the desirable direction of a process of incremental improvement.

TABLE - 23

SUGGESTED STANDARDS FOR PROVIDING VARIOUS ENVIRONMENTAL FACILITIES IN J.J. SETTLEMENTS
& PER CAPITA COST FOR PROVIDING THESE FACILITIES ACCORDING TO PROPOSED STANDARDS.

Environmental Facilities	Standards used	Per capita cost	% to total cost	Remarks
1. Potable water	One water tap for 60 persons	Rs.17	8.3	The per capita cost have been worked out on the basis of average expenditure incurred by the office of the Slum Commissioner, Delhi, for providing these facilities on the site as below :-
2. Electricity	One electric pole for 600 sq. metres of the gross living space	Rs.14	6.8	
3. Lavatory seats	One water borne lavatory seat for 30 persons	Rs.100	48.5	i) Cost per water tap...Rs.1000 ii) Cost per electricity pole.....Rs.1000 iii) Cost per lavatory seat.....Rs.3000
4. Bath room	One bath room for 60 persons	Rs.25	12.1	iv) Cost per bath room...Rs.1500 v) Cost of brick pavement per sq. metre...Rs.10 vi) Cost of drain per metre.....Rs.10
5. Brick pavement (Of lanes and service streets)	40 per cent of the gross J.J. Settlement area to be brick paved	Rs.40	19.4	
3. Provision of cemented water-cum-sullage drains	Along side all the jhuggi rows	Rs.10	4.9	These include administrative costs but exclude recurring costs.
				Per capita space available in large and medium sized jhuggi-jhonpri settlements has been taken as 8 sq. metres
				(Survey results)
Total		Rs.206	100.0	

The total cost of the programme for improving the environmental quality according to the proposed standards of the squatter settlements located within the urbanisable limits of Delhi works out to be of the order of Rs.10.3 crores or Rs.103 million on the basis of per capita cost of Rs.206. However, since some of the environmental facilities have already been provided over the years, a certain level of environmental quality has already been achieved in the various settlements. It is estimated on the basis of extent of facilities already provided, that the cost of upgrading the environment to the level indicated by the suggested standards would be about Rs.7.17 crores or 71.70 million.

Based on the standards suggested and the value scored by the individual settlements, a targeted improvement to be achieved over a period of time can be indicated. Having done so, the programme for environmental improvement can be worked out for each of the settlements along with fiscal resources required for implementing the programme. This will also indicate the extent of improvement to be achieved in each of the component of the environmental programme along with their financial implications. An example is given to explain the process of programming. It is assumed that it has been decided to upgrade the environment of the settlements having an index value of less than 50 on the environmental facilities index, to a level where its index value is raised to 75 in the next

five years. An 'X' settlement having 500 households has an index value of less than 25, having varying indicator values for each of the six facilities included in the environmental programme. To bring this settlement to the desired level of improvement according to the standards set, (index value 76-100) the facilities needed to be provided may be worked out as follows :-

<u>Environmental Facilities</u>	<u>Required</u>	<u>Existing</u>	<u>Needed</u>
1. Water taps	20	5	15
2. Community latrines	50	8	42
3. Electricity (street lighting)	4 poles	1	3
4. Bath rooms (common)	20	4	16
5. Brick pavement (service roads and lanes etc.)	30% of the gross area	10% of the gross area	20% of the gross area
6. Provision of brick paved surface drainage	60% of the jhuggi rows	20% of jhuggi rows	40% of the jhuggi rows

To effectuate the programme outlined above, it will cost Rs. 232,000 or Rs. 116 per capita on the basis of total population residing in it. It may be pointed that it also

indicates what improvements can be made if Rs.116 per capita were to be available. Similar exercise can be made for the settlements whose index values lie in the range of 51-75 or 76-100 to bring them to the minimum requirement level of environmental quality (index value 100). The impact of improvement in the provision of environmental facilities on the physical as well as on the total living environment can also be evaluated by incorporating the enhanced scores under improved conditions in the general index of environmental quality and physical environment index. This would enable us to identify the extent of improvement to be made in the other components of physical environment and social services so as to bring the settlements to the minimum requirement level according to the general index of environmental quality.

At the city level it is needed, that an inventory of environmental facilities of each of the settlements is made so that the score values for environmental facilities index can be computed on the basis of the method suggested in the report. Accordingly, all the settlements will get grouped under four index value ranges i.e. i) 25 or less, ii) 26-50, iii) 51-75 and iv) 76-100. These indicate the varying environmental conditions as reflected by the extent of availability of the different facilities in the settlements. Having done that a targeted programme for the quantum of improvement desired within

a stipulated time period for the settlements falling under various groups of environment facilities index values has to be set. The city level programme can then be constructed by aggregating deficiencies in each of the six environmental facilities in the various settlements with reference to the desired level of improvement to be reached. On this basis, the cost of provision for each of the facilities and that of the total programme can be estimated along with the proportion of population to be benefited by shifting groups of settlements from one category of index values to another and by the provision of different facilities in varying measure. It is also possible to allocate priorities to particular component vis-a-vis other components of the environmental programme, (say provision of potable water against street lighting or provision of community latrines against pavement of streets and lanes), both at the city as well as at the settlement level on the basis of its severity of its deficiency, (indicator value of the component), significance in the overall environmental situation, felt needs of the squatter population and the proportion of population to be benefited by the provision of a particular facility. A perspective programme for five years or 10 years needs to be drawn within which it is intended to effectuate the upgrading of environment of all the squatter settlements. This then can be broken down into annual programmes of improvement according to the available resources.

Based on detailed analysis of the environmental conditions of 21,000 households (Population 78,500) living in 103 sample settlements, a programme for upgrading the environmental situation of 1101 settlements, having 1,25,000 households (population 5,00,000), located within the urbanisable limits of Delhi is proposed where the major focus of improvement would be to bring the settlements with worst environmental conditions to a level of minimum acceptable living environment by providing all the six facilities consisting of potable water, community latrines, street lighting, cemented surface drainage and brick pavement of circulation networks in accordance with proposed standards in the course of five years. This would imply removing the deficiencies in the availability of these facilities in the various settlements as indicated by their environmental facilities index values. Environmental conditions in 53.8 per cent of the settlements with 42 per cent of the total squatter population is most degraded (index value 25 or less), whereas it is somewhat less severe in another 28.2 per cent effecting 38.6 per cent of the population (index value 26-50). Thus it is in these settlements that the major efforts for upgrading the environment needs to be concentrated. The remaining 18.4 per cent of the settlements with 19.4 per cent of the population having an index value of over 50 have already achieved considerable improvement judged

from the point of view of proposed standards and with the provision of some additional facilities will reach minimum requirement level.

The extent of different facilities to be provided in the settlements having different index values and the population benefited along with total cost of programme are indicated in the following table :- .

It will be seen from the above table that the total cost of programme of environment improvement in the settlements of urban Delhi is about 7.17 crores or Rs. 71.70 millions of which 86.4 per cent is accounted by 82 per cent of the settlements having an index value of 50 or less. The improved environmental conditions will benefit 80.6 per cent of the total existing squatter population in urban Delhi. The remaining 13.6 per cent of the investment will be needed for providing minimum level of facilities benefiting 19.4 per cent of the population in 18 per cent of the settlements. The total per capita cost of such a programme is of the order of Rs.143. However, it varies from Rs.167 per capita in those settlements with worst environmental conditions (index value 25 or less) to Rs.50 where considerable improvement has already been achieved. Of the total costs to be incurred for providing various facilities, 10.3 per cent is shared by water taps, 55.2 per cent by community latrines, 16.1 per cent by common bath rooms, 3.4 per cent by electric poles and 2.5 per cent by cemented water-cum-sullage drains. The basic idea in this programme is that all the existing squatter settlements are brought to a minimum level of living environment in the course of next five years after taking into account the requirements of each of the settlements. However, if the required resources are not available within the

stipulated time period, the programme may be spread over a longer period or the extent of improvement desired lowered according to resource availability or provision of the less important facilities may be deferred. It needs to be emphasised that if improvement is spread over a longer period, its impact may get considerably reduced due to the possibility of large increase of population in the existing settlements in the intervening period.

SOCIAL INVOLVEMENT OF THE INHABITANTS IN ENVIRONMENTAL IMPROVEMENT PROGRAMME

Since the entire programme is based on the availability of facilities at community or collective level, the location of facilities should take into account the existing socio-spatial system. It may be effectuated on the basis of primary or secondary social aggregates found in the different settlements more or less on the same lines as suggested for planned low cost settlements in the subsequent sections of this chapter. The successful implementation and management of the improvement programme will depend on a very large extent on the involvement and co-operation of the residents of the settlements. The existence of socially homogeneous groups at the sub-cluster level and the tradition of sharing and corporate life should constitute potentially most effective means of executing and monitoring the programme of

improvement at the settlement level.

As discussed earlier in the report (see chapter II & IV) the larger proportion of the settlement consists of an aggregation of groups of 15-30 families with homogeneous socio-cultural background. They are located in compact dwelling clusters. In medium and large sized settlements the social organisation of the community consists of an aggregation of sub-communities formed by two to three homogeneous social groups, generally occupying contiguous space. Providing environmental facilities on the basis of grids formed by these social groupings would further reinforce the stabilising bond and promote social participation. Each primary group has a leader and the sub-community has two or three. These leaders as representatives of their communities should be involved in implementing the programme at the local settlement level and for the maintenance of the facilities provided. Provision of facilities should be based on their recommendation of priority of expenditure for the same. By providing environmental improvement that the residents consider beneficial, the low income migrant communities get involved in the process of local government and into the fabric of urban life.

PROVISION OF SOCIAL SERVICES & COMMUNITY FACILITIES

The overall development of the quality of the human resource may prove to be the

most important facet of improving the livability of the urban poor. This would require a much greater emphasis than indicated by current inputs on development action directed towards social change and modernisation. Health and education services are the most crucial elements of social development. The impact of such development programmes has far reaching consequences than what is commonly acknowledged.

Health is a case where the poor inhabitants of the squatter settlements have been perennially at disadvantage. They have not been able to utilise, to any appreciable extent, the health services and facilities that have been created in the city due to lack of adequate delivery of health services to the low income communities. Improved health services not only enhance the capacity of individual to enjoy life but improved health enlarges the productive capacity and efficiency and links the individuals to nation building programmes and institutions effectively.

One of the most potent social resolutions to inequality and removal of poverty is to provide equality of opportunity by enhancing the skills and capacities of the underprivileged. Education has been designed as the single most important institution to achieve this end. The existing delivery system of education is so designed that it

caters to the needs of those with a certain socio-economic background and its benefits largely flow to them. The inhabitants of the squatter settlements are not only poor but illiterate and have a different socio-cultural background than the resident urban population. They prefer their children taking up employment early. Because of these factors, a very large proportion of the children of squatter population remain outside the pale of effective education. There are also no programmes of out of school informal functional and vocational education for youth and adult. The result of all this has been that the urban poor remain perpetually trapped in underdevelopment.

It is therefore necessary to formulate and implement a social development programme complementary to physical environmental improvement programme. This would primarily include programming of the delivery of social services of health and education in relatively small communities of the urban poor. Programmes for augmenting health and educational services are being undertaken by municipal authorities and various departments of Delhi administration in the city. What is therefore needed is that the provision of health and education facilities is integrated and coordinated with the programmes of environmental improvement.

However, it has been observed that one of the problems of covering the existing

squatter settlements with these services is the absence of necessary organisation and infrastructure from where these social programmes can be operated. It is therefore proposed that a primary-cum-middle school be located in the settlements for a population of 2000-2500. This should also function as multiple community-centre where programme of education of children, creches and day care, vocational training, functional out-of-school education for adult and youth, pre-school education, health services and health education etc., besides recreational and cultural activities may be centred. In case of small settlements, a school-cum-multiple community centre may be provided for three to four such settlements or more on a neighbourhood basis. In large settlements having more than 5000 population two to three such centres may be required.

The programming of the delivery of health services should constitute of both static and mobile dispensaries. It is proposed that a small health clinic be provided for a population of 2000-2500 to be located in the multiple community-centre. It should provide an integrated package of health services consisting of curative medicine, preventive medicine including immunisation and inoculation, family planning, maternal and child health care, health education and nutrition. These services should be provided at least three days in a week at the health clinic. The same functions may

be performed by the mobile dispensary which would cover the small and scattered settlements and its services should be made available to the inhabitants at least twice a week.

The system of education in the primary-cum-middle school should not merely consist of free compulsory education for all children upto age 14 but more specifically should be work related education and sensitive to family needs of the children's time. Adult education should be built on substantive adult needs that is a programme of literacy combined with vocational or job training in various intermediate skills and trades. The imparting of both school and out of school education can be operated through mass means of communications particularly T.V. and radio through intensified support of the local level. This can compensate for the lack of education oriented background in the settlements. It is strongly suggested that a T.V. should be provided for each multiple community centre which besides providing recreation would be the most important vehicle, for communication of development oriented programmes, vocational and functional education, health education and inducing change towards attitude and values of modernisation. Besides providing health and education services, it is proposed that small scale industries and few shops particularly fair price shops providing daily articles of consumption

should also be located. The supply of food articles through ration shops should be tailored to the needs of daily or bi-weekly purchase of these articles by the great majority of the squatter population.

It may be mentioned that for the augmentation of facilities and services of both education and health, the major investments required are for providing man power for the delivery of these services than on building the physical infrastructure for the same. Since the provision of health and education facilities and services is already being undertaken for the general population of the city as a whole, the cost of such programmes for upgrading the environment of the squatter settlements should form part of the normal expenditure of the relevant agencies.

PROBLEM OF ENVIRONMENT IMPROVEMENT IN SMALL & SCATTERED SETTLEMENTS IN URBAN DELHI

There are 840 settlements in the size group of 100 or less households with a total of about 27,400 households (population 109,600) scattered all over the city. Of these, 267 settlements are of construction workers with about 3900 households 138 of washermen, sweepers and other service personnel with 4000 households, 353 of Factory labour, and those working in public undertakings with 12,400 households

and 82 of unskilled miscellaneous manual labour with 2600 households. It is difficult to provide all environmental facilities in these settlements, and connect them to the network of urban services, besides being uneconomic and costlier. The settlements of construction workers are temporary and shift from one work site to another. In their case, it is recommended that only minimum facilities of water (hand pumps) and community latrines (pit or trench latrines) be provided since their stay at one location is of short duration. The 138 settlements of service personnel are located in the various middle and upper class residential areas. These have been existing in these areas for a long time and their inhabitants have been providing services to the residents of the high and middle income residential areas. These are more or less permanent and have already been provided with many of the environmental facilities. It is proposed that in their case all the environmental facilities should be provided on the basis of suggested standards. Social services are needed to be provided on the basis of grouping of several settlements at the neighbourhood level. The remaining 435 settlements with about 15,000 households should be consolidated and reorganised in larger settlements in the 300-500 size group in the same zones in which they are located before the full range of environmental facilities are provided. Pending their reorganisation only the facilities of water and community latrines need to be provided

as in the case of construction workers.

UPGRADING OF ENVIRONMENT OF SETTLEMENTS LOCATED IN THE RURAL AREAS

There are 272 settlements with 18,800 households which are located in the rural areas of the Union Territory of Delhi. Of these, 252 are of brick kiln and construction workers and 20 of stone quarry workers. The settlements of the brick kiln workers consist of 14,400 households and their inhabitants live in these settlements, for a period of 8 to 9 months when the brick kilns are in operation. 93 per cent of these settlements have 100 or less of households. Water is provided through tube wells by the brick kiln owners. What is needed is to test their potability. There is no provision for latrines and they use the open spaces surrounding the brick kilns for defecation. It is recommended that trench or pit latrines should also be provided in these settlements by the brick kiln owners. An integrated package of health services should be provided by mobile dispensaries and provision of education facilities should be made for them in the schools of the nearby villages.

The twenty settlements of stone quarry workers consist of 4,400 households. These settlements last for 15 to 20 years since a stone quarry lasts that long. Natural

drainage is provided by the undulated sites on which the various sub-clusters are located. It is difficult to provide electric street lighting in these settlements. Water can only be provided through tube-wells and deep-sunk water well. Some of these already exist but they are inadequate in satisfying the water needs of the quarry workers especially so during the summer months. It is recommended that a tube-well be provided over 200 households. Adequate trench or pit latrines should also be constructed in suitable locations in these settlements. It is also recommended that a school-cum multiple community centre be located in these settlements as suggested in the case of settlements in urban Delhi. Similarly all the services of health and education and other facilities including ration shops should be provided in these settlements as have been proposed for the settlements in the urban area.

THE PROBLEM OF TENURE IN THE EXISTING SQUATTER SETTLEMENTS

The problem of tenure for the sites occupied by the inhabitants in the existing settlements is a complicated one. The lands (mostly public) occupied by these settlements, though unauthorised have been held by a kind of collective security of the settlement communities against eviction and clearance from their existing locations. The public authorities have also acquiesced in their occupation of the land. In the

course of time, the settlers have come to acquire a defacto right to the title of the sites on which they have built their dwellings. Some of the municipal facilities and amenities have already been provided in these settlements. Additional facilities and amenities are being provided as a part of an ongoing programme of environmental improvement. In the future also greater efforts are contemplated to upgrade their environment according to certain minimum acceptable standards. In this process, the squatter settlements are becoming more or less permanent residential areas of the low income communities.

A de jure recognition of the right to the title to the sites occupied by the dwellings, although a basic consideration in obtaining community support for the implementation of improvement programmes and promoting self-help improvement, is not considered advisable. Such a recognition would imply acceptance of illegal and unauthorised occupation of government and private lands and would therefore encourage further illegal occupation of urban lands thus making the future planning and control of the pattern of urban growth very difficult. On the other hand, keeping these communities in a kind of illegitimate state and perpetual insecurity and transience is highly undesirable. It acts as a serious hindrance in their

effort to improvement and development of civic consciousness and sense of belonging to the city.

It is therefore essential that an institutionalised arrangement be made whereby their existence in the present locations is considered legitimate and secure. Under the circumstances, it is proposed that a ground rent or a licence fee of Rs.5/- per month for each dwelling site from the occupant be charged. This will not only ensure the exercise of better control over the growth of these settlements by the public authorities but also provide substantial revenues for providing better amenities and facilities to these settlements. Taking the existing number of squatter dwellings, it is estimated that an annual revenue of Rs.7.5 million will accrue. Further, it is unfair to provide amenities and facilities for upgrading the environment to a minimum acceptable level without any charge while the settlers in the proposed planned low cost settlements would be charged for the facilities and amenities to be provided at the same standards. Besides, if the inhabitants in the existing settlements are allowed to live in an improved environment free of cost, it will act as disincentive for the inhabitants to opt for the proposed planned low cost settlements as well as encourage the new settlers in the planned settlements to sell their plots through illegal or legal transfers and

move to the existing settlements.

PLANNED DEVELOPMENT OF FUTURE LOW-COST SETTLEMENTS

An integral part of the programme for improving the livability of low-income communities and of the urban environment as a whole in the future is to develop low cost settlements with basic physical facilities and social services on a planned and organised basis. Living in such settlements should be within the economic means of the urban poor and cater to their needs and yet should present perceptibly and substantially improved living environment over that existing in the residential settlements with possibilities of future improvement consequent to their socio-economic development.

A most important element of the future planned low cost settlements is the choice of the stratum of population living in the existing squatter settlements for which they are to be designed. It implies that it should be related to the household income groups in the squatter settlements. It will also further mean that the design standards and space allocations should be such that within the limits of acceptable minimum living environment, a large proportion of those living in the existing squatter settlements can opt to live in the future planned low-cost settlements. Further, if the environmental

quality of the urban poor is to be significantly improved, the planned low cost settlement should provide for continuing growth in the targeted population stratum due to natural growth and immigration as well as the backlog of their demand. Unless the programme of low cost settlements is able to meet the future growth of target population, environmental conditions in the existing squatter settlements will tend to deteriorate with the increase in their population and their further proliferation thus making the efforts of the environmental improvement of the existing settlements self-defeating and inconsequential. It is therefore essential that low-cost settlements are provided on a substantially large scale if the objective of providing minimum living environment to the existing squatter settlements and preventing their future growth are to be achieved.

In planning these settlements, full recognition should be given to the socio-cultural background and life styles of the inhabitants of the existing squatter settlements from where majority of the potential occupants will come. They should also provide a package of benefits that is widely accepted. In locating these settlements, besides other factors, care should be taken that these are not segregated from the rest of the urban population and appear as urbanised tracts of poor. Any subsidies which may be involved in such a programme should be within the limits of the capacity

of public authorities to bear on a scale of large continuing programme.

Keeping in view that there will be an addition of 113,000 households in the next 10 years in the population stratum which makes the squatter settlements and the considerations mentioned in the previous paragraphs, a scheme for the development of future low cost settlements is proposed. It is based on providing of 'open plots' for each household in planned minimum-standard low cost settlements, with shared or communal environmental and sanitary facilities. The basic purpose of such a scheme is self-help constructions of dwellings with possibilities of future incremental improvement both in the dwellings and in the initial standard of services along with the socio-economic development of the occupants. It is mainly oriented to the households having an income range between Rs.200-450 per month. It is estimated on the basis of survey results that the majority of the households in these income groups are more or less stabilised in the city and have regular employment. It is also felt that these groups will be able to bear the major costs of the low cost settlements to be designed on certain proposed standards of urban services and space allocations for dwelling sites. This scheme will cover about 60 per cent of the households of the existing squatter settlements in urban Delhi. It is true that in this scheme the poorest of the households (below the household income of Rs.200)

will tend to get excluded but then they would find accommodation in substantially improved squatter settlements whose environmental conditions will get further improved by reduced over-crowding and congestion due to the target population moving into new settlements. It is also stipulated that the scheme for environmental improvement and that of development of low cost settlements will be undertaken concurrently.

The standards used for environmental facilities in the design of the low cost settlements are more or less the same as proposed for upgrading the environment quality of the existing squatter settlements in urban Delhi. The same holds true in the case of provision of social services. The proposed standards provide substantially higher level of services than that existing in the squatter settlements and slums, while keeping the costs low enough to enable low income families to acquire the plots. The overall site layout follows the socio-spatial structure (see chapter II) of the squatter settlements and the plots and the community facilities are clustered in blocks of primary groups (25-30 families) grouped around a common space. The spatial organisation of the blocks and the low cost settlement as a whole has been based on the incorporation of common space as parts of private spaces to be shared between the families comprising the primary groups for multiple activities. The interrelationship

between the private and common space proposed in the design of the layout of the planned settlements is such that each family has an access to common space equal to what it has for the dwelling site. The proposed ratio of 1:1 between the common and the private space is in correspondence with the pattern of space arrangements found in the existing squatter settlements (see chapter II). The overall size for each planned settlement stipulated is that of 500-550 households. It has been found that beyond this size, community participation and social cohesion tends to weaken. The plot size for dwelling site has been fixed at 30 sq. metres which in effect would mean a total space availability of 60 sq. metre per family, twice as much as that is available now. The density proposed for such settlements works to be 275-300 per gross acre.

The physical infrastructure of the low cost settlements will include developed land, underground sewerage point for community latrines, water mains, over-head wiring for and community space lighting, tarred main service roads and brick-paved side lanes and the 'Chowks'. The environmental facilities to be provided will comprise the following :-

1. Community water taps
2. Community bath rooms
3. Community latrines
4. Street lighting
5. Brick-paved side lanes
6. Surface drainage
7. Common open space



At the same standards as suggested in the case of environmental improvement of the existing squatter settlements.

Equivalent to dwelling site per household.

Social services to be provided for each settlement would be as under :-

1. School-cum-multiple community centre (upto middle level school)
2. Small health clinic
3. Shopping facilities including ration shops
4. Recreation facilities
5. Postal services, police and fire protection
6. Transportation facilities
7. Commercial and industrial space

The nature of education and health services to be provided will be the same as

concerned authorities. It may also be helpful to put up such houses as models to be emulated by the settlers.

COMMUNITY ORGANISATION

The active mobilisation of the community efforts, the selection of leaders and the provision for participation in decision making are essential to the success of low-cost settlements programme. Besides the participation of the local groups in the design and settler's selection, it is important that people's participation is ensured in the ongoing administration of the settlements in regard to their development and maintenance. Of special importance, is the role of local groups in collection of instalments for the payment of plot price and lease charges from the settlers including eviction procedures.

Even though the public authority is mainly responsible for improving conditions of the low-income communities, the mobilisation of human resources on an organised basis is vital so that the efforts of people are pooled with those of public authority to improve their social, economic and physical environment and to contribute fully to national development. In this task of organised co-operative action, directed towards physical and social development, self-help activities on a group or settlement basis

provide an effective mechanism to channelise their developmental aspirations and social potential. Self-help activities may range from programmes of improvement in sanitation, health, education, recreation and cultural facilities and services to organising construction teams for the building of dwellings.

A nucleus of community organisation is therefore needed as a link between the public authority and the inhabitants of the settlements. It is suggested that one community worker is provided over five settlements for organising co-operative community efforts. The functions of community organisation would broadly include the following :-

- i) the organisation of community activities, including the construction of community facilities and organisation of construction teams for building self-help dwellings.
- ii) Fixing priorities for environmental facilities and social services at the settlement level and recommending priority expenditures for the same.
- iii) Collection of instalments and lease charges.
- iv) Maintenance of infrastructure and community facilities.
- v) Organisation of small housing co-operatives at the group level.

A similar community organisation programme can be undertaken in the existing

squatter settlements with required modifications in its functions.

COST ALLOCATIONS & FINANCIAL IMPLICATIONS

The capital costs allocated to and chargeable from the occupants of the low cost settlements include :-

- i) Land acquisition cost for all land, including land for internal roads and side lanes, open space, all community spaces, and spaces for school-cum-multiple community centre and for other social services.
- ii) Costs of on-site infrastructure including water distribution, street lighting, pavement and tarring of streets and lanes, sewerage and internal drainage, community latrines and bath rooms.
- iii) Site preparation and development costs including engineering and supervision.
- iv) Cost for the construction of core housing units.

The costs for building community centres and schools and external infrastructure including access to the sites and man-power costs for the delivery of social services to the local communities will not be charged from the occupants of the low-cost settlements.

The determination of the plot price is based on the total capital costs of the land acquisition, development of the total land covered by the settlement and the provision of the environmental facilities according to proposed standards. A single low cost settlement

according to the stipulated scheme occupies an area of 8.4 acres and provides dwelling sites of 30 sq. metres each to 540 households. It is estimated that at current prices (1973-74), the cost of development of one such settlement including the provision of environmental facilities and engineering and supervision cost thereof amounts to Rs.10,80,000. (details given in appendix E) The total costs are distributed over 540 households and the cost for each plot, accordingly, works out to be Rs.2000.

It is suggested that the cost of the plot may be recovered from the occupant in a period spread over 11-12 years by charging Rs.15 per month as instalment. Thus the total burden of payment including lease charges would be Rs.17 per month constituting 8.5 per cent of the monthly household income of the lowest income group of the target population. (Rs.200 per month). This would also leave him with some savings which he would be requiring to invest in building a dwelling unit. Fixing a higher rate of instalment would lead to irregularity of payment and cut into other essential items of consumption.

The financing of the scheme is proposed through a system of rotating or revolving fund according to which the recoveries made from the occupants are reinvested so that

after a certain period of time the entire programme of developing low-cost settlements becomes more or less self-financing. Based on the figures of the cost-estimates for developing a low-cost settlement, the total investment by the public authority required for providing a total number of 108,000 dwelling sites would be Rs.130 million or 13 crores. This is spread over ten years with an annual rate of development of 10,800 dwelling sites. The investment and recovery pattern is shown in table No.45.

The amount invested by the public authority in the first year would be Rs.2.16 crores (Rs.21.6 million) to provide for 10,800 plots. In the second year the recovery from the occupants of the plots would be Rs.1.19 crores (Rs.1.9 million) and the additional investment required to provide for additional 10,800 households would be Rs.1.97 crores or 19.7 million. This way on 11th year the recovery from the allotted plots would be sufficient to develop another 10,800 plots.

In this scheme, the subsidies involved amount to the interest charges on the capital investment of Rs.130 million. The calculation of interest charge may be worked out on an interest rate prevalent for long term borrowing by the public authority, (generally 5 per cent). Some small additional subsidies may also be

involved in the recurring costs for the provision of services.

The investment and the recovery patterns for developing 10,800 plots per annum with Rs.20 per month instalment per household and also for developing 5400 plots with Rs.15/20 monthly instalments per household are shown in the appendix F.

TABLE - 45

THE INVESTMENT & RECOVERY PATTERN OF DEVELOPING 10,800 PLOTS PER ANNUM, AT
THE MONTHLY INSTALMENT RATE OF Rs.15

	No. of sett- lements reha- bilitated	ANNUAL RETURN FROM SETTLEMENTS		Net amount to be invested (total cost of 216 lakhs Rs. for 20 settlements excluding the returns from previous column. (figures in 1000)
		No. of settlements	Amount in thousand Rs.	
1	2	3	4	5
First year	20	Nil	Nil	Rs. 21600
II year	40	20	1944	Rs. 19656
III year	60	40	3888	Rs. 17712
IV year	80	60	5832	Rs. 15768
V year	100	80	7776	Rs. 13824
VI year	120	100	9720	Rs. 11880
VII year	140	120	11664	Rs. 9936
VIII year	160	140	13608	Rs. 7992
IX year	180	160	15552	Rs. 6048

1	2	3	4	5
X year	200	180	17496	Rs.4104
XI year	220	200	19440	Rs.2160
XII year	240	220	21384	Rs.216
XIII year	260	240	21384 for latter eleven groups 216 for 1 group*	Nil
			21600	
	Over 12 years		Total	Rs.13,08,96

* At Rs.20 per household for the last monthly instalment.

N.B

- (i) Instalment per household Rs.15 per month. The total recovery for one year per household is Rs.180.
- (ii) The time taken to repay the cost of plot i.e. Rs.2000, 11 years and 1 month.
- (iii) Total recovery from twenty settlements of 540 households Rs.1,62,000 per month, Rs.19,44,000 per annum.
- (iv) The cost of settling 20 settlements - Rs.216,00,000 (2 crores and 16 lakhs rupees).
- (v) Computation of cost does not refer to core housing units or dwelling units constructed for renting.

ADMINISTRATIVE ARRANGEMENT

The existing department of the Slum Clearance and Improvement in the Delhi Development Authority, is considered to be the most suitable agency for implementing and managing both the programmes of environmental improvement of existing squatter settlement and of developing future planned low cost settlements. However, it is suggested that it should function under the guidance and broad policy direction of an advisory board or council to be constituted of the representatives of the department of Education, health, social welfare and social education of Delhi Administration, Municipal Corporation of Delhi, New Delhi Municipal Committee, Metropolitan Council and Town & Country Planning Organisation, Govt. of India and Ministry of Works & Housing under the chairmanship of Lt. Governor of Delhi. This would ensure not only a proper co-ordination of various agencies involved but also a formulation of an integrated programme of physical improvement and social development for tackling the problem of squatter settlements.

The programmes envisaged for providing minimum living environment of the low income communities living in the existing squatter settlements and the future low-income rural migrant communities that will become part of Delhi's urban complex are essentially the programmes of social development and removing the crippling and dehumanising handicaps

of poverty. Besides their social content, the investment of about Rs.200 million in their environmental improvement would generate substantial employment opportunities and building of national assets and savings through self-help.

The problem are enormously complex and we should not delude ourselves that they are susceptible to easy solution. It will require strong commitment to the development of urban poor and sustained efforts for their improvement over long years before any substantial impact is made upon the existing situation. However the programme suggested, though based on iterative or incremental process aims at making the transition from one state of development to another less painful and reduces the level of human discomfort of the large masses of urban poor.

A P P E N D I X - A

SAMPLING DESIGN AND ESTIMATION PROCEDURE

In the first phase of survey operations cluster units scattered all over the area were spotted and number of jhuggies in each were enumerated. Some information on socio-economic predominant group characteristics such as occupation age of the cluster, regional background of jhuggi dwellers and the caste and religion were also collected

Demarcation of strata and sub-strata

The cluster units were classified into five classes according to size. 'Size' here means the number of jhuggis in a cluster. The five size classes are : 10-50, 51-100, 101-300, 301-1000 and above. Within each size class the cluster units were further sub-classified into occupational groups. The seven occupational groups are : construction labour, quarry worker brick kiln labour, service occupations and cultural trades, manual workers in the organised sector, and manual workers in the unorganised sectors and mixed occupation.

The sampling Design

A two stage stratified random sampling technique has been applied for selection of sample units and building up of the estimates therefrom. At the first stage a cluster of jhuggies has been taken as a sampling unit and at the second stage a household within a selected cluster unit has been taken as a sampling unit.

determination of sample size and allocation of sample units at the first stage

ize of a cluster unit has been taken as the value of the characteristic for determination of sample size. In the first instance with an idea of proportional allocation of sample units between and within strata the sample size was worked out according to the specifications of 95% accuracy in the overall estimate within 95% probably limits. The size for such an allocation and precision works out as 395 cluster units. On consideration of the lead of work such a big sample size did not seem feasible. It was therefore decided to drop the idea of proportional allocation between strata and to bring down the precision limits as below :

Within 95% probability limits a minimum accuracy of 90% at each stratum level and an accuracy of 90% or more in the overall estimate. The units between sub-strata within a stratum were to be allocated proportionally. The sample size for each stratum was worked out independently.

the method followed is as under

The desired variance in the estimate at the stratum level was computed by the formula

$$V_h = d^2/t^2$$

where :

V_h is the desired variance for the hth stratum

d is the 10% deviation value of the average size of a stratum

t is the 95% probability normal deviate = 1.96

n_h sample size at the stratum level for proportional allocation of unit between sub-stratum

n_h is worked out by the formula :

$$n_h = \frac{\sum_{j=1}^7 W_{hj} S_{hj}^2}{V_h + \frac{1}{N_h} \sum_{j=1}^7 W_{hj} S_{hj}^2}$$

where

n_h is the sample size for the h th stratum.

N_{hj} is the number of cluster units in the j th occupational group of the h th stratum

N_h is the total number of cluster units in the h th stratum

$$W_{hj} = \frac{N_{hj}}{N_h}$$

$$S_{hj}^2 = \frac{1}{N_{hj}-1} \sum_{i=1}^{N_{hj}} (x_{hji} - \bar{x}_{hj})^2$$

x_{hji} is the size of i th cluster units in the j th occupational groups of the h th stratum.

$$\bar{x}_{hj} = \frac{1}{N_{hj}} \sum x_{hji}$$

$$\text{Total sample size } n = \sum_{h=1}^5 n_h$$

The computational results are as under :

TABLE NO. 1

Size Class	Nh	Vh	\sum_j	Whj Shj ²	$\frac{1}{Nh}$	Whj Shj ²	nh	nh/n
Below 50	808	2.33		115.92		0.143	41	0.345
51 - 100	280	12.76		167.13		0.590	30	0.252
101 - 300	191	71.03		3157.00		16.50	35	0.294
301 - 1000	81	6,387.50		48714.35		601.00	10	0.084
1001 & above	13	10,312.70		40,209.53		3093.81	3	0.025
	1373	-		-		-	119	1.000

Accuracy limits in respect of size classes 2, 3 & 4 have been kept higher than 90% within the 95% probability limits. The variance level (V_h) in respect of size code I has been kept a little higher. However a sample size of 41 in respect of this size group has been considered sufficient to give complete information about the socio-economic factors under study.

Computations for precision in the overall estimate

With the n_h/n ratios as computed in table No. 1 the computations for variance of the overall estimate and its accuracy level have been worked out by the formula.

$$V = \sum_{h=1}^5 \frac{W_h \cdot S_h^2}{n_h} - \frac{1}{N} \sum_{h=1}^5 W_h S_h^2$$

Computations are given in Table No.2 below

TABLE NO.2

Size class	Nh	$Wh = \frac{Nh}{N}$	Sh^2	$WhSh^2$	$Wh^2 Sh^2$	$\sum_{h=1}^5 \frac{Wh^2 Sh^2}{nh}$
Below 50	808	0.59	142.5	84.05	42.035	1.025
51 - 100	280	0.20	174.0	34.80	6.960	0.232
101 - 300	191	0.14	3489.0	488.46	68.384	1.953
301 - 1000	81	0.06	41,061.0	2463.71	149.393	14.939
100 & above	13	0.01	76,266.0	762.66	7.526	2.542
	1373	1.00	-	3833.68	274.398	20.691

$$\frac{1}{N} \sum_{h=1}^5 W_h S_h^2 = \frac{1}{1373} \times 3833.68 = 2.79$$

$$V = 20.691 - 2.792 = 17.899$$

$$s = \sqrt{17.899} = 4.23$$

$$d = t_s = 1.96 \times 4.23 = 8.2908$$

8.2908 is 8.033% of 103.2 the overall average size of a cluster unit in the universe. This sample size of 119 under the above allocation scheme would provide the overall estimate with 92% of accuracy within 95% probability limits.

Tables showing the distribution of sampled jhuggi-clusters and their jhuggis according to caste groups, regional background age, occupation, size groups, and planning divisions according to Delhi Master Plan.

	C A S T E G R O U P S										
	Hindu Upper Castes	Hindu Inter- mediary Castes	Hindu Lower castes	Lower & Inter- mediary castes	Lower & Upper castes	Inter- mediary & Upper castes	Upper, Inter- mediary & Lower	Muslims	Other Irrelig- ious groups	Mixed relig- ious groups	Total
Clusters	4	4	67	8	11	2	14	1	-	4	11
Jhuggis	200	110	9560	474	1632	201	5270	156	-	4593	221

	R E G I O N A L B A C K G R O U N D										
	Rajasthan	U.P.	Haryana	Mixed of adjo- ining states	Southern Region	Eastern Region	Central & Western	Mixed	Refugees	Delhi	Total
Clusters	30	25	3	43	1	1	2	7	3	1	119
Jhuggis	3267	1923	776	14359	266	168	94	1050	1271	12	22196

A G E G R O U P S							
	1951 & before	1952-56	1957-61	1962-66	1967-71	1972 & After	Total
Clusters	19	8	19	24	30	19	119
Jhuggis	8203	1338	3452	3826	3579	1798	22196

OCCUPATIONAL BACKGROUND

OCCUPATION GROUPS								
	Const- ruction workers	Quarry workers	Brick kiln workers	Service occupat- ion and traditional trades	Manual workers in org- anised sector	Manual workers in unor- ganised sector	Mixed group	Total
No. of clusters	23	2	21	10	9	9	45	119
No. of jhuggis	2406	1295	1498	834	2090	702	13371	22196

P L A N N I N G D I V I S I O N S										
	A	B	C	D	E	F	G	H	R	Total
No. of clusters	7	2	10	30	4	22	11	7	26	119
No. of jhuggis	1220	4457	1264	4978	275	5172	1002	775	3053	22196

SIZE OF CLUSTERS						
	50 or below	51-100	101-300	301-1000	1001 +	Total
No. of clusters	41	30	35	10	3	119
No. of jhuggis	1105	2113	5833	6069	7076	22196

A P P E N D I X - B

JHUGGI JHONPRI CLUSTER OBSERVATION SCHEDULE

Name of the cluster Name of the investigators

Cluster No..... 1.....
 2.....
 3.....

(i) LAND

Area of the cluster Length (i)M (ii)M (iii).....M Total Area S
 Breadth M M M

Open land around the cluster, its approximate size and discription and its use by the cluster d

(ii) OWNERSHIP OF THE LAND

M.C.D.	N.D.M.C.	D.D.L.	Cantonment	Railways	Central	Private	Trust	Gram	Any other
		Delhi			Govt.			Panchayat	
		Admn.							

(iii) TYPES OF THE LAND

Plain	Hillock	River Bed	Low Lying	Railway Line	Storm water drain	Any of
-------	---------	-----------	-----------	--------------	-------------------	--------

(iv) COMMITTED OR PROPOSED USE OF THE LAND

Residential	Commercial	Industrial	City open green	Park or community facility in built up area	Roads foot paths	Open land for safety	Nil
-------------	------------	------------	-----------------	---	------------------	----------------------	-----

G.	Higher Secondary school																	
H.	Dispensary																	
I.	City Hospital																	
J.	Police post																	
K.	Post office																	

(iv) Reasons for choosing the present site
 (i) (ii) (iii)

STRUCTURE OF THE CLUSTER

(i) Approach to the cluster Draw a map of the street-pattern in the cluster marking on it, important living facilities.

Distance from Metalled Road metres	Distance from Jeepable Roadmetres	Describe the barriers and difficulties to reach the cluster from metalled road if any.
---	--	---

(ii) Does the cluster have main streets? Yes/No

If yes, give numbers

(i) Straight	Zig-zag	Width of the main streets (i) metres (ii) metres
(ii) Straight	Zig-zag	

Does the cluster have side streets joining the main streets Yes/No

If yes are most of them

Straight	Zig-zag
----------	---------

 Width of the streets varies from m to m

(iii) Jhuggi pattern of the cluster

Rectangular	Square	Nil	Any other (Describe)
Chowk	Streets with Js. on both sides	Nil	Any other (Describe)

(iv) JHUGGI DIMENSIONS (If different type for more than one Jhuggi)

Jhuggi (i) Lengthmetres Breadth metres Height.....

Jhuggi (ii)metres metres

Area of open private space in front of jhuggi (i) Sq. metres

(ii) Sq. metres

CLUSTER TYPE

(i)

Temporary	Permanent
-----------	-----------

If temporary give expected duration

'Less than six months	'Less than one year	'Less than 2 years	'Not known'
-----------------------	---------------------	--------------------	-------------

Check one of the following :

No. of Jhuggis have not changed for last two years or since the cluster started.

No. of jhuggis have increased during last two years or since the cluster started.

No. of jhuggis have decreased for last two years or since the cluster started.

(ii) Whether formed by uprooting of the cluster from some other site? Yes/No

If yes	Self choice	Work on previous site over	Private Authority Demolition	Public Authority Demolition
--------	-------------	----------------------------	------------------------------	-----------------------------

(iv) Has the structure of Jhuggis improved over years? Yes/No

If yes, check the improvement :

From	Mud wall and thatch roof	Khokha	Brick and mud wall thatch roof	Brick and mud wall
To	Pacca	Brick & Mud wall & thatch	Brick & mud wall and asbestos roof	Khokha

LIVING ENVIRONMENT

(i) WATER

	Wells	Hand pumps	Public taps	House connections	If not available in the cluster source from wher people get water
No. working				
No. out of working order				
Total				

(ii) ELECTRICITY

No. Electric poles No. house connections..... Any other arrangement of lighting

PUBLIC LAVATORIES

	MALE	FEMALE	TOTAL
No. seats (water borne)			
No. seats (dry)			

Any other alternate arrangement by the residents, with difficulties.

BATH ROOMS

	MALE	FEMALE	TOTAL
No. with availability of water (tap)			
No. without arrangement of water			

Any other alternate arrangement by the residents with difficulties.

SANITATION

Describe : Street cleaning system

Garbage disposal system

AVAILABILITY OF STREET PAVEMENT Yes/No If yes
Percentage paved of total streets

0-25%	25-50%	50-75%	75-100%
-------	--------	--------	---------

DRAINS Availability of cemented or pacca drains Yes/No If yes, percentage of total drains in the cluster

0-25%	25-50%	50-75%	75-100%
-------	--------	--------	---------

Describe where the water flows out of the cluster

(viii) EDUCATION

Whether available in the cluster

Creche	Balwari	Nursery	Primary School	Middle school	If any other describe
Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

(ix) HEALTH Availability within the cluster or exclusively meant for the cluster

Malaria Eradication scheme Surveyalance	D.D.T. Spray	Vaccination facility	Primary health centres	Visiting Govt. doctors	Visiting mobile dispensary	Private Doctors
Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No

If yes (applicable for private doctors) their No. according to :

	Allopathic	Homeopathic	Vaid	Hakim	Any other
Nos.					

Availability of nutrition Programme Yes/No If yes, number of beneficiaries

(x) Religious & Recreation Programme

Give numbers

	Mandirs	Mosques	Churches	Gurdwaras	Any other
Nos.					

Describe any organised religious or recreation programmes in the cluster

Subjective Scale (Leadership response in group setting)
(Group satisfaction and Requirement for the following eleven items)

<u>Satisfaction Goods</u> applicable where a particular facility is available and to item No. (vii)	<u>Fully Satisfied</u>	1	<u>Requirement Codes</u> applicable where a particular facility is not available	<u>Very much required</u>	4
	<u>Partly satisfied</u>	2		<u>Indifferent</u>	5
	<u>Dis-satisfied</u>	3		<u>Not required at present</u>	6

	Remarks if any	Satisfaction Codes						Requirement Codes					
		1	2	3	4	5	6	1	2	3	4	5	6
(i)	Water	1	2	3	4	5	6	1	2	3	4	5	6
(ii)	Street lights	1	2	3	4	5	6	1	2	3	4	5	6
(iii)	Lavatories and bath rooms	1	2	3	4	5	6	1	2	3	4	5	6
(iv)	Street Pavement	1	2	3	4	5	6	1	2	3	4	5	6
(v)	Street cleaning and garbage disposal system	1	2	3	4	5	6	1	2	3	4	5	6
(vi)	Medical facilities	1	2	3	4	5	6	1	2	3	4	5	6
(vii)	Law and order (security)	1	2	3	4	5	6	1	2	3	4	5	6
(viii)	Education for children	1	2	3	4	5	6	1	2	3	4	5	6
(ix)	Organised recreation, cultural activities	1	2	3	4	5	6	1	2	3	4	5	6
(x)	Ration shop	1	2	3	4	5	6	1	2	3	4	5	6
(xi)	Non convenience goods shopping	1	2	3	4	5	6	1	2	3	4	5	6

Priorities :-

Out of the above eleven items, please give the three most needed in the cluster, according to priority.

- (i).....
- (ii).....
- (iii).....

(xi) SOCIAL EDUCATION

Whether available in the cluster?

<u>Craft Class</u>	<u>Library</u>	<u>Family Planning and related organised programmes</u>	<u>Adult Education</u>	<u>Any other</u>
--------------------	----------------	---	------------------------	------------------

Yes/No	Yes/No	Yes/No	Yes/No	
--------	--------	--------	--------	--

(xii) SHOPPING

Ration shop : Within cluster Yes/No If no distance from the clusterKms.

Names of the markets where cluster dwellers shop for non-convenience goods (distance from the cluster)

- (i) Kms.
- (ii) Kms.
- (iii) Kms.

(xiii) TYPE & NUMBER OF ANIMALS IN THE CLUSTER

	Type	Nos.
1.
2.
3.
4.

SOCIAL INTEGRATION

(i) Co-operative society S.No. Name Function Year Started Membership

Yes/No if yes 1.
2.
3.

(ii) Panchayat (within cluster or at larger area) If yes, give name and describe :

(iii) Local association

<u>S. No.</u>	<u>Whether at cluster level or at larger level</u>	<u>Constitution</u>	<u>Paid Membership (Regular)</u>	<u>Reasons for starting</u>
	Yes/No	Yes/No	Yes/No	
1.				
2.				
3.				

(iv) Any concrete programme done in the cluster on self help basis? Describe

REORGANISATION CHOICE BY THE GROUP

(i) At the present site

(ii) Alternate site nearby
(Give distance)

(iii) Any site anywhere
in Delhi

Plots/Builtup houses

Plots/Builtup houses

Plots/Builtup houses

Willingness to pay for services/plots or builtup houses.

Yes/No

A P P E N D I X - C

TOWN AND COUNTRY PLANNING ORGANISATION
GOVT. OF INDIA

Serial No.

AREA SCHEDULE FAMILY ENQUIRY
PHASE I

Number & Name of cluster Jhuggi No.....

Date Investigator Supervisor

1. Name F's/H's Name

2. No. of Jhuggis occupied Owned Rent Rs.....
Rented
Rent free

3. Structure of Jhuggis :-

PAKKA	KACHHA	BRICK & MUD WALL			PAKKA WALL	
Mud & Thatch Roof	Khokha	Asbestos Roof	Tin Roof	Thatch Roof	Asbestos Roof	Tin Roof

4. Use of Jhuggis

Residential	Residential cum commercial	Residential cum Industrial	Commerc
-------------	----------------------------	----------------------------	---------

5. Size of Household

Male	ADULTS		CHILDREN		TOTAL		TOTAL
	Female	Male	Female	Male	Female		

6. Migration :-

i) Year of arrival in - Delhi

Present cluster

ii) Whether moved from Jhuggis elsewhere Yes/No

If yes, name of place

If no, from, servant qrs./Relatives/Native place/Rent free/Rented house

iii) Place of birth State

District R/U

7. Occupation & Income

Male	ADULTS		CHILDREN	
	Female	Male	Female	
Head of household	1.....	1.....	1.....	
2.....	2.....	2.....	2.....	
3.....	3.....	3.....	3.....	

3. Religion Caste

4. Family Income Rs. P.M.

0. Remarks

: APPENDIX - D

OCCUPATION CATEGORIES

1. Hawkers & Vendors

All Hawkers and Vendors of goods, excluding hawking of services.

2. Petty Business

Selling of goods at a shop; Repairs shops of cycles, stoves, scooters, umbrellas; owners of the wheel scooters, thelas, tongas who only rent them; contractors, owners of eating places; dairy

3. Unskilled construction workers

Beldars, Road construction labour, quarry and brick kiln workers.

4. Skilled construction workers

Masons, Jamadars, white-washers and door painters.

5. Other unskilled manual workers

Cooks other than those in Hotels and Restaurants, peons chowkidars, policemen, soldiers, cable wiremen; sweepers, watermen, khalasis, waiters, domestic servants and shop assistants, porters station and other commercial activities.

6. Other skilled manual workers

Mechanics, electricians, plumbers and sanitary workers, spray painters, drivers, moulders, cocs hotels and restaurants, polish workers, fitter, pump operators, workers in photography, embroidery and farm labour.

7. Traditional skills and trades

Dhobis, carpenters, potters, blacksmiths, goldsmiths, cobblers, tailors, barbers and other traditional skills and gardeners.

8. Industrial skilled workers

Factory labour with some acquired skill on the job or through training.

Industrial Unskilled workers

Delhi Electric Supply Undertaking, Water Supply Department, D.T.C. and organised factories have been considered as industries

Semi-Professional workers

Teachers, Nurses, Compounders, Midwife, Dressing orderly, Hakims and Homeopaths.

White collar workers

Working in offices, conductors, munshis and clerks.

Non-working head of household.

APPENDIX - E

Cost of Developing one settlement at current prices

1. Cost of development of land : (including sewer points, water main points, over-head wiring, paving down of streets and roads).

At Rs.50 per sq. metre net, the land for 540 jhuggi households comes to 16,200 (30 x 540) Sq. metres (30 sq. metres per household)

So $16200 \times 50 = \text{Rs.}8,10,000$ Rs.8,10,000

2. Cost of providing lavatories :

A set of 4 lavatory seats in each primary group and a total of 18 primary groups (18 x 4 = 72 seats).

Presuming the sewer line is available the cost of each seat would be around Rs.1500 per seat.

So $1500 \times 72 = 1,08,000$. Rs.1,08,000

3. Cost of providing bath rooms :

A set of 2 bath rooms in each primary group and a total of 18 primary groups (18 x 2 = 36 rooms).

At Rs.1500 per room, for 36 rooms.

So $1500 \times 36 = \text{Rs.}54,000$ Rs.54,000

4. Cost of providing potable water :

2 water taps for each primary group and a total of 18 primary groups (18 x 2 = 36 taps)

At Rs.1000 per tap for 36 taps.

So $36 \times 1000 = 36,000$ Rs.36,000

5. Cost of providing street lights :

3 light poles for each primary group and a total of 18 primary groups
(20 x 3 = 60 light poles).

At Rs.1000 per pole for 60.

60 x 1000 = 60,000 Rs.

Rs.60,000

6. Other over-hand charges for the settlement :

Rs.12,000

TOTAL

Rs.10,80,000

N.B

The cost estimates have been worked out according to the costs of various items, supplied by Office of the Slum Commissioner, Delhi.

APPENDIX - F

The Investment and recovery pattern of developing 10800 plots per annum, at the monthly instalment rate of Rs.20

1	No. of settlements rehabilitated	ANNUAL RETURN FROM THE SETTLEMENTS		5
		No. of settlements	Amount in thousand Rs.	
First year	20	Nil	Nil	Rs.21600
II year	40	20	2592	Rs.19008
III year	60	40	5184	Rs.16416
IV year	80	60	7776	Rs.13824
V year	100	80	10368	Rs.11232
VI year	120	100	12960	Rs.8640
VII year	140	120	15552	Rs.6048
VIII year	160	140	18144	Rs.3456

1	2	3	4	5
IX year	180	160	20736	Rs.864
X year	200	180	20736 from 160 groups 864 from I group	Nil
				101088

N.B.

- (i) Instalment per household Rs.20 per month. The total recovery for one year, per household Rs.240.
- (ii) The time taken to pay the cost of the plot Rs.2000. 8 years and 4 months (100 months).
- (iii) Total recovery from twenty settlements of 540 households each per month Rs.216,000, per annum Rs.25,92,000.
- (iv) The cost of resettling twenty settlements = 216,00,000 (two crores and sixteen lakhs).

APPENDIX - F

The Investment and recovery pattern of developing 5400 plots per annum, at the monthly instalment rate of Rs. 20

	No. of settlements rehabilitated	ANNUAL RETURN FROM THE SETTLEMENTS		Net amount to be invested (the cost of 108 lakhs but excluding returns). In thousand Rs.
		No. of settlements	Amount in thousand Rs.	
1	2	3	4	5
I year	10	Nil	Nil	10800
II year	20	10	1296	9504
III year	30	20	2592	8208
IV year	40	30	3888	6912
V year	50	40	5184	5616
VI year	60	50	6480	4320
VII year	70	60	7776	3024
VIII year	80	70	9072	1728
IX year	90	80	10368	432

1	2	3	4	5
X. year	100	90	10368 from 80 groups 432 from 10 groups	Nil

N.B.

- (i) Instalment per household Rs.20 per month. The total recovery for one year Rs.240.
Households Rs.240.
- (ii) The time taken to pay the cost of the plot Rs.2000. 8 years 4 months
(100 months).
- (iii) Total recovery from ten settlements of 540 households each. Per month
Rs.108,000, per annum Rs.12,96,000.
- (iv) The cost of resettling ten settlements - 108,00,000 (Rs.108 lakhs).

APPENDIX - F

The Investment and recovery pattern of developing 5400 plots per annum at the monthly instalment rate of Rs.15

	No. of settlements rehabilitated	ANNUAL RETURN FROM THE SETTLEMENTS		Net amount to be invested (Total costs of Rs.108 lakhs per 10 settlements and excluding the returns from Col. 4 (In thousand)
		No. of settlements	Amount in Ps. (In thousand)	
1	2	3	4	5
I year	10	Nil	Nil	108,00
II year	20	10	972	9828
III year	30	20	1944	8856
IV year	40	30	2916	7884
V year	50	40	3888	6912
VI year	60	50	4860	5940
VII year	70	60	5832	4968
VIII year	80	70	6804	3996
IX year	90	80	7776	3024
X year	100	90	8748	2052

1	2	3	4	5
XI year	110	100	9720	1080
XII year	120	110	10692	108
XIII year	130	120	10692 for latter 11 groups* 108 for 1 group	Nil

Over 12 years Rs.65448

* At Rs.20 per household for the last month.

N.B

- (i) Instalment per household Rs.15 per month. The total recovery for one year per household Rs.180.
- (ii) The time taken to repay the cost of the plot Rs.2000. 11 years and 1 month.
- (iii) Total recovery from ten settlements of 540 households each per month Rs.81000, per annum Rs.9,72,000.
- (iv) The cost of resettling 10 settlements - Rs.108,00,000 (hundred and eight lakhs).

APPENDIX - G : THE DETAILS OF AREAS INCLUDED IN VARIOUS PLANNING DIVISIONS

Zone A : The area is bounded by Yamuna River in the east, by Old Delhi Railway Station, Rani Jhansi Road, Faiz Road, Panch Kuian Road, and city walls in the south, comprising walled city, Sadar Bazar, Jhendewalan, Pahar Ganj etc.

Zone B : It is enveloped by Faiz Road, Ras Behari Marg, Northern Railway Lines in the west, Ganga Ram Hospital Road and Pusa Institute boundary covering the Anand Parbat, part of Sarai Rohilla, Karol Bagh, Rajendra Nagar, Pusa Institute and Naraina Residential areas.

Zone C : It is enclosed by Northern Railway main line towards Ambala, city walls in the South and Yamuna River in the East, comprising Kashmiri Gate, Delhi University area, Shakti Nagar, Kamla Nagar, Timarpur, Kingsway camp, Adarsh Nagar, Rana Pratap Bagh, Model Town etc.

Zone D : This area is bounded by city wall in the north, Panch Kuian Road, Upper Ridge Road joining at Dhaula Kuan, Ring Road in the South, and Yamuna River in the east, comprising the president's estate, Chankya Puri, Lodi Estate, Lody Colony, Meena Bagh, Moti Bagh, Sarojini Nagar, Kidwai Nagar, Defence Colony, Lajpat Nagar etc.

Zone E : This zone includes all the area, east of Yamuna river, upto the boundary of Union Territory of Delhi comprising Shahdara, Bhole Nagar, Vishwas Nagar,

Ram Nagar, Gandhi Nagar etc.

Zone F : It is enclosed by Ring Road from Dhaula Kuan in the north, Yamuna River in the east, Gurgaon Road in the west, Mehrauli Road and Badarpur Road from Qutab Minar, joining at Mathura Road, extending up to the Union Territory border in the south, including the residential areas of Ramakrishna Puram, Moti Bagh, **Hauz Khas**, Green Park, Safdarjung Enclave, Anand Niketan, Vasant Vihar, Mehrauli, Malviya Nagar, Kalkaji, Greater Kailash etc.

Zone G : This zone is bounded by Northern Railway Lines, that is Rohtak Railway Lines in the north, and Northern Railway Line, towards Rewari, upto the crossing of Ring Road and Ring Road extending upto Dhaula Kuan, and Gurgaon Road, enclosing numerous residential colonies like Ramesh Nagar, Moti Nagar, Rajouri Garden, Tilak Nagar, Delhi Cantonment, Madhipur, New Jail area, Palam Airport etc.

Zone H : It covers the area falling between the two northern Railway Lines, one in the south and the other in the North, and the Ras Bihari Marg in the East, comprising Shastri Nagar, Kishan Ganj, Trinagar, Rani Bagh, Haiderpur etc.

Zone R : The entire rural area outside the urban limits of Delhi and falling within the Union Territory of Delhi.