

**LAND POLICIES IN DELHI: THEIR CONTRIBUTION
TO UNAUTHORISED LAND DEVELOPMENT**

K. SRIRANGAN

B.Sc., M.A., M.R.P.

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**Development Planning Unit
The Bartlett School
University College London**

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ABSTRACT

Government intervention in land markets through public land policies increasingly sought for a more balanced development, better income and wealth distribution, and to satisfy the basic human needs such as housing and essential services in developing countries. Delhi's large-scale land acquisition, development and disposal policy has aimed at orderly growth of planned development, and universal access to housing land through public expropriation, banking, development and delivery. But the policy has been widely criticised for failing to promote planned development and consequently creating large-scale illegal land developments and sales.

The present research investigates the impact of Delhi's public land policy on the creation of informal land developments and unauthorised housing in Delhi. The analysis of data gathered from office records and exhaustive structured interviews yield substantial evidence that the large-scale land policy governing the public authority's delivery of land for housing, has indeed been a major contributor to the creation of unauthorised land development and sales.

Through interviews with 300 households living on illegally developed land, 106 living on illegally resold (legally developed land), 28 who had illegally resold their plots, and 69 property agents, this study found that the large-scale public land policy has not provided adequate land for housing. The policy's inability to deliver timely and adequate quantities of affordable land in varying parcel sizes, and with flexible lease conditions, was a prime factor in encouraging a large number of households to opt for illegally developed or sold land.

The responses of households indicate a substantial number sought illegally to obtain housing land, because the large-scale public land policy failed to offer them legal alternatives that were affordable, adequate in quantity, in the desired time and flexible in their lease conditions. The opportunities to obtain varying sizes of unauthorised plots, at cheaper prices, in the desired time, with flexible payments, and acceptable terms of construction and use have attracted a large number of middle and high income households. Equally, the policy of regularisation of some unauthorised developments has also encouraged investment in additional illegal development.

This research also found that the public land policy's failure to deliver the right land to the right person at reasonable prices prompted unauthorised resales of legally developed plots, in effect, downward filtration of high income groups. The higher resale prices that these subsidised plots obtained, and the ability of some households to obtain an allocation of more than one plot encouraged a large number of households to illegally resell plots.

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Chapter 1

INTRODUCTION

1.1. PREAMBLE

State intervention in land markets has been taking place in the form of either direct control or indirect control or general influence (Baken and Linden, 1992:43; Penalosa, 1982:17; Lichfield and Darin-Drabkin, 1980:15). Government participation is sought for greater efficiency, equity and social justice in terms of production and distribution of essential goods and services (Lichfield and Darin-Drabkin, 1980:80). In general terms, it is sought for efficient allocation of both land uses and the income from that land (Kitay, 1985; Whitehead, 1983:108); to overcome the impediments represented by private land ownership; to provide adequate land for housing, recreation and infrastructure (Penalosa, 1982:17) by controlling land price-escalation (Kitay, 1985:4; Lim, 1982:26) and speculation of land.

The decades 1970 and 1980 have featured a wide discussion on greater public control of the land market, and strongly supported increased public intervention to gain maximum benefit for the public (Kitay, 1985; Whitehead, 1983; Lichfield and Darin-Drabkin, 1980; Cullen and Woolery, 1982; Strong, 1979; Smith and Walker, 1977; Roberts, 1977; UNCHS, 1976; Flechner, 1974). Besides, in developing countries, government participation is increasingly sought for a more balanced development, better income and wealth distribution, and in order to satisfy the basic human needs such as housing and essential services (Devas and Rakodi, 1993:32; Lim, 1982:61). It is also strongly believed that unless land is socialised or at least placed under much stricter control, landowners will continue to make enormous profits at the expense of the community as a whole (Lim, 1982:66).

The government participation in land market is carried out through promulgated land policies that determine the kind of intervention and nature of the goals to be achieved. Land policy, as a means of implementation of programmes, aimed at planned development

and an increased supply to meet the land demand by public land acquisition, curbing speculation, preventing excessive increase of prices, capturing the unearned increments of land values (Lichfield and Darin-Drabkin, 1980:98). Thus, various land policy measures exist around the world in the form of policy instruments or composite multiple instruments (Lichfield and Darin-Drabkin, 1980). Some of these land policy instruments are advocated as powerful tools for the achievement of a wide range of political, economic and social objectives (Lim, 1982:69).

One of these is Delhi's large-scale public land policy that aimed for orderly growth of planned development and the provision of access to housing land to all through public acquisition, land banking, development and leasehold delivery of land. It is said to be a

“unique and imaginative approach to problems common to poor countries around the world. It is a program designed for an urban environment where the distribution of income and wealth is unequal and incomes are low, where in-migration is rapid and where land is available and acquisition is possible” (Howland, 1977:53).

The policy is regarded as almost successful by the government (DDA, 1985; Maitra, 1991), but only addressed as a competent intervention towards potential success (Howland, 1977; Acharya, 1988; Pugh, 1991; Mattingly, 1993), and also criticised as a failure in terms of promoting planned development that resulted in large-scale unplanned unauthorised land developments and sub-standard squatters (Sarin, 1983; Buch, 1984; Mitra, 1990; Misra, 1991).

The existing theoretical observations and arguments emphasise the need for the empirical investigation into the effect of large-scale public land policy instruments and their viability in discouraging unauthorised land developments through the regulated delivery of adequate planned legal land for housing. Therefore, this empirical research study focuses on the contribution of a large-scale public land acquisition, development and disposal policy to the creation of unauthorised land developments in Delhi. Specifically, with the theoretical knowledge of land policy effects and of informal land developments gathered from prior observations and research, this research analyses the ways in which the Delhi's land policy contributed to the creation of unauthorised land developments and illegal sales of formal land.

As the Delhi's land market was totally regulated through Delhi Development Authority's (DDA) development and delivery, preventing private land development, this

study investigates the viability of the major concepts and instruments of this public policy that are widely recommended for planned urban development, the provision of substantial access to legal land for housing, and the provision of adequate land for low-income groups through cross-subsidisation in developing countries. Furthermore, considering the uniqueness of Delhi's large-scale land policy and its continued operation for a period of over 30 years, this research also aims to highlight the theoretical scenarios of the effects of a large-scale public land policy in controlling land prices, speculation and land use, and preventing illegal land developments and encroachments in the cities of developing countries, with the experience of Delhi.

Unauthorised land developments are defined as land that has been developed, sold, resold, obtained, and/or encroached upon without the authorised permission of the owner and/or the concerned city development authority and/or municipal corporations functioning under statutory parliamentary acts. The term "unauthorised" is context specific and includes informal, illegal and squatter settlements. The attitudinal survey and survey of 'concerned groups' (property agents) for this thesis are carried out in informal land developments (housing land developments on unauthorised subdivisions) called unauthorised colonies, and in a formal plotted development promoted by the Delhi Development Authority at Rohini, during the period July to November 1994. In this thesis, unless specifically mentioned, the source of data is the field survey conducted by the author.

1.2. RESEARCH ISSUE: GENERAL AND SPECIFIC

Any particular land policy contains one or more policy instruments concerning land acquisition, planning measures including use regulation, development methods, disposal/delivery mechanisms, ownership rights, and taxation of unearned increments in land values etc., (Lim, 1982; Flatt et.al., 1982). These policy instruments are used in every city towards regulating use, controlling ownership, stabilising prices, preventing speculation, capturing capital gains, and managing planned urban growth. In cities, due to the concentration of large population and economic activities, these policy instruments are significantly active, and followed in various forms in order to ensure planned development and balanced distribution of land among 'haves' and 'have nots'.

These policy instruments are implemented primarily towards promoting orderly planned development, high quality environment for all people, and socialisation of land by providing access to housing land to all and particularly to unaffordable, low and moderate income households (Strong, 1979; Acharya, 1988; Flechner, 1974). In most of the cases greater efficiency in the stabilisation of prices, and equitable distribution of land are aimed by adequate supply of formal, affordable land for all appropriate uses and users, preventing land speculation, and capturing the incremental values of land for the public.

The land policies containing combined instruments enabling public authorities to carry on land banking, land development, leasehold disposal and capture unearned increments are in practice in many countries around the world since before 1900 (Carr and Smith, 1977; Strong, 1979; Roberts, 1977; Flechner, 1974). These policies in similar manner have also been practised in some of the developing countries (Howland, 1977; Okpala, 1980; Kombe, 1993; Baken and Linden, 1992). But in practice, academics observed that these policies often fail to achieve their goals. As a consequence, many severe problems such as large-scale unauthorised land developments, illegal land sales, unauthorised constructions against building regulations, sub-standard squatters, and increasing slums have arisen in the cities of developing countries (Misra, 1991; Okpala, 1980; Kombe, 1993).

In Delhi, the capital city of India, a land policy has been promulgated with a prominent policy instrument called large-scale land banking which includes advance public land acquisition, development and disposal of land along with a land use regulation policy. This policy aimed to provide adequate land for planned development envisaged in the Master Plan, and attempted to ensure access to legal land for housing to all income groups through cross-subsidisation. The principle has been that the advance public land acquisition and banking of all undeveloped periphery land would prevent undesirable speculation in land dealings, and would enable public authority to regulate land price, and its uses (Acharya, 1988:1430). A co-ordinated development and disposal of this land would ensure the access to land to all through the delivery of the right land to the right party/person, at the right time and at reasonable prices under a rigid regulatory mechanism of plot sizes, uses, locations, development timings and resells.

But, it is widely argued that public intervention through these land policy instruments has not achieved the policy goals. As a result, the poor are increasingly prevented from gaining access to land for housing. In reality, there is wide inequality in the ownership of land; and illegal developments, unauthorised housing and squatting are increasing in Delhi, irrespective of the extent of public intervention and subsidy provisions, etc. Therefore, the critical issues of the hour are:

1. How to provide universal access to land for housing?
2. What are the instruments that can provide substantial access to legal land for housing in developing countries?
3. And how to ensure the equity of land ownership and legal land development in the cities of developing countries?

1.3. IMPORTANCE OF THE RESEARCH

There is acceptance by and declaration from many expert forums, conferences and land experts since 1960's that greater public control of urban land through multiple policy instruments can control city growth, combat increasing land prices and discourage the formation of informal settlements (Roberts, 1977; UNCHS, 1983). These experts also believe that the regulation of use and tenure of land through the creation of land reserves and land banks, expropriation, the pre-emption, and/or acquisition of development rights, and the conditioned leasing of public and communal land by public authorities, is an appropriate method of achieving planned development (UNCHS, 1976; Penalosa, 1982; Ofori, 1982:23). It is also widely accepted that large-scale land acquisition, development and disposal of land and land use policies exercised by the city authorities are necessary to offset the market forces against the poor, and to increase the supply of legally affordable land available to the poor (UNCHS, 1983; Misra, 1986). Probably for this reason, it was also decided at the world congress on land policy held in 1980 that Delhi's

“land policy provisions of a master plan may be implemented by bringing under public ownership the entire land in the urban region, disposal of the land on leasehold basis, and sale of residential plots...” (Flatt et.al., 1982:340).

The reality in Delhi suggests that the policy has not only failed in achieving its objectives but has also created negative impacts. It is also alleged by many scholars that the land policies operated through the large-scale public land acquisition programme are substantial contributors to the creation of unauthorised land developments and sub-standard squatters in Delhi (Misra, 1991; Mitra, 1990; Buch, 1984; Sarin, 1983). It is also believed that regularisation of some unauthorised colonies as part of existing land policy of Delhi has further aggravated the conditions of illegal residential developments, and facilitated an increase in their land prices (Mitra, 1990:219). In spite of the claims of negative impacts, the large-scale land policy of Delhi is applied in other cities of India (Acharya, 1988:1430; Misra, 1986:35; Jha, 1984; Willcox, 1980; Howland, 1977), and often recommended by many expert committees as viable tool for ensuring planned development, and providing access to land for housing to all and especially to socio-economically disadvantaged households (Habitat-II Delhi, 1996; UNCHS, 1983; Flatt et.al., 1982; UNCHS, 1976).

However, the dominating argument is that the policy instruments and tools pursued under the large-scale land policy of Delhi have neither provided access to land for housing, nor eliminated the illegal developments, nor been successful in achieving its policy goals (Misra, 1991; Mitra, 1990; Acharya, 1988:1431-34; Howland, 1977). Therefore, it is necessary as well as important to analyse the effect of the instruments of Delhi's large-scale land policy upon the creation of unauthorised land developments, in order to inform the extension of this policy to other cities in India, as well as in other developing countries, for the provision of access to legal land for housing.

1.4. THEORETICAL ARGUMENTS AND CONTRIBUTIONS OF PRIOR RESEARCH

The use of land market intervention through public land banking, development and disposal, and land use policies to improve access to land has been an issue since the beginning of the seventeenth century (Kanazawa, 1996). The arguments arising from theoretical observations and prior research are of two kinds:

- 1) One strongly supports the disposal of land through public policy instruments such as land banking (advanced acquisition and/or expropriation and/or pre-emption), land use

controls, and land disposal to control prices, uses, and speculation (Misra, 1986; UNCHS, 1983, 1976; Ofori, 1982:23; Penalosa, 1982; Flechner, 1974). Scholars accept that the land banking and land use regulation policies are major tools to achieve planned land development (Roberts, 1977; UNCHS, 1983, 1984; Sarin, 1983; Dunkerley, 1983; Misra, 1986; Hallett, 1988). In fact, UNCHS (1983) and Atmer (1987) argue that land banking can over time increase public authorities' control on city growth and increase their influence over land prices and discourage the formation of informal settlements.

Devoy and Rodrungruang (1983) add that land banking can increase the supply of legally affordable land to the poor. It is also further argued that land banking and the direct involvement of public authorities can appropriate unearned increments (UNCHS, 1984; Dunkerley, 1983), eliminate speculative profit (Carr and Smith, 1975; Robert and Svensson, 1977; Roberts, 1977), and moderate land prices and reduce carrying and servicing costs (Carr and Smith, 1975). Hallett (1988) argues that land banking can reduce land scarcity, the power of private land owners, and the cost of housing, and that it also can facilitate the construction of houses when and where it is desired. Besides, Okpala (1980) argues that public ownership provides land at the right time and right place, increases the efficiency of land use, improves social equity in land distribution, controls land values and prices, and ensures a healthy environment and security of tenure.

2) The other contradicts this argument on the lines that these policy instruments restrict the supply and cannot control prices and speculation (Carr and Smith, 1977; Strong, 1979; Hamilton and Baxter, 1977; Martin, 1977). It is argued that these instruments will stabilise prices and improve planning by a steady flow of land, make development available where and when required, with a proper monitoring of supply (Smith and Walker, 1977). It is counter argued by many scholars that land banking and land use policies are not appropriate for effective land supply and development. Large-scale land banking is not a suitable answer to land supply because of its administrative delays, corruption, the use of inappropriate standards, and the risk of squatting (Rakodi and Devas, 1993:276-77). For instance, McAuslan (1985) argue that land banking leads to land shortages and land price inflation. He also states that land banking is pointless, even counter productive, if the acquired public land is not used effectively and fairly. Smyth (1988) believes that land banking can increase land demand for private housing and

can cause high house prices. While reviewing the negative effects in the case of public land banking concept in Nigeria, Okpala (1980) also states that compulsory public acquisitions raise land prices. Besides, Vetter and Rzezinski (1980) also argues that government ownership of land creates lower levels of productive investment and labour absorption, a regressive spatial structure, very high costs of urban infrastructure, and a reduction of the growth potential of the house building industry.

As for land use regulations, it is argued that they restrict the supply of developable land by setting up urban limits, and often by rigid use specifications (Dowall, 1981; Geisse and Sabatini, 1980). This restricted supply greatly affects land costs (Dowall and Clarke, 1991; Dowall, 1992; Mattingly, 1993). Therefore the interesting question is, what really does the Delhi's large-scale land policy do? Does this policy facilitate the provision of land for residential purposes (which is the major use in any city) and to low income groups (the majority in the city), or does it hinder such provision? And, if the policy does either of the above at all, the questions arise - why so, and how is it done?

Irrespective of the above arguments, conferences and expert forums (Flatt et.al., 1982; UNCHS, 1983; Habitat-II Delhi, 1996) have suggested that land banking and land use policy are prime tools for the provision of land for the poor and a fundamental requirement for clearing the backlog of housing demand. The UN seminar on land for housing the poor held in March 1983 emphasised that the provision of secure tenure for land in adequate quantities, in suitable locations at affordable prices and on equitable terms, is a fundamental requirement for clearing the backlog of housing demand for the poor and meeting the rapidly growing need to house poor families, particularly in urban areas. The seminar also observed that without strong official will to improve housing conditions for the poor and an understanding of the key role of public intervention in the land delivery process, no impact can be made on the problem. The seminar recommended that public land acquisition, by expropriation if necessary, should be used to increase the supply of legally available land affordable by the poor (UNCHS, 1983). It is observed that quantities of land are rarely the problem. The break down is in the system of delivering this land to the poor on terms which makes the land legally accessible.

Two decades ago, the United Nations Conference on Human Settlements (Habitat) meeting in Vancouver (1976) declared that the use and tenure of land should be subject to

public control through appropriate legislation. The value added to land by public decisions and investment should be recaptured for the benefit of society as a whole. One principal method for exercising public control could be the direct intervention of the government through the creation of land reserves, land banks, expropriation and pre-emption, acquisition of development rights, conditioned leasing of public and communal land and public ownership to supply serviced land to those in need of it (Roberts, 1977).

Prior research on experience gained from land banking programmes in developed countries shows that land banking can work well. Strong (1979) states that in Sweden and in the Netherlands the entire land use control system inhibits speculation. In France too, land banking has proven to be a potent force against speculation. Atmer (1987), with reference to the Stockholm land banking and municipal leasehold ownership, states that land banking solved, in a single operation, all problems in connection with private land ownership. Further, the leasehold system has helped to create houses for less well-to-do people, and to secure the price of the land, and to prevent speculation in case of future sale. The author asserts that public land ownership along with additional policies (land use, zoning, taxation, and land acquisition and disposal of land by leasehold) has determined the city's spatial growth during the 20th century and have not created any negative impact. In Scandinavia, advance purchase of lands by municipalities, and the creation of considerable land banks for housing, have enabled cities to expand housing construction without difficulties (UNCHS, 1984).

Land banking and land use regulations have been prime policies in developing countries since 1960's. For instance, Delhi's large-scale land acquisition, development and disposal policy has been implemented since 1957. But, it is argued by scholars that the policy of bulk acquisition and monopoly ownership by the public authority has squeezed the supply side and has converted the market into a sellers market (Misra, 1986). Willcox (1980) argues that Delhi's land acquisition programme does not seem to have succeeded in forestalling a steep rise in land prices, but he nevertheless seems to believe that the price rise would have been higher without the land banking programme. He states that the advance land acquisition programme has put greater pressure on the lands not acquired and therefore itself contributed to the boosting of prices.

Howland (1977), although she describes the Delhi's land programme as a unique and imaginative approach, argues that the policy is accomplishing little more than what a free market would have done: to distribute the majority of the land to high income families. Furthermore, McAuslan (1985) also concludes that the policy of allocation of land for mainly upper income group housing and auctioning of land at high prices has led to the building of luxury housing in Delhi, has forced up the price of land for low cost housing, and has increased the squatting and illegal sub division of land.

The failure of public land delivery also exists in other cities of developing countries. The literature states that illegal settlements also exist in Tanzania where public ownership of all land exists. Kombe (1993) observed with reference to Tanzania that the failure of current formal land delivery to cope with urban demand is the major cause for the creation of illegal settlements in Dar-es-Salaam. But in Delhi, the combination of large-scale land acquisition, development, and disposal policies with those of land use regulations appears to have further aggravated the condition of illegal settlements. Therefore, it is suggested that public land delivery has not significantly benefited a large number of people, and that they could be major users of unauthorised colonies in Delhi.

It has been observed that informal developments and the process of organised take over of urban land began as early as in the 1940s (Geisse and Sabatini, 1982). They have been mostly addressed as 'spontaneous' in the forties, 'self-help' until the seventies, popular or informal or illegal or unauthorised during the seventies and eighties, and recently recognised as un-regulated or un-planned submarkets (Shakur, 1994; SPA, 1994; UNCHS, 1983; Geisse and Sabatini, 1982). Similar non-conventional ways of selling public and private land outside the formal market are observed in San Salvador, Mexico, Turkey, Valencia, and Bogota (Geisse and Sabatini, 1982:152; Payne, 1985; Hardey and Satterthwaite, 1989).

Informal settlements are seen in almost all developing countries including European capital cities (Payne, 1988). These developments occur by the invasion of both public and private land (Gilbert and Ward, 1985) and planned mass invasion in Lima (Lloyd, 1980); occupation of land by hiring squats or physical threats (World Bank, 1980); the purchase of land beyond the limits of conventional and legalised housing areas in Valencia; the purchase of community lands such as ejido land (which has use right but not the right to

sell) in Mexico City (Gilbert and Ward, 1985); illegally sold lots in legally obtained tracts, and subdivisions of land carrying invalid ownership documents in pirate subdivisions (World Bank, 1980); the encroachment of public and private land, and the unauthorised development and sale of raw farm land (acquired, notified for purchase or likely to be notified) in Delhi (Misra, 1990).

The major circumstances of their establishment are reported to be (World Bank, 1980; Payne, 1988; Baken, 1990; Ward, 1984):

1. long delays in granting permission for legal development;
2. unexpected steady growth of population caused by migration;
3. sale restrictions imposed on private and community lands;
4. the existence of large amount of marginal lands; and
5. the lack of a legal enforcement mechanism to check illegal lands.

Many reasons for encouraging unauthorised land developments have been suggested. It is noted that the opportunity for profit, the possibility of obtaining adequate size of plots with acceptable levels of security, the expectation of infrastructure provision in a reasonable time, and inadequate quantities of formal land supply encourage informal land developments (Payne, 1988:40). Dowall (1992:15) states that the informal settlements exist because of government regulations in developing countries. Thus, formal housing delivery confined to legally sanctioned procedures, rules and regulations encourage unaffordable households to look for the informal sector.

It is said to be a kind of corruption that involves subdividers, government agencies, political leaders and residents (Payne, 1988). It has also been noted that political patronage, government protection to subdivide vacant public lands, and lack of significant changes in the rules of the formal sector have widened the scope of agents and commercial entrepreneurs operating informally in the land market (Baross and Linden, 1990:2; Durand-Lasserve, 1987:332; Thirkell, 1995:7; Gilbert, 1981; Gilbert and Gugler, 1981:112). With specific reference to Delhi, it has also been argued that illegal land development is a planned and highly lucrative business operated by specialised agents bringing together other professionals, and created due to the connivance of unscrupulous

colonisers, corrupt bureaucrats and politicians (Angel et al., 1983; Noronha, 1991:7; Serageldin, 1990:2; Doebele, 1994:48).

Informal land developers (who include farmers themselves and/or colonisers and/or property agents, and land owning residents themselves) also play a key role in subdividing land into different sizes of plots and selling them to individuals who look for this land for various reasons (Misra, 1991). They tactically reduce plot sizes, payments, and land development works to a level which people can afford (Mitra, 1987). In some cases, a few hundred lots are offered at nominal prices or given away free of cost as in Karachi, in order to attract settlers (Nientied and Linden, 1990:234).

It is said that most of the households occupying informal land are from low income groups because the land development sequencing of such land (occupation-building-servicing-planning) matches with their priorities (Devas and Rakodi, 1993:83). Nientied and Linden (1990) and Thirkell (1995) argue that only the somewhat better-off amongst low income groups enter into informal subdivisions. But, it is also observed that an increasing number of middle income households enter the informal land market in Mexican and Latin American cities (Payne, 1988; Nientied and Linden, 1990; Thirkell, 1995), and high income groups also buy properties in the informal markets, mainly for capital gains in Delhi (Misra, 1990:58).

However, the prime causes for illegal developments and the land policy's contribution in encouraging these causes are yet to be empirically analysed. The theoretical explanations of the causes of illegal developments and the ways in which policy could have contributed to the causes are discussed in detail in Chapter 2. Therefore, the empirically unexplored fact is the impact of public land policies on the creation of informal land developments in developing countries. The thrust is whether the free urban land markets exclude the majority low income groups from obtaining a legal house site with basic services and suitable access to income earning possibilities or the policy intervened market exclude them from obtaining access to formal land due to the break down in the system of land delivery (UNCHS, 1983).

It is also not clear whether illegal settlements are outcomes of excluding the low income groups from the formal land allocations, or the outcomes of individual speculation

by the higher and middle income families in the land markets which are the subjects of public intervention. Since no research has focused on these aspects, the UN expert committee (UNCHS, 1983) suggests that without an understanding of the key role of public intervention in the land delivery process no impact can be made on the problem. Therefore, in order to assess the contribution of public land policies (that are aimed to promote planned development through the provision of access to legal housing land) on the creation of informal land developments, Delhi's large-scale land policy is selected and a working hypothesis proposed to test it.

1.5. RESEARCH HYPOTHESIS AND QUESTIONS

The following working hypothesis is proposed to explain the effect of land policies operated through the land banking and allocation programme: **the large-scale public land acquisition, development and disposal policy which governs the public authority's delivery of land for housing is a major contributor to the creation of unauthorised land developments and land transfers in Delhi.**

In order to test this hypothesis the following questions need to be answered:

1. Did unauthorised land development and land transfers of any kind emerge during the operation of large-scale public land delivery policy?
2. What reasons are there for the creation and use of illegal settlements and unauthorised housing that could have been affected by the policy of public land banking and delivery?
3. What are the ways in which the policy of land banking and public land delivery could have generated the stated reasons for the creation and use of illegal settlements?

Apart from testing hypothesis and answering questions, it was expected that this research would find evidence that land policy operated through large-scale land banking and land use controls has contributed to the creation of illegal land development and sales for the following reasons:

- (i) Land use regulations executed as part of land policy have restricted the supply of land for housing and consequently increased the price of land in the formal market, because:

- (a) The development control and planning regulations proposed high standards and at the same time prevented the private developments beyond (below and above) the standards in the plan. They did not block access gained by higher income group who can afford to pay for high standards, but the regulated formal land delivery and rising costs prevented the participation of lower income groups in the formal land market.
 - (b) Land use zoning envisaged in the Master Plan often did not tally with the location of land acquired for residential development due to delay in acquiring fresh land for development. Therefore, the local development authority frequently modified the land use rules and regulations, and often changed the uses of land acquired (due to the delay in land acquisition) without considering the area already unauthorised and illegally developed in that land.
 - (c) The prohibiting nature of these development rules and regulations contributed to rising social and economic status, and the exclusiveness of certain areas as legalised unauthorised developments. This, in turn, encouraged a concentrated demand for land in such areas, making its valuation process inseparable from the formal developed land and spatial segregation of socio-economic classes.
 - (d) Much of the land provided for low income housing (particularly squatter resettlement) has been far away from the concentration of job opportunities in the city centre. Therefore many households settled themselves in informal housing provided by private developers in order to reduce the distance of travel.
- (ii) Disposal of land from the Government's land bank did not supply the right land to the right person at the right time, and that encouraged multiple illegal transactions of subsidised land either for profit or for resale as more than one plot, because of the following reasons:
- (a) As a policy, land for formal development was supplied by only the local development authority. Due to delays in land acquisition and development of acquired land, the authority released a very limited number of flats and plots every year. This process created an artificial scarcity in the supply of residential land and a large unsatisfied demand accumulated over the years.

- (b) At the same time the criteria followed for formal land delivery and the selection of beneficiaries i.e. type of allotment, income category and number of allotments etc., have been ever changing due to Central Government's declarations on income category and type of schemes developed by the local authority. This facilitated the higher income groups to obtain more than one allocation under different schemes, and provided opportunities to illegally sell them.
 - (c) The formal delivery of public land to households who have already found land in unauthorised settlements has encouraged them to sell their formally obtained land in the resale market (i.e. the market for illegal formal land transactions) for higher prices.
 - (d) The land (flat/plots) sold through illegal formal land transactions were bought mostly by higher income group who could afford to pay the higher cost for future speculation and by property agents operating on profit motive. The multiple transactions of these land (plots) increased the price.
- (iii) Institutional deficiencies such as lack of co-ordination among the local government, local authority and municipal bodies, inadequate technical knowledge, delay in construction, and so called corruption and other institutional deficiencies (construction and design deficiencies, legal complications and political pressures etc.) have contributed to delays in public land acquisition and development which resulted in the slow growth of the supply of legally developed land, and in turn increased land prices.
- (iv) The shortage of legally developed land and the higher cost of the land available which resulted from the above factors encouraged households to use alternative strategies for obtaining land that were illegal.

1.6. THE VALUE OF THE RESEARCH

The research adds empirical knowledge to the extent to which large-scale public land policy instruments are responsible for the creation of informal land development in the context of developing countries by undertaking a study in Delhi. This study not only adds new knowledge to the concepts of advance public land acquisition and banking, land use controls, and land delivery but also explores the factors emerging from the circumstances

of public intervention and operation of an integrated large-scale public land policy through a multi-purpose autonomous development authority.

The study adds knowledge to the effectiveness of certain widely recommended public policy instruments in providing substantial access to legal housing land. The research contributes to knowledge on constraints existing on housing for the poor, the reasons why illegal developments occur in different market conditions, the ways in which illegal land developments occurred, who benefit from unauthorised land developments in developing countries and which are the regulations that can attract the majority of people who prefer to live in informal land. This research, moreover, offers some insight into the minimum level of regulations and development standards that can effectively balance the affordability and access to housing land in developing countries.

This research, therefore, attempts to add factual knowledge with which to answer questions such as: how can more efficient and equitable distribution of land be made? What are the means of controlling land prices and preventing speculation and the concentration of land in the hands of a small minority? It compares the suitability of the standards sought by the public authorities, standards built into the unauthorised houses and standards preferred and affordable by the general public.

The hypothesis, if proven, has important urban planning policy implications which may help in reshaping policies which currently aggravate the problem of rising costs of housing land in developing countries. It will confirm the notion that policy instruments based on land banking, land use controls, and public land delivery can contribute to the creation of illegal settlements and informal housing in developing countries. In doing so, it will illustrate how such policy instruments influence land prices for housing in ways which are primary causes of illegal land developments. This will help planning agencies in other Indian cities and other developing countries to evaluate similar policies.

1.7. SCOPE AND LIMITATIONS OF THE RESEARCH

As the research focused on investigating the impact of land policy instruments on unauthorised land development, the questionnaire data have been collected from only unauthorised colonies that are comparable with formal developments promoted by the

DDA. With regard to economic status, plot sizes and building standards it was assumed that the households of unauthorised land development are middle and high income groups who could have been provided with legal land by the large-scale land policy. Therefore, this study has not surveyed sub-standard informal squatter settlements called 'Jhuggie Jhonpris' that accommodates low income groups in Delhi (see Chapter 6).

Most of the prior research on land policy instruments such as advanced land acquisition and banking, land use regulations, and public land delivery have been undertaken in wealthy countries where the nature of controls and the land market system are different from those of many developing countries. In the cities of Netherlands and Sweden, public land banking and land disposals are carried out by municipalities, whereas in Delhi, planning, land acquisition, development and disposal are carried out by a single authority: the Delhi Development Authority. The land is allocated for residential as well as other uses. In addition to building public housing, the DDA undertakes plot allocation, slum clearance, and the regularisation of unauthorised colonies. As the existing system of operation is very complex in terms of policy effect, the research focused on housing land delivery rather than commercial and industrial land. It assumed that the failure of public land delivery is the major part of the policy that contributed to the creation of large-scale informal land developments. The other land-related policies, such as the land ceiling act, the resettlement of slum and squatters and the regularisation of some of the unauthorised colonies, may have also encouraged the development of unplanned growth (see Chapter 2). But this research primarily focused on the impact of large-scale land policy rather than on that of other policies.

1.8. ORGANISATION OF THESIS

This empirical study is presented in eight Chapters. Following the introduction Chapter that identifies the research issue, hypothesis and research questions, Chapter two reviews the literature. In this Chapter, the existing theoretical approaches to policy interventions in urban land markets, and the reasons for informal land developments are reviewed. It also discusses the contribution of land policy to the creation of illegal developments, as well as prior research done on the topic and the theoretical implications of the study.

Chapter three identifies an appropriate methodology to carry out this research discussing the ways in which the required data were gathered. This Chapter also presents the problems pertaining to data collection and to the analysis undertaken to prove the hypothesis. Chapter four describes the urban land policy of Delhi and the ways in which it is being implemented. It also examines the terms and conditions pertaining to large-scale land policy and the instruments of the policy.

Chapter five analyses the large-scale land banking programme in Delhi and its contribution towards land allocation for different uses. This Chapter provides an analysis of the formal land supply and of its impact on formal and informal land markets. Chapter six examines the existing informal land market in Delhi. It looks at the kinds of illegal land markets, and the prominent reasons for their existence in Delhi.

Chapter seven analyses the ways in which the large-scale land policy has contributed to the creation of unauthorised land development, using the data collected from the questionnaire survey and from office records. Finally, Chapter eight concludes with the findings. It identifies future research and makes suggestions to improve the existing policy.

The questionnaires used for the survey, along with the letters of introduction to the respondents, and special features of survey methodology adopted for this research study, are appended to the report.

Chapter 2

PUBLIC ALLOCATION OF LAND AND ILLEGAL DEVELOPMENT: A REVIEW OF LITERATURE

2.1. PREAMBLE

Public land policy which governs the transfer and delivery of land for housing in cities may contribute to illegal land development. This has received wide attention in literature, and numerous views in this regard exist:

- (i) one prominent view stressing a demand factor is that an increasing number of the poor households (low income groups) who do not have legal affordable options of formal supply opt for informal or illegal settlements (Baken and Linden, 1992; Mohan and Villamizer, 1982; Geisse and Sabatini, 1982);
- (ii) second view, from the supply side, is that the practice of public policy of land banking, use regulation and delivery, is unable to offer sufficient quantities of affordable land, and engenders individual speculation and monopoly, and thus prevents the needy from participating in the formal land market (Baken and Linden, 1992; UNCHS, 1976, 1983);
- (iii) a third view is that most legal land in the market is occupied by high income groups and speculators, and that results in a majority of low and middle income households who do not have access to affordable land to 'opt' for informal developments to meet their housing and income generating needs (Rakodi and Devas, 1993);
- (iv) yet another view is that the very policy creates a wide gap between affordable and unaffordable land leading to different kinds of option for buyers such as formal and informal; authorised and unauthorised; legal and illegal; regular and irregular, etc., (Dowall, 1992; Siembieda, 1994); and
- (v) another issue that cuts across this is corruption and malpractice among administrators, politicians, developers and residents in the cities of developing countries that encourage

a wide-spread illegal development (Payne, 1988; Baross and Linden, 1990:2; Durand-Lasserve, 1987:332; Thirkell, 1995:7 Gilbert, 1981; Gilbert and Gugler, 1981:112).

Therefore, before attempting an empirical analysis, it would be appropriate to understand the theory. Accordingly, this literature review concentrates on the reasons why people opt for unauthorised/informal developments, and the ways in which policy contributes to these.

2.2. LAND POLICIES CONTRIBUTION TO THE FORMATION OF UNAUTHORISED SETTLEMENT: CONTEXTUAL BACKGROUND TO THE CASE OF DELHI AND THE INDIAN SUB-CONTINENT

2.2.1. Reasons For Singling Out Delhi For The Case Study

Although, the policy of public land acquisition, development and disposal being executed by several city development authorities in India since recently, and the legislation of Urban Land (Ceiling and Regulation) Act 1976 is being executed in all urban areas of India, Delhi's large-scale public land policy operation forms a unique model in the Indian context (Howland, 1977; Acharya, 1988:1430; Mohan, 1992:1990). This can be attributed to the following reasons:

1. Delhi's land policy is the only one that aimed at providing universal public land supply to all land uses including housing, and thereby preventing private land development in Delhi;
2. it was the first effort at the socialisation of urban land through a comprehensive package consisting of direct public intervention, planned land-use measures and regulation of co-ordinated growth through a single apex planning, land development, and controlling authority (Acharya, 1988:1430; Mohan, 1992:1990);
3. Delhi's case is the only one that provides land expropriation power in addition to land ceiling and regulation controls to the government;
4. Delhi is the only city in where exclusive large-scale compulsory public land acquisition, development and disposal policy has been implemented for a period of about four decades;

5. Delhi's case is also unique in terms of public land policy's impact on creation of large-scale unauthorised land development. This policy has resulted in the highest proportion of people living in informal settlements including slums and squatters amongst the largest Indian cities - a fact contrary to popular impression and policy's expectation (Gupta, 1985, Robben and Stuijvenberg, 1986:336).

Therefore, the Delhi's large-scale public land policy case is unique experience and can be singled out from other cases of land policies in India. This led to choose it as a case study of valuable experience that contribute empirical knowledge in this field.

Among the public land allocation and regulation provisions of Delhi's land policy "the large-scale land acquisition, development and disposal" occupy unique position in encouraging informal land developments. In order to make the land policy effective and to provide affordable housing to a large number of squatter settlements (existed at the time of inception of the policy) large scale resettlement of squatter families has been executed by the local bodies during 1962-77. Under this scheme, DDA took up a massive operation of resettlements in Delhi (Sarin, 1983; Maitra, 1991; Misra and Gupta, 1981). But this scheme was concluded in 1977 as it became controversial, and a similar scale of operation has not been attempted since then. Another policy scheme for the regularisation of unauthorised colonies (existed prior to the inception of large-scale land policy) was executed by the government in 1977. Initially, the unauthorised colonies that existed before the execution of large-scale land policy were regularised and made eligible for provision of basic services. Later this policy has been replicated considering the increasing number of these colonies.

Although these sub-policies (large scale resettlement of squatters and regularisation of unauthorised colonies) are subsidiaries to the large-scale public land policy, they were only periodically executed to enable the smooth operation of the public land policy. All these policies are integral parts of Delhi's composite land policy. But literature state that the public land delivery mechanism and the widespread malpractice in the operation of public land policy have contributed to the creation of large scale unauthorised land developments in Delhi (Bose, 1973:173 and Howland, 1977). Consequently, the

contribution of large-scale public land delivery in the formation of illegal land development is further singled out from the other segments of this public land policy.

2.2.2. Major Urban Land Policies Of India And Their Contribution To The Formation Of Unauthorised Settlements

Although most land policies of India are believed to have encouraged informal settlements (mostly squatter settlements) in urban areas, Delhi's case highlights public land policy's contribution to creation of large scale unauthorised land developments. Delhi's land policy is unique (among the policies executed in metropolitan cities of India) in contributing to the formation of unauthorised land developments. It is a comprehensive package that comprised almost all components of Indian land policies (i.e. land use planning, public land acquisition, land ceiling, and taxation), besides thrusting on large-scale public acquisition, development and disposal (Acharya, 1988:1428; Mohan, 1992:1990; Baken and Linden, 1992:60). Gupta (1985) visualises Delhi's experience as a case in which illegal developments should not have arisen in its public policy context.

The federal nature of the Indian Constitution provided for the diversification of land legislation in various cities and states. Consequently, a large number of composite land policy instruments have been executed in different cities in India. Although these instruments cannot be isolated into single policies, the composition of major instruments concerning land development and housing supply in urban areas can be grouped into two categories: (1) the ones that are mainly aimed through public sector effort, and (2) those mainly aimed through both public and private sector efforts. The second category contains a substantial involvement of private sector in the provision of housing in urban areas. The case of Delhi's large-scale exclusive public land policy is the only one that belongs to the first category. Other legislations' such as widely spoken Urban Land (Ceiling and Regulation) Act 1976, the techniques of plot reconstitution (which is similar to land pooling/readjustment), and land developments by both private and public sectors executed in different parts of India belong to the second category.

In Delhi, unlike the policies practised in other cities, the public land policy aimed at providing all land required for housing and other land uses through large-scale public

disposal. The land acquisition, development and disposal have been carried out by a single development authority that intended to match the supply with demand without any private developer's assistance. The policy operation was facilitated by several special elements - e.g. compulsory public land acquisition, large-scale public development, cross-subsidisation, revolving fund generated from both the profits of land sales and recovery of unearned increments, and compulsory public (leasehold) disposal (Lim, 1980:9; Srinivasan, 1981:1412; UNCHS, 1983). As a new approach, this policy required the Delhi Development Authority to provide developed land for residential purposes (developed land, built housing and slum and squatter resettlements) and other Master Plan designated uses. However, this approach resulted in a situation (unique among the largest Indian cities) where highest proportion of people live in informal settlements (most living in unauthorised colonies). This seems to be a special character of Indian urban housing scene (Gupta, 1985; Robben and Stuijvenberg, 1986:336).

The situation is different from this in other cities such as Calcutta, Bombay and Madras where private sector actively participated in land development and housing. In these cities, World Bank's site and service projects provided cross-subsidies through varying land prices worked out by their type, future use, size and location. Independent state housing boards have been functioning for the provision of housing, besides the urban development authorities involved in planning and land development. Although unauthorised land developments (similar to Delhi) do not exist in large-scale, there are widespread slums and squatters in these cities. One third of the total population of Calcutta Corporation area and one fourth of the population of metropolitan Calcutta was living in slums in 1985 (Gupta, 1985:102). In Madras about 20% of the population are estimated to be living in unauthorised self-built settlements in 1981; and squatter settlements have been increasing by 4.5% annually in the 1970s (Gupta, 1985; Pugh, 1989:251). On the other hand, the Slum and squatter settlements' accommodate over 40% of the city's entire population in Bombay (Sarin, 1980:9; Robben and Stuijvenberg, 1986:336). These cities' policies encourage mostly squatter settlements except for a few cases such as unauthorised self-help housing of Madras and Thika tenants of Calcutta where landlords sell small plots (similar to squatter settlements) of undeveloped land to low income people (Shakur, 1987: 3-4).

Delhi's public land policy case demonstrates the experience of a policy framed against the inaction or delay by public authorities to execute effective legislative and administrative provisions to control the use of privately owned lands. This also shows the in controlling the monopolistic growth of private developers by preventing them from land development, and thereby hoping to control the accumulation of land in the hands of few. Delhi's policy also aimed at regulating the steady rise in land prices, and increasing the land revenues of government through public monopoly (Misra, 1986:73). This situation is noticed in Madras and other cities where current land policies helped private developers trickling out supply for high-income groups at rates falling below the demand, and thereby resulting in higher prices. Bombay's experience of failure of land ceiling and regulation policy to transfer all the excess land from private to public ownership supports the notion that the compulsory policy of public acquisition, development and disposal can be able to acquire land on low prices and supply them to the poor at affordable prices. However, this public policy too failed in Delhi acquire all those lands identified for development and contributed in turn to the creation of large scale unauthorised developments (Misra, 1986; Sarin, 1983; Mitra, 1990).

In Bombay, Calcutta and Madras the policies depended upon urban land ceiling and cross-subsidies provided through World Bank's support. Whereas in Delhi the provision of cross-subsidy depended upon the revolving fund built from the profits of commercial, industrial and high income residential land auctions. The land ceiling and regulation policies of other cities hoped to acquire all the excess (stated limits) land held by individuals to provide subsidised housing in urban areas. Furthermore, sites and service projects aimed to provide affordable housing to low income groups in several cities. Delhi's case provides evidence that the ambitious attempt of developing a large number of commercial and industrial uses that provided larger profits than the non-productive residential use has created artificial scarcity of land for formal housing and increased the waiting period of beneficiaries. This slow development of land and long delay in supply of formal land have become primary factors that attracted unauthorised land developments.

Delhi's public land policy's approach of running a single institution that provides planning, land development, housing, slum clearance and other activities of urban development has contributed to a large scale informal development. The policy's operational deficiency (expertise and municipal administration-based institutional structure) has disabled its efforts, and contributed in turn contributed to the failure in controlling the growth of informal settlements (Bose, 1973). On the other hand, in Madras and Bombay (where state Housing Boards were responsible for constructing new social housing and Slum Clearance Boards executed slum and squatter clearance schemes) public authorities' insignificant share of the land market contributed to the low volume of construction, higher cost, and largely inappropriate housing. Their operation resulted in increasing the proportions of people forced to live in informal settlements. In these cities, the land policies have also had a set back in targeting the right income groups, and devising strategies for meeting the individual needs.

Although procedural delays, court injunctions, low rates of compensation, high standards of development, inadequate supply, high prices, legal and administrative constraints and poor management of land have consequently resulted in the creation of informal settlements in many cities in India, Delhi's public land policy experience is different from them. In Delhi, the large-scale public sector effort has suffered from the failure to match the supply with demand. The primary reasons for the formation of illegal developments in Delhi are: delay in acquisition of notified land, and inability of the policy to deliver timely adequate quantities of affordable land in varying sizes, with flexible lease conditions. Delhi's case proved that the public land delivery may not be able to provide right land to right person at right time and on reasonable prices.

2.2.3. Lessons From The Land Policies Contribution To Informal Settlements In The Indian Sub-Continent

In the context of Delhi, it is worth considering the cases of informal settlements in other cities belonging to the Indian sub-continent (comprising other countries such as Pakistan, Bangladesh and Sri Lanka) due to their socio-economic and political similarity. In almost all the cities in this sub-continent, informal settlements occurred mostly in the form of squatter settlements. But in case of Delhi they occurred mostly in the form unauthorised

developments. A large number of these unauthorised developments accommodate middle and high income households who could have been supplied with formal land had the government monopoly not existed in Delhi. Nevertheless, the increasing scale of widespread unauthorised developments and their high standards make them different from the squatter settlements.

The experiences of public land development and the existence of informal commercial land subdivisions such as Katchi Abadis can be traced from the cities of Pakistan. These Katchi Abadis exist due to economic status of their occupants (mostly low income groups) and active participation of formal private land developers (Siddiqui and Khan, 1994:277). Most informal developments have occurred despite the government developed planned schemes as well as formally approved small and large private land subdivisions in Lahore and Hyderabad (Qadeer, 1983:238). The related issues of some of the major settlements follow.

Orangi Pilot Project (OPP), Karachi

In the first impression, Orangi's commercial illegal subdivisions are similar to Delhi's unauthorised land developments. But their prime characteristics (such as a high level of security of tenure guaranteed by illegal brokers with the informal protection of politicians and often key persons in the administration) make them different from Delhi (Kool et al., 1989). Their occupation of public lands owned by national, provincial and local governments (Nientied and Linden, 1991:350; Hasan, 1992:1982) is unique in its context. Most of Karachi's land is either unattended desert land transferred to government departments, or bought by the development authority for lowest prices from land owning departments. The Karachi Development Authority (KDA)'s task of large-scale land supply is same as the objective of Delhi Development Authority but it had less burden on land acquisition than DDA who had to acquire large number of private lands. However, in spite of having active formal private involvement, the major reasons suggested for the informal developments in Karachi are high cost of formal land supplied, long cumbersome and bureaucratic procedures, and long delay in formal land allocation (Nientied and Kalim, 1991).

Orangi's formation process is also similar to Delhi. It is a very large squatter settlement subdivided illegally all around the plot-township scheme developed by Karachi Development Authority (Selier and Klare, 1987). It has a character of reasonably well laid out area with a rather acceptable infrastructure.

Khuda-ki-Basti, Hyderabad

The existence of Katchi Abadis in the form illegal subdivisions of clusters of very simple huts in Hyderabad are another kind of experience. This situation occurred in spite of both Hyderabad Development Authority (HDA) and private sector providing plots for housing (Linden, 1989). The primary reasons for informal developments are: unaffordability of formal land supplied and allocation of excess number of plots to middle and higher income groups (ibid). Private developers disappearing after collecting money from purchasers, long delay of private development of allocated plots, poor standard of development of joint-venture schemes, delays in generating the funds required for private development and lack of supervision of private development by the HDA seems to have contributed to the formation Katchi Abadis (Siddiqui and Khan, 1990:311).

Hyderabad Development Authority (HDA)'s new Incremental Development Scheme called 'Khuda-ki-Basti' designed exclusively for low-income group is a new experience in the South Asian context (Ali, 1987:53; Linden, 1989; Siddiqui and Khan, 1994; Mumtaz, 1991). Its emphasis on public land delivery through targeting affordability, simplified procedure of allotment, immediate construction and provision of a small piece of land with limited initial services are some extent similar to land allocation method of DDA. This public allocation has been facilitated on the basis of some new norms (Linden, 1989; Mumtaz, 1991): (1) no standards and layouts have been imposed, and the rules and procedures were simple and minimal; (2) a filtering mechanism has been adopted to keep investors and speculators out; (3) the idea of reception area and HDA's refusal to issue allotment orders and the concomitant cancellation of vacant plots; (4) infrastructure comes about as the inhabitants pay their instalments; and (5) engaging middlemen for some tasks such as checking illegal subdividers is a new experience.

This incremental development scheme shows that the poorer section of the population can be reached successfully even without bringing about basic changes in societies power structure, political programme and unequal relationship between actors. It also shows that development authorities may successfully assume the role of the informal subdividers and follow their strategies partially to eliminate illegal land developments, speculation and land grabbing that were unsuccessful in the case of Delhi (Siddiqui and Khan, 1994:289).

This scheme's success was also contributed by its operational conditions: (1) provision of house-to-house water connections, sewerage, electricity and road paving etc., on longer run, through furnishing monthly instalments; (2) very simple and open allocation criteria decided by the government official on the spot (Linden, 1989:9); (3) the requirement of potential allottees to bring their families and possessions before allocation and to live in a makeshift huts (jhuggis) until constructing their house incrementally; and (4) construction of house on a self-help basis, while internal services were provided incrementally and financed through deposits by community groups (Siddiqui and Khan, 1994). This scheme also demonstrates a new experience that official commitment of administrators has reduced the number of innumerable leaders, brokers, social workers and other middlemen who try to get their share by obtaining many plots in the formal scheme. They obtain more than one plot either by simply encroaching upon the area, or through direct contacts with the staff of the implementing agency, or through (fake) applicants (Ali, 1987:53; Linden, 1989:15).

Some of the other conditions that contributed to the success of this scheme were: (1) full ownership documents issued only after the house has been built and the allottee has paid all his dues; (2) eligibility of ownership is considered on the basis of continuous possession of the plot by the beneficiary; (3) the authority's liberty to cancel the reservation and give possession to another applicant if the plot is found vacant; and (4) the speciality of involving some element of the role of the informal sector in formal development.

2.3. THEORETICAL PERSPECTIVES ON THE EFFECTS OF PUBLIC INTERVENTION THROUGH LAND POLICY

The land market is marked by special features: heterogeneity of products, limited number of sellers, varying mobility according to location and supply and demand, and distorted view of market conditions. The subject of land is a focus of many disciplines: Geography, Economics and Building Sciences. Hence, many theories exist on location and spatial distribution of land. Nevertheless, the urban land market and its divisions into specific sub-markets are not well represented by the available theories (Mattingly, 1993:104).

Concerning housing land development, there are two major traditions lying down theoretical perspectives and analytical explanations: “**neo-classical**” and “**Marxist**” (Yiannakou, 1993; Mattingly, 1993; Baken and Linden, 1992; Geisse and Sabatini, 1982). The former is incorporated in the theory of urban or welfare economics, and the latter concentrates on land rent theory. The first focuses predominantly on micro/agency behaviour. Here macro level trends are considered as a basis on which an agency operates. On the other side stands Marxist tradition, in which social relations are considered as a source of land values (Mattingly, 1993:104), and macroscopic/structural aspects are the generators of agency behaviour (Yiannakou,1993).

These two traditions differ in their basic approaches on public intervention in the operation of land market. The neo-classical tradition is preoccupied with the discipline of (urban) economics, thereby contributing the analytical tools to the study of different types of land and property markets, and the nature of land rent. It concerns with the supply and demand, the transaction prices which result from their interaction, and efficiency of market functions. It seeks to identify barriers to the smooth interplay of supply and demand (Mattingly, 1993:104). A major division, public welfare economics, has focused attention on public intervention in land and property markets, and also widely examined the relative merits of different types of intervention such as regulatory, financial and direct development (Barrett and Healey, 1985).

Geisse and Sabatini (1982) note that the neo-classical urban economics tradition does not question the desirability of land speculation or rises in price or profit. Speculation is an expected response of those whose interests are damaged or denied by the general objectives, content, and procedures of urban planning. Thus, it treats urban land

speculation as a regulatory function contributing to market efficiency. For their part, profits from land speculation are justified as compensation for risk entailed as all the land held back from supply at any given time may not turn out to be as valuable as expected when finally sold.

On the other hand, the Marxist view is that urban land ownership is, concentrated inevitably in the hands of land owning monopoly. This land owning monopoly uses its power to extract a tribute from other classes in the form of “absolute” rent in addition to “differential” rent. The essence of this is that the land owning monopoly manipulates land values and land uses to enrich itself at the expense of the rest of the society. To counteract this effect the public policy objective supports the idea that private property and the use of the price mechanism in real property be replaced by a system public intervention in the allocation of land (Hallett, 1979).

Urban economics, however, is preoccupied with locational or spatial differentiation. It analyses land value (price/cost) as a key factor in the allocative mechanism, using “household” as the basic unit of decision making. Thus, it argues that the residential and land-use allocation process is one of competition among single actors, households or firms. Therefore, every mediation process (such as public policy) is external to the price mechanism either modifying it or influencing a household’s decision (Yiannokou, 1993). Urban economics is preoccupied too with consumption space. Marxists, on the other hand, stress the ‘production’ of the built environment. Both approaches analyse state intervention in the market and land allocation, but Marxist theorists are concerned with the implications to the development process than the effects of policy as such.

Further, in regard to the theoretical perspectives on the other part of the research question (i.e. illegal developments and unauthorised housing), Devas (1993:81) notes that

“Marxist analysis identified informal sector housing as one aspect of the exploitative economic system, which allowed the poor no alternative access to adequate shelter” (also see Drakakis-Smith, 1981:67).

Most theoretical discussions on informal developments and unauthorised housing are very recent and by scholars concerned with built environment and self-help housing (Shakur, 1994; Baken and Linden, 1992; Baross and Linden, 1990; Payne, 1984). There are many views on the causes and creation of illegal settlements. One is that the illegal settlements (for example squatters) is caused by a mismatch between demand and supply, and it exists as an alternative to formal housing (Payne, 1984; UNCHS, 1983). Another view is that the illegal developments result from speculation in land and property, and exploitation of circumstances for profiteering.

Nevertheless, these established theories do not provide a sufficient explanation of policy intervention and the resulting impact in the form of unauthorised land development. The present study has accordingly reviewed various theories and country experiences to yield a *post factum* or *ex post facto* theory (see Section 3.2). The focus is on the reasons and circumstances surrounding the creation of illegal developments, and the ways in which the policies affect these reasons.

2.4. ILLEGAL DEVELOPMENTS: REASONS WHY PEOPLE CREATE ILLEGAL SETTLEMENTS

The following reasons have been suggested for the occurrence of informal land developments: incompatibility between high standards of formal development controls and ability of households to pay; mismatch between demand and supply; lower entry costs of informal land; efficiency of housing land delivery; better locations; economic gains; malpractice and corruption in land delivery; speculative role of property agents and developers; and socio-economic reasons.

2.4.1. Development Standards

Illegal developments exist in response to the higher standards of formal land and housing developments, their affordability being a serious constraint (Baken and Linden, 1992:7). They do not conform to pre-determined plot sizes, services provision and similar standards of urban habitation and convenience that are the major concerns of all land policy regulations (Vernez, 1973; Payne, 1989). Rather as suggested by Baken and Linden (1992:54) the “spontaneous settlements approach” side steps the need for planning

permission and conformity to standards, and has proved to be the most appropriate to low income groups with respect to land servicing, prices, procedures and locations.

On the contrary, lack of affordability of informal settlements was stressed by Haarhoff (1983). His study of low income housing in the Durban Metropolitan Region found that spatial standards in informal settlements were equal to, and in many instances better than, those set out in the “housing code”. Households were seen to regulate their accommodation spontaneously according to individual need and financial resource, and significant relationships found to be existing between mean income levels and floor area of dwellings. However, Dowall (1992:15) argues that in developing countries, formal housing is confined to legally sanctioned procedures, rules and regulations which can be honoured only by those earning at or above the median household income, and the households earning less are forced into the informal sector. Thus, informal approaches are efficient, producing low-cost shelter, developed on hillsides and flood-plains, and of acceptable standard (ibid.).

Mitra (1990) observes that unauthorised colonies accommodate more higher income families than what slums and squatters do in Delhi. Baross and Linden (1990) argue that where there is a lack of investment opportunities any land is attractive, especially under inflationary conditions. They also hold that a family looking for any kind of property, or those who have been waiting for allocation of formal land for a long period, may invest in informal housing as an alternative to legal land, and with greater confidence if there is some scope for legalisation of illegal developments. Thus, the empirical findings have obliged the theory to take cognisance of access to land for housing and investment, in addition to the existing and pressing issue of affordability.

2.4.2. Mismatch Between Demand And Supply

Illegal settlements are observed to emerge when the unmet demand for residential land exceeds the volume supplied by formal channels (Ferreira et al., 1985; Kombe, 1993). The increasing speculation and complex mechanisms of formal land delivery prevent access to middle and low income groups. Doebele (1987) argues that low income families do not seek informal access to land and its development not because it is cheaper but because they

have no other choice. Maasdrop and Pillay (1983) found that a growing backlog of housing need under conditions where expensive public housing is available encourages informal settlements. Their survey in South Africa found that 90% of the respondents in informal settlements had not been allocated accommodation by public housing. The local authority simply had been unable to keep pace with demand.

Mitra and Nientied (1989) have also suggested that in South Asia inadequate supply of government plots forces the poor into various informal options. They reported that housing promoted through formal schemes was inaccessible to the target group for reasons of limited supply, non-existence of credit facilities, and steeper market value of plots. Payne (1984) states that the corollary to mismatch in demand and supply is growth of squatter settlements and increased densities in existing low income areas.

2.4.3. Lower Entry Costs Of Informal Land

The existence of illegal developments has been explained using a 'cost of entry' analysis (Gilbert and Ward, 1985; Doebele, 1987; Yonder, 1987; Mitra and Nientied, 1989). The lack of legal status, insecure tenure and dubious locations make illegal settlements initially cheaper than formal sector options (Benninger, 1986; Ward, 1984; Basu, 1988; Baross and Linden, 1990). Also, informal land deliveries are credited with flexibility, responding best to public needs in terms of price and related procedure, as well as location (Baken and Linden, 1992:96).

Baross (1990:7) and Mitra and Nientied (1989) argue that there is no price difference between legal and illegal settlements. On the contrary, the opportunity of payment of land cost in instalments, their low initial costs, and the possibility of incremental building construction and servicing that are available in illegal settlements encourage large scale unauthorised developments. As a result, a large volume of cheap housing on illegally subdivided or occupied plots exist in several cities. They are increasingly becoming the major source of new cheap housing (Baken and Linden, 1992:17). Here the key related variables are *de facto* security of tenure, density, level of servicing and location. An important feature of illegal subdivisions is the opportunity for building incrementally without being obliged to comply with construction standards. This allows flexibility and spreading of costs. Siembieda (1994:147) has observed that buying

land in irregular settlements continues to offer a series of 'progressive' cost arrangements that facilitate land access to a large number of households.

2.4.4. Efficiency Of Housing Land Delivery

Illegal developments are said to release land quickly and efficiently. This is because it is a simpler procedure for an informal private developer to acquire, develop and dispose of plots than it is done by the public sector. A private developer can also develop sites intensively and sell them to the poor at low prices (Silas, 1988). Therefore illegal developments are quicker, better organised and widely available than legally provided ones (Vernez, 1973; Doebele, 1987; Yonder, 1987). Mitra and Nientied (1989) have also observed that metropolitan governments in South Asia supply by no means the number of plots required to settle the growing low income demand. In their search for a place to live, these groups often have no choice but to search for a piece of land in the illegal market.

Barross and Linden (1990) also argue that informal developers offer their clients' solutions cheaper than those done by public and private developers who supply plots within the rigid framework of formal planning practices. They claim that the families who buy plots in illegal subdivisions have confidence in the developers' efficiency to arrange tenurial security. Not only do they receive written documents registering their sale, but crucially, believe that the promoters are well connected enough to keep demolition squads at bay (ibid). The World Bank (1980) also states that not only quick delivery but also the large supply of inexpensive privately owned land close to the city that matter. A history of lax enforcement of land use and subdivision regulations is also a major reason making informal land developments so widespread (ibid).

Regarding an efficient delivery system it is also argued that illegal subdivision and sale of land have indeed developed into a principal land supply mechanism. Unlike legally provided formal developments, illegal supply uses flexible procedures (Benninger, 1986). People who are not literate and/or unaccustomed to dealing with bureaucracies find it difficult to arrange for the fulfilment of required conditions within the stipulated period, losing thereby the means to participate in formal land allocations. Inevitably, such people tend to be on low incomes (Howland, 1977). Additionally, registrants unable to wait for



formal land deliveries have found alternatives in illegal and semi-legal processes (Pezzoli, 1987).

2.4.5. Suitable Locations

Another reason facilitating illegal settlements is suitability of location. Such settlements serve the vast majority of new sites and are better located in relation to work place and urban services (Benninger, 1986; Basu, 1988). It has pointed out that public plot allotment often ignores employment opportunities, real wages, the cost of construction materials, and the nature of the land market. UNCHS (1983) also state that with regard to lower price and suitable location, informal settlements often match better with low income groups' needs/priorities than do public housing, or site and service schemes.

2.4.6. Economic Gains

Informal settlements provide opportunities for extra revenue through economic activities, renting, subletting and sale of part space, etc. Silas (1988) notes that informal housing provides accommodation for sale or rent; using part of the plot for economic activities provides yet another opportunity missing in formal developments. Further, as informal settlements are not subject to development controls, residents often sublet part of their house, or sell part of the plot to earn profit. The formal housing does not usually allow these transactions. In this regard we may recall UNCHS (1984) report which says:

“it must be borne in mind that a good proportion of economic activity in low income settlements is carried out in association with housing, and that solving problems of housing tenure will automatically accommodate significant elements of income earning operations for poor house holds”.

UNCHS (1984) therefore recognises that low income and disadvantaged groups are excluded from legitimate access to housing land located close enough to jobs, especially self employment. Tenorial security of illegally acquired plots and income opportunities such as renting, subletting rooms, sale of part space, and capturing profit from changing land values, encourage middle and higher income groups as well (Silas, 1988; Mitra, 1990). Hence all income groups may gravitate to informal settlements for different reasons.

On the contrary, if inexpensive lands were peripheral or outside municipal boundaries where administrative controls are non-existent or relaxed (as observed by Baross and Linden, 1990) it would be an open question whether poor or low income people would still prefer those places. Low income families are also said to prefer to live in places nearest work (usually, the city centre) in order to reduce travel costs. But, the general understanding is that informal business has poor prospects in peripheral areas, where housing is preferred by middle and/or higher income households only. Low income earners prefer locations which are 'better' (if not good in an absolute sense) in terms of employment potential or proximity to city centres. Thus, Zetter (1984) may be right that to a large extent illegal development is therefore the risk faced by land-owning elite who want to maintain their ownership status and profit from land values relatively unfettered by public intervention. This allows them to capitalise on any surplus value by illegal land sales or obtaining higher rents on upgraded and now titled land.

2.4.7. Malpractice And Corruption In Land Delivery

Malpractice such as corruption, nepotism and favouritism in the formal land allocations (Kombe, 1993), and involvement of land owners, subdividers and local officials (councillors, police etc.) encourage the growth of informal land allocation practices (Amis, 1984; Kombe, 1993; Mitra and Nientied, 1989). UNCHS (1984) observes that popular settlements are usually assisted by a variety of actors such as organisers of invasions, politicians, etc. Ward (1990) and Devas (1993:84) hold a view that occupations of public and/or private land and unauthorised land subdivisions are increasingly organised by landgrabbers and illegal developers, often supported by politicians.

2.4.8. Exploitation And Speculative Role Of Developers And Property Agents

Payne (1984) hold another view altogether: unauthorised settlements are usually premeditated and planned by agents (such as real estate sharks, politicians, local leaders, mafia racketeers, and even directors of housing agencies) with clear interests in sponsoring such developments. Ward (1984) observed three mechanisms of formation of unauthorised settlements: (i) illegal subdivision of marginal lands for the sale of unserviced plots; (ii)

encroachment by squatters whose claims to a parcel of land are assisted and usually stimulated by political motives, or government infighting; and (iii) land transfers as rights of occupancy ceded to low income residents. Plots are therefore sold off by individual payment when the authorities intervene to legalise land holdings through expropriation and compensation for the loss of their land (Payne, 1984).

Habitat-II Delhi (1996) observed that informal land delivery may exploit the plights of households seeking shelter. World Bank (1980) records that the 'pirate' subdivisions that accommodate families on moderate incomes charge higher prices for land in undesirable or environmentally sensitive areas (such as flood zones and steep slopes). Delays in the formal development process, opportunities to buy and sell lots in illegally obtained tracts, and illegal sales using invalid ownership documents, are among the numerous factors spawning informal settlements. Furthermore, lack of legal accountability of sellers, and lack of information to buyers, enables unscrupulous land dealers to take advantage of their clients' tenuous position (*ibid*). Developers and contractors operating in the formal spheres too are involved in illegal or semi-legal dealings. Also, a political and bureaucratic culture featuring widespread clientelism and corruption allows developers to ignore regulations and to skip or shorten formal procedures (Baken and Linden, 1992:81).

2.4.9. Other Socio-economic Reasons

Evicted squatters who cannot afford accommodation in the formal sector will inevitably try to squat elsewhere. Those who can afford it may move to unauthorised colonies, or even construct some sort of shelter in the development areas against Master Plan provisions (Basu, 1988). Also, increase in unemployment and decrease in salaries dampen effective demand for formal low income housing land, and divert it to the illegal market (Geisse and Sabatini, 1982).

Baross and Linden (1990) argue that the reasons for the growth of informal developments can be found in a number of interrelated factors such as: (i) the continued process of urbanisation which increases demand for cheap land; (ii) economic consolidation in third world cities which changed the structure of demand for housing land substantially; and (iii) the state of stable jobs and higher pay which economically lift the

low income group to a level where they can, on the basis of their own financial resources, enter the housing market at the level of unserviced suburban plots.

2.5. POLICY EFFECTS: THE WAYS IN WHICH POLICIES MAY AFFECT THE REASONS FOR THE CREATION OF ILLEGAL DEVELOPMENTS

Existing theoretical understanding and the prior experiences gained around the world indicate that land policies affect illegal settlements in different ways. Large-scale advance land acquisitions, planning regulations, plot sizes and layout designs, increasing land values, insufficiency of formal supply, regularisation of unauthorised housing, speculation, cross-subsidisation, and failure of formal land delivery are among the specific factors that foster illegal settlements.

2.5.1. Advance Land Acquisition

Literature suggests that public land acquisition processes encourage unauthorised land developments in many ways. The theoretical arguments for Delhi's large-scale land expropriation demonstrate this very well. The advance public land acquisition programme of Delhi put pressure on lands that are not acquired, pricing them beyond the reach of even middle-income households (Misra, 1986). This is because the acquired land caters deliberately to specific housing need (often auctioned for higher prices) and not to the needs of the urban community as a whole. The policy of acquiring land below market value, only to auction it as developed plots to the highest bidder, has generated speculative motives among the original landowners compelled to part with their property. Once aware of the development value floating over their land most landowners were galvanised into seeking alternative means of profiteering sale.

Delays in acquisition are also cited as a major reason for delay in supply, and for consequent price rise of unacquired land. The policy of freezing the prices of sites to be acquired and purchasing them at a later date has led to prolonged court battles leading to serious delays in payment of compensation to land owners. As a result, areas negotiated for acquisition but not yet possessed, and sites acquired but not yet developed (both due to litigation) have become easy targets of squatting and unauthorised encroachment (Misra,

1991). UNCHS (1984) also noted that the high costs of acquiring and developing land for housing by the public and corporate sectors have curtailed land supply to low income families in developed and developing countries. This can therefore be expected to constrain the access of low income groups to legitimate housing on legally acquired land.

In contrast, Sandercock (1979) says that in Sweden, despite slow and cumbersome acquisition procedures, advance land acquisition policies have succeeded in stabilising land values. Further, public acquisitions of all land prior to development and its subsequent release under public leasehold tenure, have ensured comprehensive planning. The government has recovered the increase in value through a system of land rents, revised at regular intervals. The conditions written into leases allow planning authorities greater control over the timing of development and use of land.

2.5.2. Planning Regulations

Also, it has been argued that planning regulations in developing countries were, in the first instance, inherited from colonial administrators or copied from developed countries. Hence, they are unduly high standards given the financial capacity of low income households (Dowall, 1992:19; Baken and Linden, 1992:75; Zetter, 1984). Income groups who cannot in effect afford these standards are forced into illegal channels of land delivery (Okpala, 1980; UNCHS, 1984; Baken and Linden, 1992:75). The insistences on high standards of development and the provision of complete infrastructure by the public authorities' prices land out of reach of low income groups by increasing the costs in formal land supply (Mohan and Villamizar, 1982).

These high standards amidst a growing housing shortage have led to higher income groups taking over low-income housing. Policies, as in Delhi, have encouraged illegal transfers of public low-income plots/houses to high income groups, lowering even further the de facto supply to poorer households (Mitra, 1990:216; Baken and Linden, 1992:64). The sequencing of public development, planning-servicing-building-occupation, reverses the preference of households for occupation-building-servicing-planning (Baross, 1990). However, Rakodi and Devas (1993:275) claimed that public sequencing is intended to increase land supply and reduce costs, and requires empirical testing.

Furthermore, Baken and Linden (1992:45) argue that land-use planning controls fail to overcome speculation, increasing instead monopoly control by public authorities and red-tape. Land use zoning which separates residential use from other uses narrows the opportunity of working close to home, or of running small enterprises on the premises (ibid). Land use regulations have usually resulted in the restriction of supply by setting up urban limits, putting up the price of land (Dowall, 1981; Geisse & Sabatini, 1982:156; Cullen and Woolery, 1982). Land use control programmes also affect residential land values by requiring large lots for development and imposing additional costs on developers that are then passed on to buyers.

Land use planning as practised can restrict the range of choices available to land owners in the following ways (Eve et al., 1992:5; Monk, Pearce and Whitehead, 1991; Parsons, 1992; Dowall, 1992).

1. Restricting the total quantity of legal housing land available for development at any one time, thereby diluting the locational advantage associated with job and investment opportunities.
2. Restricting the location of land made available. This often leads to change of land use by public authorities, creating obstacles to implementation of large-scale land development projects and delaying residential development in notified areas of land acquisition. As a result, the area becomes vulnerable to squatting, and encourages households to look for alternatives in either formal or informal systems.
3. Restricting the ways in which available land is developed by imposing lengthy and complicated allocation procedures and strict regulatory conditions. This motivate families to search for flexible procedures.
4. Altering the timing of development that consequently delays the implementation of development plans/projects.
5. Restricting the availability of legal land for housing that constrains land supply (Parsons, 1992; Dowall, 1992).

Thus, theoretically, the planning system does not affect supply in the event of lack of demand for housing, the release of large quantities of a variety of land and/or land

allocations replicating the market (Eve et al., 1992:19). Sandercock (1979) points out that if a government becomes sufficiently active as a developer of land it can dominate the market and determine to a large extent the general level of prices for both raw and developed land by its control over supply.

It is believed that the way policies are implemented creates considerable market pressures to evict low income families. Attractive locations (close to commercial centres or high income housing) where the poor find economic opportunities are denied to them. Their segregation and isolation in outlying or remote areas reduce drastically their ability to earn leading to squatting and encroachment on government lands.

2.5.3. Plot Sizes And Layout Designs

In many countries land is inefficiently used with mean plot sizes more than twice the affordable standard in low income residential areas. This has effectively reduced the amount of land available for housing, increased development costs and created urban sprawl (Zetter, 1984). Mattingly (1993:111) observed that minimum plot size standards and coverage regulations have had the unintended effect of increasing the demand for land and enlarging its scope. Also, the quality of services attracts a unsatisfied demand with greater resources than the targeted demand. Further, the unsatisfied standards and other requirements that they contain often demand the human being to behave in ways they cannot if they are to survive. Constraints on access to land by high and middle income groups result in competition for land being made available, legally or illegally, for the poor (ibid).

2.5.4. Increasing Land Values

Increase in land values effected by land policy encourages informal developments. The increase in prices results (in peripheral areas) in the following ways: (1) from the household housing subsidy system and growth of subsidised loans; (2) increased demand for single family dwellings; (3) inflation and encouragement given to home ownership; and (4) the ability to pay higher rents and prices reflecting a new expectation among households (Walters et al,1974).

Sandercock (1979) argues that increasing population and economic growth has intensified the competition for the scarce resource that land already is, forcing up its market value. Rising prices can explain the attraction of land for investment and/or speculation, especially in view of the inflationary conditions in many developing countries, where there may be a lack of alternative investment opportunities (Baross and Linden, 1990). Eve et al., (1992:35) noted that land prices modify significantly both plot sizes and type of dwelling built in an unintended way when government controls fail.

The regulated supply of land affects land values in the following ways: the inordinate delay in supply from land banks delays in turn supply of serviced land; seriously upsets development targets; and leads to an artificial squeeze in the land market causing land prices to soar (Misra, 1986). Irrespective of these circumstances, a constant argument on the supply side is that an over-regulated zoning system where development is authorised, is a major cause of land price increases.

In Delhi, where plot allocations are done by lottery, the government-fixed prices result in tremendous upward pressure in the open market. On certain occasions, prices for new allocation are fixed arbitrarily, or pegged to auction prices in that locality. The auction price, which may be the highest affordable price in that locality, does tend to raise the overall price in subsequent auctions. In Delhi, even the predetermined rate bears no relationship to the ability to pay of low and middle income groups (UNCHS, 1984). The wide gap between the plot price fixed by the housing agency and the open market price has been a principal reason for resale of plots and increasing individual speculation. This too is one major reason why the poor sell out and/or opt for illegal developments.

2.5.5. Insufficient Land Supply To Demand And Failure Of Regulated Public Land Allocations

In literature, one also finds that the main cause for illegal developments is the failure of current formal land delivery to cope with urban demand (Kombe, 1993). It is strongly argued in this context that existing public delivery mechanisms do not allocate adequate quantities of land to the right persons, at reasonable prices when and where needed (Howland, 1977). This increases demand and fierce competition for affordable plots

offered by government, and encourages red tape, malpractice and corruption. In result, entrepreneurs with underground connections subdivide and sell public lands to the poor who cannot afford formal land (Yonder, 1987). In certain cases, higher prices offered to formally allocated legal land, low income groups are tempted sell their plot or their plot allocation papers before occupation (Mitra and Nientied, 1989). Mitra (1990) holds views that public land delivery does not serve the locational interests of low income families. This leads to unauthorised colonies catering exclusively to the demands of low income groups.

Public allocation criteria and selection of beneficiaries are seen to favour middle and higher income groups. The annual household income criterion through which beneficiaries of formal land allocations are selected, may categorise high income families below their actual income, affecting genuinely low income groups. It is also noted that due to legal powers public land allocation authorities act like private landlords, protecting their interest in the land and often refusing to allocate adequate land for housing. Consequently, enough land may not be allocated for low income group housing (UNCHS, 1984).

The monopolistic growth of public authority in Delhi seems to have suppressed small-scale private developers and made it attractive for them to engage in illegal developments. McAuslan (1985) argues that there will always be temptation as in Delhi to finance development by selling land to the highest bidder. But this gives no incentive either to the seller or to the buyer to allocate resources for housing the poor. In such circumstances, the landowner will prefer to illegally subdivide and sell rather than sell to government for lower prices.

2.5.6. Regularisation Of Unauthorised Housing

Existing literature also suggests that land supplied legally by commercialised private and public sectors were always beyond the reach of low income households (Mitra, 1990). Attempts to enhance the supply of land through regularisation of previously unauthorised colonies as policy is relaxed and concomitant provisions of infrastructure have had perverse effect: raised land prices beyond the reach of low income households. This believed to have promoted heavy resells, with low income people moving altogether or retaining only part of their original plot. Such resells are also noticed in subsidised public

housing areas (ibid). Thus, the improved tenure through regularisation of illegal settlements is reported to have created instability rather than consolidation by putting up rents and land values, and by encouraging invasion of low income areas by middle income groups who can invest in affordable, now titled, land.

However, the experiences suggest that deregulation in the regularisation policy neither stabilises nor reduces land prices, creating dualistic evolution instead, with booming land prices in some areas (Acosta and Renard, 1993). Further, when fixed long term leases are issued, increase in value tends to accrue to the structure, not to the land, enlarging the process of subleasing or capitalising the enhanced values (Zetter, 1984). The transfer, being illegal, will probably be at sub market value. Legally permitted, it may at least allow the allottee to capitalise at full market value.

By contrast, difference in land supply in effect, has been institutionally determined, by a land banking policy that results in quasi monopoly over raw land supply. Sandercock (1979) stated that if a government becomes sufficiently active as a developer of land it can dominate the market and largely determine the general level of prices for both raw and developed land by its control over supply.

2.5.7. Speculation

Speculation is considered to be a factor affected by policy. Neo-classical economics defines a speculator as an “economically rational actor” forecasting accurately and improving the economic efficiency of the market (Hallett, 1979). He can also be described as a harmful actor, using any loophole in the legislation to reap windfall benefits that often result from public works. There are two categories in speculation: (1) active speculators, who look for a windfall gain on land and take into account any relevant information that will allow them to buy or sell at the right movement; and (2) passive speculators, whom are active operators waiting for profit because they do not need cash at the moment and think that property is a good hedge against inflation.

The policies such as Delhi’s public disposal theoretically prevents any kind of speculators. But from the way the policy was operated it is believed to have encouraged private land developers or owner subdividers in the peripheries and also in the area beyond

the urban municipal limits . Those are similar to active speculators described above. In the central city area the land policy seems to have replaced speculators by property agents who deal with rental housing, vacant plots/flats and resale of leasehold properties, in part time or full time. It is argued by Mitra and Nientied (1989) that at Rohini plotted development area about 80% of the plots have been transferred by original allottees through power of attorney to property brokers who in turn transfer them to a third party. Further, it appears from their argument that these processes have created an illegal formal land market (so called legal open market) against the lease condition of restricted resells. It also appears that the property agents are more active than that of speculators in this formal open market and restriction on resells noted to have provided wide opportunity for them to strengthen their role of illegal transactions.

Zetter (1984) also stated that besides the above deficiencies weak institutional structures for land administration, surveying and title registration accentuate market imperfections and create opportunities for speculation. The unexpectedly greater number of bidders and their greater capacities to pay have fostered price rises, and much of the land serviced has found its way into the hands of others than those for whom it was intended (Mattingly, 1993:111).

2.5.8. Cross-subsidisation

It is argued that the subsidy provided to low income groups mostly reaches the middle and upper income brackets (Ratzka, 1981; Yonder, 1987; Misra, 1986). The specific case of New Delhi's public policy of provision of land and services almost free under subsidised public housing schemes appears to have attracted a large number of speculative and ineligible people who have managed to obtain land. This led the original allottees to sell their plots to speculators or ineligible groups and return to squat again elsewhere in the city (Misra, 1986). In general, the middle income group (MIG) land is in short supply and low income group (LIG) tend to sell their plots for profit motive. In result the MIG tend to occupy LIG plots as public authority could neither provide enough plots nor could prevent transfers.

This process is believed to have forced a large number of households into informal settlements as a result of the downward mobility and the inability of the public authority to

provide sufficient land in a large scale (Misra, 1986; Yonder, 1987). The other side of the argument is that the public authority's action of auctioning plots to HIG and commercial use has biased towards higher and middle income groups leaving most of the low income households unattended. These circumstances are believed to have increased the backlog of formal low income housing, and resulted in rising speculative price levels in the formal urban land market leaving no option except informal land to the poor (Yonder, 1987).

2.5.9. Bureaucratic Favouritism And Malpractice

It is argued that both in Delhi and Karachi, where development authorities either owned or acquired large fringe areas for urban development, the actual practice of land allocation favoured the middle class and plot speculators (Baross and Linden, 1990). This is evident from the accounts that substandard commercial residential subdivisions do not develop in a policy vacuum, and governments are highly involved in their creation explicitly or implicitly (ibid). UNCHS (1984) also states that the subsidised public housing programmes directed towards low income groups are often appropriated by middle and high income groups through illegal transfers or bureaucratic favouritism.

2.6. PRIOR RESEARCH AND NEW DIRECTIONS OF THIS RESEARCH

The Sections 2.4 and 2.5 showed that illegal developments are created by specific reasons and circumstances. They also explained various ways in which land policies affect the reasons that contribute to the creation of illegal land developments. This review observed that the land banking worked well in Sweden, Netherlands, Scandinavia and in France. In Delhi, however, it appears to have given adverse effects especially in residential development. The effect is seen in the form of large scale unauthorised land developments and illegal land transfers that should not have been existed with its unique vision and primary goals.

Nevertheless, illegal settlements can be found widespread in Latin America and many other countries where public land banking and allocation policies had not been followed. Therefore, the issue is critical in terms whether to continue the public land policy in Delhi

and other cities, or to discard the policy altogether (Mitra, 1990; Howland, 1977). In either way, it is necessary to find alternatives, stimulants, and means to improve the performance of public policies that are aimed to enhance the supply of land for housing, especially for the poor. Mitra (1990) suggested that it would be worthwhile to find the ways to improve the performance of the land banking policy in order to make it more responsive to household demand and land requirement. The ways of improvement may directly depend upon the present position and existing empirical situation.

2.6.1. Prior Research Findings

The Sections 2.4 and 2.5 highlight that the public policies such as land banking, land use regulation and land deliveries advocated as major instruments for the supply of land for housing have affected the reasons that contribute to the creation of illegal developments. Moreover, there are very little, if any, empirical researches to find out the reasons why people choose illegally developed or transferred land as a result of land policies - although they are aiming to satisfy the needs of these people for land.

Most of the reported researches were context-specific and hardly any literature exists on the researches that integrate more than one instrument. Also, there are no empirical researches reported on policies' effect on unauthorised land developments except for few higher study dissertations. The literature however reports that some studies on land banking, land use controls and land allocations. Some of the useful findings of these researches found in the review of literature are given in the following subsections.

Effects Of Land Banking Policy

Howland (1977) in a study on large-scale land acquisition, development and disposal found that Delhi's land policy has not achieved its objectives, and land values have increased dramatically. She argued that Delhi's public delivery has created inordinate demand, acute shortage of supply, artificial scarcity of land, and consequently, increased illegal transactions in formal land market and encouraged illegal developments. The major reasons identified to have contributed to rapid rise in land values are migration, the economic insecurity that resulted in increased investments on land, the arrival of non-resident Indians, and the inability of socialisation of urban land to control speculation.

In a similar context, Ratzka (1981) after analysing land banking in Stockholm and residential leasehold as a public finance and housing subsidy instrument inferred that the inefficiency of subsidising through below-market fees has not benefited much of targeted groups. It rather benefited the middle and upper income brackets mostly. Carr and Smith (1975) in their theoretical analysis of public land banking and the price of land concluded that the introduction of a public banking will be able to reduce the price by reducing the level of speculation, allowing cheaper land assembly, and enabling lower carrying costs and servicing costs.

Effects Of Land Use Controls

Shilling, Sirmans and Guidry (1991) in their research on 'the impact of state land use controls on residential values' have found that the land use regulations had significant impact on both the demand and supply of residential land. They suggest that the competition among households determines the price at which residential land be supplied to households, who determine the quantity of residential land they wish to buy (the demand relation), and urban land developers, who face these prices and determine the aggregate supply of developed land.

Hannah, Kim and Mills (1993) in their study on land use controls and housing prices in Korea have identified that a substantial part of rise in house prices has resulted from the government's tendency to underallocate land to urban residential use, although part of government's surplus is used to subsidise low income housing within the same projects. The government's control over the supply of land for urban development (subsidised housing, bidding of commercial and industrial land) introduces the possibility of undersupply. This undersupply would make it possible for development projects to finance infrastructure investment through prices of land sold to developers, to pay the subsidies to low income rental housing in development projects, and to make government profit from urban development.

2.6.2. Additional Empirical Research Required

Although the review of the theoretical framework provides the basic idea about what could be happening in cities with land and housing. More empirical information is necessary to prove the argument concerning the impact of Delhi's public land banking policy on illegal developments. The missing ideas required to be investigated in order to analyse the contribution of policies towards creating informal settlements are:

1. the specific reasons for living in informal/illegal settlements, although they are both risky in terms of legality and expensive in long term than formal housing schemes;
2. the residents attitudes and specific needs of those who could not be allocated formal housing land;
3. socio-economic structure, occupational and employment pattern of residents living on informal land;
4. the exact difference of cost between formal and informal land; and
5. the contribution of different actors towards the formation of illegal land developments.

Some of the aspects that need empirical evidence are the market mechanisms that could not be tackled by the policy regulations, and which in turn resulted in increased speculation and investment on land. The difference of development standards that were offered by the public allocation policy and those was afforded by people in illegal land developments. The effect's subsidiary policies such as regularisation unauthorised colonies and resettlement of slums and squatters and their contribution to creation of large scale new illegal developments. The role of increasing population, migration and economic growth in creating more competition-based demand for the land, and thereby forcing up its market value. Relative cost proportion of land development elements in public housing schemes and illegally subdivided land.

2.7. SUMMARY

It has been observed from the literature review that illegal settlements are created by various causes including coherent circumstances and policy impacts. They exist as a result of unaffordability of higher standards of development and cost of entry. They are also

viewed as an alternative option not provided by formal developments. The literature also suggests that the effectiveness of illegal developers in providing quick and better-organised cheap lands have attracted large number of settlers. The flexible procedures of informal land delivery and their suitable locations with reference to work place and urban services also motivate people to opt illegal settlements. It is argued in the literature that the opportunities of earning extra income through informal economic activities such as renting, subletting and shopkeeping encourage households to prefer informal land. However, the illegal developments are also viewed as an activity of malpractice and corruption in formal land transactions and city governance. As stated in the literature these illegal developments also occur due to premeditated process and land speculation that involves agents, local leaders' officials of housing agencies.

It has been argued in the literature that the public land policies such as land banking can increase the public authorities' control on city growth over time, and can increase their influence over land prices and thereby can discourage the formation of informal settlements. It can also increase the supply of affordable land to low income households by appropriating unearned increments and eliminating speculative profits. The land banking along with public ownership and direct involvement of public authorities can moderate the land prices by reducing the power of private land owners. It can also increase the efficiency of land use, and would be able to provide affordable land when and where needed. The experiences gained by Sweden, Netherlands and France reveal that the government intervention through public policy has been successful.

However, it can also be found in literature that similar land policies affect the reasons for creation of illegal developments in developing countries. They are argued to be happening due to many reasons including expropriations, payment of inadequate compensation for compulsory public land acquisitions, higher prices charged for formal land, the high standards of planning regulations, and use restrictions of land use regulations. Especially in Delhi, it has been cited that the public policy's failure to allocate adequate quantity of affordable land was a prime reason for illegal developments. It is also argued that discriminate allocations and irregularities in public land deliveries have not only favoured the middle class and plot speculators, but also promoted down-ward

filtration of higher income groups into low income land. Public authorities are found to be acting like private land lords protecting the land and allocating small amount of land for low income groups. This in due course is encouraging large number of low income households into illegal land. The following Chapter identifies appropriate methodology to test the theoretical statements reviewed in this section.

Chapter 3

RESEARCH METHODOLOGY: INVESTIGATION METHODS, DATA PROBLEMS AND ANALYTICAL FRAMEWORK

3.1. PREAMBLE

This Chapter highlights the manner in which this research study was conducted to identify the reasons why people choose illegally developed or transferred land and the ways in which public land policies affect the reasons that contribute to the creation of unauthorised land developments. A sample survey research method was used to ensure the reliability and accuracy of the data collected, and Delhi's land policy was chosen as a case study for cost effectiveness and analytical viability (Majchrzak, 1984:63). The implementation of Delhi's land policy in a rigid and monopolised way for 33 years ensures its suitability towards generalising the case study findings at a country level, and extending it to the broader level of developing countries.

This Chapter is primarily concerned with the reasons and rationale for using a sample survey investigation, and its validity and reliability in the context of unavailable reliable secondary data to answer the research questions of this study. It also explains the investigation method adopted, the field administration of the survey questionnaire, and how results are portrayed and analysed using some statistical standards. A note on the limitations of the method of the study and analysis is also provided in this Chapter.

3.2. STRATEGY FOR INVESTIGATING LAND POLICY EFFECT ON ILLEGAL LAND DEVELOPMENTS

The research aims were to investigate the effect of a composite policy and to answer specific questions. Therefore, this study has been conducted along a policy research strategy that tactically and theoretically differ from both applied and basic researches (Etzioni, 1983:77; Majchrzak, 1984; Hakim, 1987). Its approach focuses on a particular

problem to seek out alternative ways of solving that problem, and to identify specific potential differences in the intentions of the policy and their effects. However, there are two broad divergent methodological approaches distinguishable (Majchrzak 1984:58):

(1) the moral/philosophical approach that selectively pulls together and synthesises theoretical literature, data and existing research findings from a variety of sources in support of an argument or hypothesis;

(2) the empirical approach that emphasises collection and analysis of survey data by: i) investigation to test a conceptualised preliminary model and to answer specific research questions (Majchrzak 1984 :43), and/or ii) empirically proving the “**grounded theory or post factum or ex-post facto theory**” built from the theoretical observations and prior research findings (De Vaus 1991:12).

The utility of these methods varies depending upon the type of research questions and hypothesis. A common understanding among researchers is that the philosophical method of focused synthesis would be appropriate when required data is readily available and reliable. Otherwise, the methods involving various kinds of empirical data collection would be appropriate (Majchrzak 1984:59).

Moreover, policy research is pursued along two broad dimensions: (1) policy analysis i.e. in-depth analysis of a particular effect of a policy (Patton and Sawicki, 1993:6); and (2) policy evaluation, i.e. to judge the utility of existing programmes (Majchrzak, 1984:14). However, there is no clear cut distinction between policy analysis and evaluation research as both of them focus on studying the policy effects.

The literature presents different methods for investigation and data collection on policy impacts and occurrence of informal land developments. Some of the major investigation methods (Patton and Sawicki, 1993; Etzioni, 1983:90; Siembieda, 1994:151; Bryman and Cramer, 1990) are: (1) analysing systematically compiled information from secondary sources; (2) survey investigation to enlist the possible determinants of effect; and (3) personal observation of (instead of asking) people’s motivation and their behaviour with regard to post-programme impact or pre-programme information.

Although analysis of secondary information is widely known for research on land related issues and past researches have used land registry records, newspaper advertisements for sales and office records, researchers caution the reliability, consistency, and accuracy of most available secondary data (Amitabh, 1994; Siembieda, 1994:151). The researchers noted that secondary information on land related issues are mostly under-reported, undervalued, inaccurate, and further it is time consuming to collect the accurate information (Majchrzak 1984:66; Pervar, 1993:134; Amitabh, 1991, 1994; Siembieda, 1994:152).

Survey investigation is also a widely used data collection method in research (Pervar 1993, Patton and Sawicki, 1993:107). This can be subdivided into two types: (1) self-administered questionnaires; and (2) questionnaire interviewing. The former method is conducted through postal survey, whereas the latter is undertaken through the telephone and/or face to face. Questionnaires can be non-structured, semi-structured and structured. The interviewing can be intensive or non-standardised, semi-standardised or focused, and elite or specialised or mass or large scale interviewing.

The required data for field researches are also gathered through the observation of people (Bryman and Cramer, 1990:4; Patton and Sawicki, 1993:96). This source requires observation of an activity over a long period of time, standardised recording procedures, pre-determined categories for recording data and many other steps to ensure the quality and representativeness of the data. This technique could also be time consuming, difficult to quantify, usually depends upon small samples and challenges the accuracy.

Sources Of Data And Problems In Obtaining Reliable Data In Delhi

The literature survey has revealed a very limited number of empirical studies conducted on land policies impact on informal land developments. Furthermore, this research expected no advertisement of land sales due to the nature of illegality of unauthorised plots and restricted resales of formal plots supplied by the DDA. Similarly, the study realised the difficulty in obtaining reliable data from informal developers or colonisers who subdivide and sell different sizes of plots because of its nature of illegality, sensitiveness and threat of demolition actions by the DDA or disturbance to their business. Instead, it hoped that this data could be collected from informal households and

property agents (who are also colonisers in some areas). In these circumstances, the ideal strategy seems to be the one combining a number of different methods which could provide additional insight that one method alone may not be able to do (Majchrzak, 1984:66).

Although secondary sources of data could be important for land research, they were inadequate in the case of Delhi. Some of the data readily available gathered from the Delhi Development Authority, Delhi Administration, the Ministry of Urban Development and Municipal Corporation of Delhi etc., were found to be inconsistent, unreliable and extremely time consuming to derive reliable data from those sources. (The most useful secondary data could have been the census of India data. But the census contains very little information on housing land and does not provide information on the basis of the legal status of settlements. Therefore, the aggregate data of the census as a secondary source of information could not be used in this research. Similarly, the information published in other sources usually had specific focuses which were not useful to this research).

Another source of ready-made data is property registration records available from the land registration courts in Delhi. But as a large number of leasehold transactions and unauthorised land sales take place illegally on transfer of power of attorney against lease restrictions these prices are mostly regarded as unreliable. The prices of properties advertised for sale in newspapers have not served as important data base because most of the sales are not advertised due to their illegal status.

Despite the case study area, Delhi being the Capital of India and land development being a public activity in Delhi, this research found that recent data was not available at the required scale and/or the available information was inconsistent within the official records and published annual reports. It also found that only rough estimates were available for informal land developments and not much information was available on unauthorised resale of formal plots and constructions.

There are more than three official prices (i.e. pre-determined subsidised prices, auctioned formal prices and government notified formal prices) exist besides illegal resale market prices in Delhi (Misra, 1990). Although land prices for formal transactions

are published by the Land and Development Office of the Government of India, these periodically monitored prices are also suggested to be unreliable. Because the publication is delayed by a period of several months to one year, the assessed prices are based on only few spot transactions, and on official records these prices are invariably very much underquoted (ibid).

Therefore, in order to gather sufficient reliable information to answer research questions, the research basically entailed obtaining opinions from users of illegal lands regarding the reasons why they use such land rather than that provided by the DDA. The research required opinions on the ways in which illegal land developments occur, reasons for their large-scale occurrence and the motives of households for obtaining illegally developed or sold land.

Therefore, the most reliable data sources for this research found to be opinions from households living on formal and informal plots, and records of government offices and property agents. Thus, considering the limitations of quality and reliability, it was decided that the best possible source of useful data would be a survey investigation along with secondary data analysis. The research aimed to collect as much relevant primary information as could be found, since this data is cost efficient and enhances perceived validity (Majchrzak, 1984 :67), and was required to identify universe/sample frame for scientifically valid surveys (Patton and Sawicki, 1993:105).

In order to ensure that the strategy adopted for research investigation was appropriate, discussions were held with the experts in local universities, the School of Planning and Architecture, Delhi Development Authority, other government departments, and NGOs involved in research and field studies in Delhi. Their advice helped in choosing realistic criteria for sampling interviewees.

3.3. THE SURVEY INVESTIGATION METHOD: THE PURPOSE AND RATIONALE FOR IT

A wide range of factors and processes seem involved in the determination of wide-spread large-scale illegal land development and sales in Delhi. With these in mind the general questions that the present study seeks to answer were formulated. These questions were

practice to be approached from a synthetic or holistic perspective, which emphasises the interdependence of the factors and process, or from an analytic or constituent perspective, which focuses on the role of the constituent parts that make up the total phenomenon. By synthetic or holistic, we mean an approach that allows us to view the separate factors or processes as a coherent whole. By analytic, we mean an approach that will identify a single factor or a cluster of factors which at some level are constituents of one of the major systems. While each type of research has legitimate purposes or value by itself, synthetic/holistic research and analytic/constituent research may be seen as complementary to each other.

Related to what we discussed above is the objective or the purpose of the research. Research may have as a heuristic objective the discovery or description of the patterns or relationships, or its aim may be to test a specific hypothesis. In the latter case, and unlike the former, the aim is to test a hypothesis in order to develop a theory about the phenomenon under investigation. As suggested by Seliger and Shohamy (1989) in heuristic research, data are collected in an attempt to include as much of the contextual information as possible. These data may then be categorised and analysed descriptively. The deductive approach, as distinct from the heuristic approach, is hypothesis driven (begins with a question or theory).

Being an exploratory study the purpose of the present survey research can be seen as mainly descriptive. However, and as having a policy purpose, the design incorporates some analytical element. The present survey research, though aimed at practical policy problems, seeks to find the determinants of large-scale illegal land development and sales, and identify variables that are susceptible to manipulation in the policy process. Therefore, the sample survey research adopted has the advantage in providing us with extensive qualitative and quantitative data. The sampling procedure employed made the generalisation finally legitimate.

Weaknesses And Degree Of Error Of Survey Investigation Strategy

An unavoidable weakness of the method used is the degree of error involved in the memory of respondents and the personal biases of respondents in stating their actions,

attitudes and motivations. Although this research aimed to collect the real facts related to respondents' reactions towards rigid land policies and the exact reasons for obtaining illegally developed or sold land, it became necessary to depend upon their opinions. There was no other suitable method for investigation to collect opinions on incidents of exploitation of low income households by informal developers and the possibility of malpractice and corruption. Similar attitudinal surveys have already been used by many researchers to gather factual information (Shakur, 1991:522).

The household data compared with the information provided by property agents have further enhanced the accuracy and validity of data collected by this attitudinal and motivational survey. It was also possible to record some items of data through observations. This provided information for cross checking which enhanced the reliability of data from interviewees. Data gathered through observation, include nature and type of built structures, front set backs, side set backs, location of the plot with reference to major attributes such as roads and community infrastructure etc. The collection of past and present land prices and related facts from the interviews of sample households has been found reliable by other researchers (Siembieda, 1994:154; Pervar, 1993).

3.4. INVESTIGATION METHODS AND SAMPLE SURVEY FRAMEWORK

After finding inadequate sources of secondary and primary data that were posing challenges towards consistency and reliability for ensuring originality in academic research, this study found no option than conducting a survey investigation. A household survey of owner-occupied residents of formal and informal plots was chosen in order to learn about the processes of informal land developments, the agents involved and the reasons that motivate households to opt for informal ownership. The research opted for a structured, face to face interview of four categories of respondents. The structured interview provided an opportunity for the researcher to convince the respondents about the utility and confidentiality of the research and allowed observation of the physical characteristics of the unauthorised land developments. Three different types of structured questionnaires with closed as well as open ended questions were administered to households and property agents. A cross sectional (several target populations at one point

of time) household survey was conducted to produce reliable data. A special emphasis was given to collection of household data.

3.4.1. Investigation Methods

In order to answer research questions, and to explain the processes of illegal developments and land policy's contribution to their creation, a 'tripartite' social survey investigation method was undertaken for this study. The data were collected from a field trip to Delhi during July- November 1994. The components of this method are as follows (see Chart 3.1):

- A socio-economic and attitudinal survey of the present day allottees/residents of formal land and unauthorised land in Delhi.
- Interviewing a 'concerned group' consisting mainly of property agents, government officials, academics and experts attached to non-governmental organisations. Although this group has not provided sufficient information that is adequate to compare with attitudinal survey data, their information helped in cross-checking and in the collection of secondary information required for various analyses.
- Data collection from the secondary sources mainly on the aspects covered in the above fields of investigation for cross-checking, and collection of any other additional information about formal and informal land delivery. It was thought that these would help in obtaining an adequate understanding of the factors contributing to unauthorised land developments.

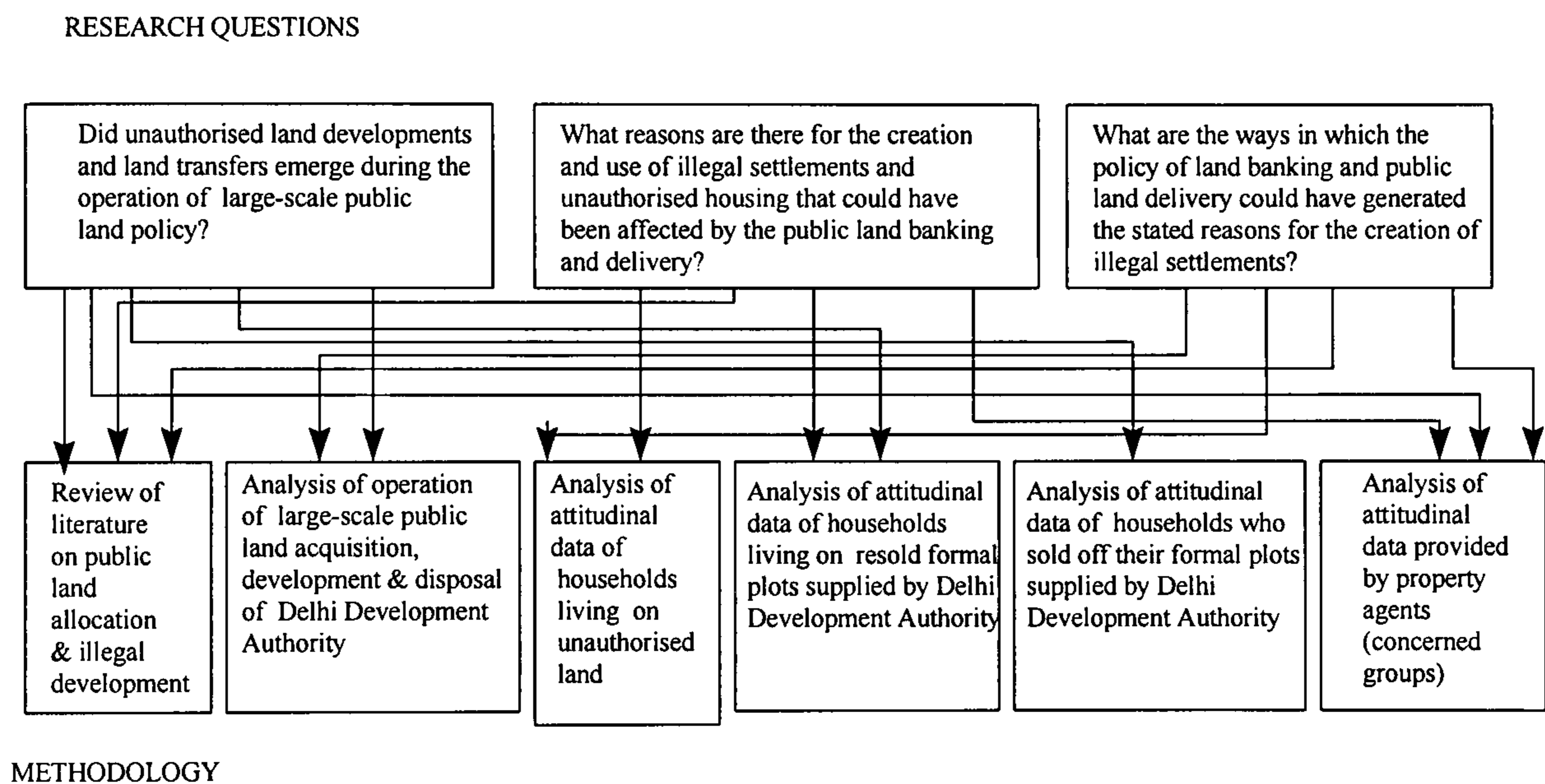
3.4.1.1. Attitudinal/ Opinion Survey Of Households Living On Formal And Informal Plots

The household survey was based on two sets of questionnaire survey: (1) allottees/residents living on formally allocated land; and (2) Plot owners of unauthorised land. The first set of questionnaire consists of two parts: (i) present residents of formally allocated land, and (ii) original allottees who sold off their formal plots.

Allottees/ Residents Of Formal Land

The DDA claims that so far one million formal dwelling units (allocation of built-flats and serviced land) have been provided under the development schemes promoted through its large-scale public land development and allocation policy. Out of them, 2 major schemes provide mainly developed plots for house construction by individuals and co-operative societies. The rest are for mainly constructed group housing flats and some are land allocated to co-operative housing construction undertaken by the societies.

Chart 3. 1 RESEARCH QUESTIONS AND METHODOLOGY OF RESEARCH



This part mainly focuses on the Rohini scheme developed for about 82,000 households of the Economically Weaker Section (EWS), Low Income Group (LIG) and Middle Income Group (MIG). The households were selected by income proxy indicator and plot size. This scheme had many advantages: (1) large number of low income groups would be accommodated, (2) prices were cheaper than in other schemes of the DDA, and (3) developed as a integrated sub-city development scheme with other sectors. Recently developed (after 1981), it would also represent the effect of changes of allotment criteria over times. In this scheme, the layout, the size of plots, the standard of infrastructure and the costs were especially worked out considering a large number of low income groups to be accommodated. This special element makes this scheme peculiar and most suitable,

and it also reduces biases in findings with reference to the criteria of unaffordability of low income groups.

Residents Of Unauthorised Land Development/Housing

The target group of this part of the survey was the households living on newly developed clusters of unauthorised housing. As the situation of regularised unauthorised colonies is different from new developments (Benjamin, 1991), this survey focused on fresh subdivisions. An accurate sample frame for this group could not be derived due to lack of information from published sources (including census) and office records about the fresh unauthorised developments. Therefore, a reconnaissance survey was carried out in order to choose appropriate samples (discussed in following section). The Municipal Corporation of Delhi also helped to make a list of new unauthorised colonies from the applications received towards their likely regularisation. In the absence of accurate data on the exact number colonies, their area coverage, population, legal status and uses etc., the samples were stratified according to their location and plot sizes.

3.4.1.2. Interviewing ‘Concerned Groups’ (Property Agents/Government Officials), and Data Collection From The Secondary Sources

The research also selected real estate property agents, government officials dealing with land transactions, academics and experts attached to NGOs. This group include experienced individual concerned with informal land developments in Delhi. However, in the absence of accurate information about the number of property agents and their sales performance, the research surveyed only the agents who were prominent in the area and could provide information about recent sales. The survey found that most of the government officials dealing with large-scale land developments were new. Therefore, it conducted only discussions with them and considered their advice for selection of samples. Similarly, a wide range of discussions were held with academics and experts attached with Non-Governmental Organisations. The required secondary data was collected from government departments, published documents, and unpublished reports such as research papers and theses.

3.4.2. Sample Survey Framework

In developing countries sampling frames are either lacking or inaccurate. In this regard Bulmer and Warwick (1993) argue that, in developing countries, such extensive information is either not available at all, or where it is available is subject to considerable degrees of error. In the absence of an accurate sample frame the researchers are compelled to adopt poor quality and non-comparability of sampling frames in a variety of Asian surveys (ibid). In this research as well, the investigator found that the pre-existing frames were inadequate. Therefore, the investigator was left with no choice but seek an acceptable deviation from standard probability sampling, namely a quasi-sampling technique. In selecting the sample respondents, the investigator fixed the size on a convenient basis.

The samples for the household survey were chosen on the basis of the following elements to achieve an accurate picture: (i) the precise picture of the population from which they are drawn; (ii) making it small and economically possible; and (iii) ensuring the representativeness of target groups to include the characteristics of universe. Considering the sensitiveness of unauthorised lands and resulting unavailability of accurate universe of sample frames, and difficulty faced in maintaining the rigidity in sample choice, the size of the overall sample was determined more as an outcome of convenience rather than as a proportion of the population size. As cautioned by Weber (1984) sophisticated statistical models were not used to estimate the sample error. However, the difficulty of sampling choices was overcome by stratifying the samples in terms of geographical area (Lee, 1993:60), location, and income groups (see Figure 3.1). Their stratification reduced the possibility of locationally generated biases.

3.4.2.1. Key Assumptions and Definitions

This research assumed that the unauthorised land subdivisions mostly accommodate HIG, MIG and LIG households who could have easily participated in the formal land delivery process. It also assumed that the plot sizes vary according to their income earning capacity. Therefore, a small plot means low income group and a large plot means that is owned by a higher income household. Accordingly, the strata for samples were selected

on the basis of plot sizes rather than their actual income categories which was not available before the completion of household survey. It was realised during the pilot survey that choosing samples on the basis of income group is extremely difficult, as it is very insensitive to ask for household income in a first instance and it would be time consuming to conduct a separate survey to identify the income groups of households. This research focused on land development that are not authorised by the local municipal or planning authority with reference to subdivision regulations as well as building bye-laws. The recent income criteria notified by the government has been adopted for categorising the surveyed households.

3.4.2.2. Sample Frame: Unit of Analysis, Target Groups And Respondents

The survey administered three kinds of questionnaires, each designed for different households and groups - one for informal plots, one for formal plots (allotted/residing)¹, and a questionnaire to gather information from property agents. The research also conducted informal discussion with government officials dealing with the operation of the large-scale land policy.

The questionnaire administered to allottees of formal plots contained two parts. The first part aimed to collect the status of the current user i.e. whether allottee or non-allottee, and socio-economic details and type of land transactions that took place. This part also aimed to collect the address of the original allottee who sold off his formally allocated plot. The second part of the questionnaire gathered facts from original allottee who sold away the formal plot allotted by the DDA. Although some of the questions of these two interviews were similar, the method of data collection for each of the questionnaire was slightly different. The sampling frame which defines every element or unit in the population varied as per the kind of survey conducted.

The household was selected as a convenient unit of analysis for this study (Varley, 1994; Siembieda, 1994). This matched with the large-scale land policies' definition of the family as a household in regard to land delivery. The research also found household as a suitable unit because of the usual practice of more than one family living together in an extended family, and their space requirements and increased earning capacity influencing

the household decision. Besides, the research selected property agents as individuals for unit of analysis.

The survey investigation selected the head of the households or allottee of formal and informal plots, and property agents as respondents rather than knowledgeable people or individuals who have specialised knowledge on the process and have access to unpublished materials (Patton and Sawicki, 1993:98; Hakim, 1987; Bryman and Cramer, 1990). These respondents were in a position to provide comprehensive data that is required for the research either from their personal records or in the form of their attitudes and motivations because they are themselves role-holders rather than private individuals. In order to gather relevant and factual information this research found owner occupied plots as appropriate representative units.

Allottees And Residents Of Formal Land

1. Households residing in resold formal plots

The random cluster sampling stratified according to size of plots (based on income group, EWS, LIG and MIG) was used to choose the samples of this category of respondents. A list of allotted plots by first draw (200 each of EWS, LIG and MIG) held in 1981 were obtained from the DDA as sample list. This ensured the accuracy of details with regard to name of allottee, date of allotment and other information, and avoided duplication and misinformation. It also helped to trace the multiple sales. Of the list supplied by DDA, the sectors (number 3, 7 and 8) containing plots for all three income groups (EWS, LIG and MIG) were chosen as clusters. Then households living in sample plots (list supplied) of these clusters were contacted and the original allottees were replaced by their neighbours. In all (see Table 3.1), out of 366 households contacted, 106 non-allottee households living on formal plots who agreed to participate in survey were interviewed.

The overall response rate was low as a large number of plot owners of resold plots refused to be interviewed. The possible conditions for their refusals include: (1) multiple resells that are yet to be registered with the DDA (this violate the condition of resell restriction and payment of 50% unearned increments in case of officially permitted resells), (2) persons who bought their houses in resells from builders (who sell

houses/flats built on vacant lands bought from original allottees), (3) persons occupying houses violating building bye-laws in terms of number of floors, amalgamated with one or more plots, prescribed designs and uses.

Table 3.1. Samples collected from the field survey

Category of Sample	Sample Type	Numbers Contacted	Number of Interviews Completed
Households of unauthorised land developments	Stratified random multistage cluster sampling	625	300
Formal allottees of Rohini	Stratified random cluster sampling	366	106
Formal allottees who resold DDA plots	Stratified random	106	28
Property agents	Stratified random	100	69

In order to gather real facts and addresses of original allottees, this survey had no option than to replace in the sample vacant plots, plots under house construction, refused respondents, and houses locked (after third contact) with adjacent plots. The research found it extremely difficult to obtain the correct addresses of original allottees who sold off their formal plots due to large number of informal multiple resells. The address of the original allottee and important information such as the cost of sale and number of times already sold etc. (which required referring original documents), were collected during a second or third trip.

2. Original allottees who sold off their formal plots

This part of the formal household survey aimed to survey 106 original plot owners who resold their subsidised plots. The overall survey was stratified in terms of income category of plots. In order to reduce the waste of travel time and money, only the addresses that were complete and advised to be correct by present residents and property agents who dealt with those sales were taken up for the search for face to face interviews. This survey was conducted by the author himself with the help of a multi-lingual

interpreter. After tremendous efforts, 28 “resold allottees” out of 106 plots found resold were interviewed.

Residents Of Unauthorised Land Subdivisions/Housing

This part of the household survey adopted stratified random multistage cluster sampling to select appropriate samples from the target group. Multistage cluster sampling (De Vaus, 1991:67) involves a technique of obtaining a final sample from several different samples. Initially, larger areas are selected and then progressively smaller areas within the larger ones are sampled. Multistage cluster sampling allows geographically dispersed populations to be adequately covered while simultaneously saving interviewer time and travel cost. Stratification ensures that clusters are properly represented (Bryman and Cramer, 1990:103). Clusters were chosen first by zones, second by colonies and third by plot sizes and use status.

Because it was assumed that a large number of middle and high income households may have chosen unauthorised land subdivisions for investment, commercial and speculative reasons, the random samples were further stratified. The stratification was 25 plots each in the plot categories, 25-100 sq. yards, 101-200 sq. yards, 201-400 sq. yards and above 401 sq. yards. In total, out of 625 informal samples proposed, only 300 could be filled due to the absence of the head of the households and/or unwillingness to participate in the survey.

In order to increase the accuracy and representativeness of the samples, a maximum number of 25 households of each, stratified by plot size, was chosen from each zone. This selection helped in checking the reliability and the external consistency but was found difficult to maintain due to colony characteristics. The variation of colonies in terms of limited plots in a certain category, vacant plots, unavailability of the head of the household and refusals have made it difficult to follow rigid sample selection. In all, 40 colonies varying from 1 household to 34 households were surveyed².

The most difficult part of this survey is the rigidity towards sample selection. This is because of the illegality of plot status and the sensitiveness of the survey. Some of the sample households did not agree with the sample choice and few could not be convinced

even with the help of colony presidents (see Section 3.5.4). Therefore, this survey could not insist and/or approach any household more than once on the basis of sample choice.

For this mostly newly developed clusters of unauthorised housing were selected randomly on the basis of their location in North, South, East, West and Central parts of Delhi and colonies were chosen on the basis of their number of plots/houses, nature of mixed plot sizes and economic activities (see Figure 3.1). Because sample criteria aimed for sufficient samples as per their stratification rather than the whole colony as a case (colony sizes vary from a few number of plots to a large number of plots), some clusters included more than one colony.

These colonies were chosen and approached on the basis of information collected from a reconnaissance survey and with the help of information and base map provided by the Municipal Corporation of Delhi/ and the DDA. The stratification by one major unauthorised settlement in each zone (with the housing standards comparable with the plots provided by the DDA) has reduced the prices based biases involved in determining the choice of colony/plot.

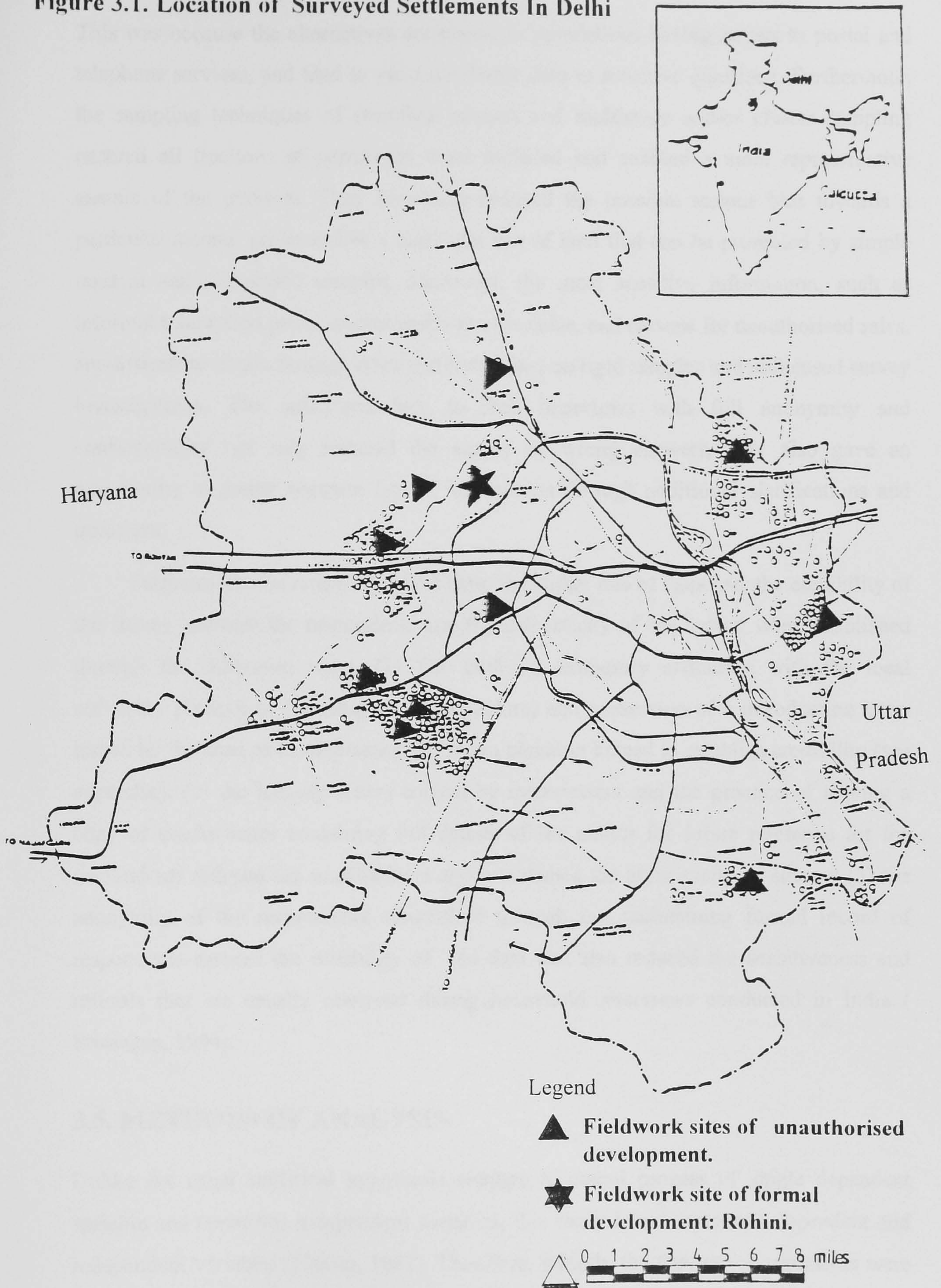
Property Agents

Experienced property agents located around household survey areas were selected through stratified random technique. Stratification was done on the basis of location of their firm and experience in property transactions. In all, 69 property dealers were surveyed. This sample size is sufficient and no further stratification of data was required for the analysis since their information is only supportive to household data.

3.4.3. Explanations For Choosing Samples/Unit Of Analysis And Possible Biases And Their Effect On Accurate Samples

This survey investigation method focused on both formal and unauthorised plots has ensured the reliability and in addition reduced the sample error associated with undefined large universe. The choice of structured-questionnaire in face to face interviews with households and property agents, instead of a postal or telephone survey, increased the response rate.

Figure 3.1. Location of Surveyed Settlements In Delhi



Source: Base map adopted from the location plan of unauthorised colonies in MCD jurisdiction, Prepared by MCD, Delhi. Note: This map shows approximate scale

This was because the alternatives are biased to populations having access to postal and telephone services, and tend to yield unreliable data to sensitive questions. Furthermore, the sampling techniques of stratified random and multistage and/or cluster sampling ensured all fractions of population were included and enabled a more representative sample of the universe. They have also reduced the possible serious bias towards a particular income group and/or a particular use of land that can be promoted by simple random and systematic samples. Moreover, the most sensitive information, such as informal transaction price, current resale market value, and reasons for unauthorised sales, are difficult to obtain through other methods based on rigid samples and unfocused survey investigations. The structured face to face interviews with full anonymity and confidentiality not only reduced the supply of wrong answers, they also gave an opportunity to gather accurate factual information through additional clarifications and questions.

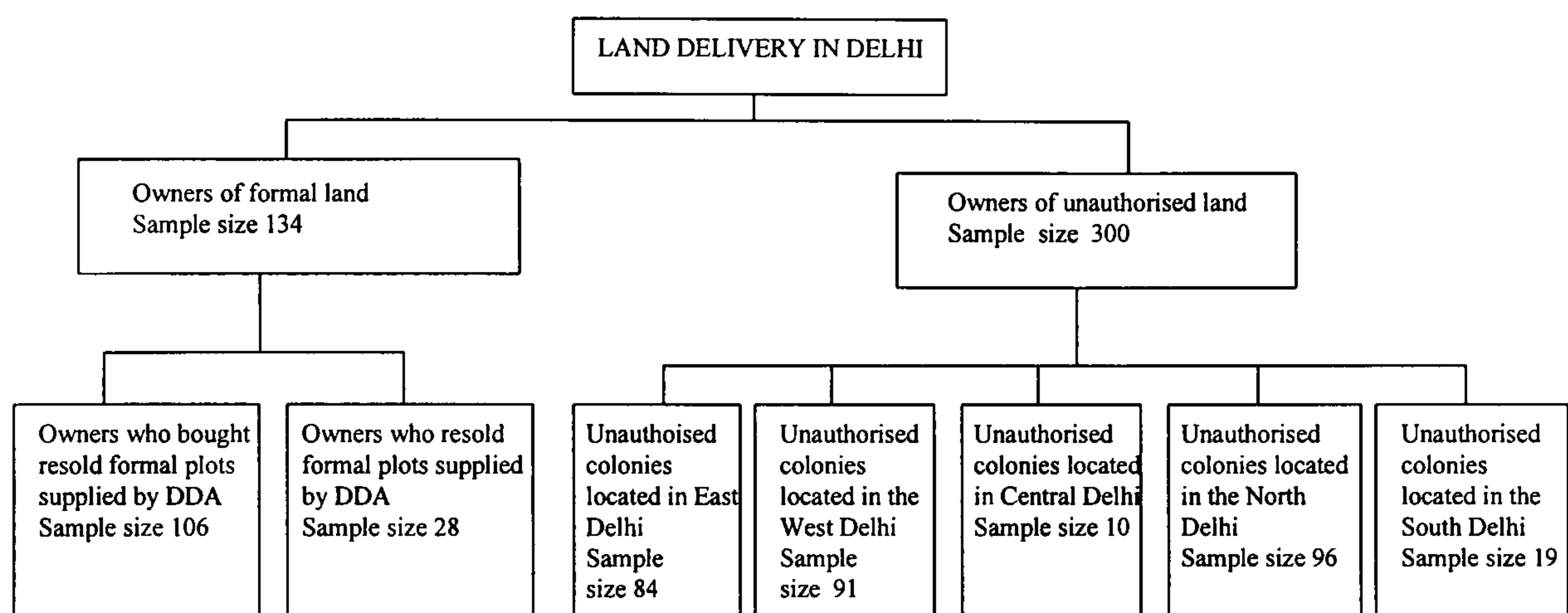
Furthermore, the reliability of the data, the higher rate of response, the credibility of the survey amongst the respondents and the authenticity of the survey were established through the following ways. (1) The author's temporary affiliation with the local university (School of Planning and Architecture) and possession of a introduction letter issued by the head of the department of urban planning helped to establish credibility (see appendix); (2) the identity letters carried by interviewers and the practice of leaving a copy of thanks letter containing full details of the author for future reference for the respondents reduced the sensitiveness and established the authenticity of survey; (3) the anonymity of the respondents established through not maintaining formal record of respondents assured the reliability of the data and also reduced the sensitiveness and refusals that are usually observed during household interviews conducted in India (Srirangan, 1994).

3.5. METHODS OF ANALYSIS

Unlike the usual statistical hypothesis testings of causal process of single dependent variable and numerous independent variables, this study found numerous dependent and independent variables (Hakim, 1987). Therefore, initially the theoretical arguments were converted into concepts and then measurable indicators for the appropriate analysis. Some

of the concepts were operationalised by defining the variables in terms of specific measurable indicators rather than testing relationship between variables. The attitudinal data collected from households was analysed in three levels (Chart 3.2). The data collected from property agents was analysed in a single level.

Chart 3.2 LEVELS OF ANALYSIS OF HOUSEHOLD DATA



Although the data acquired for the research is predominantly quantitative in nature (about 500 subjects), the required analysis of research questions circled around simple quantitative, exploratory and qualitative analysis than sophisticated statistical testings. The data collected from different sources were analysed in three ways: (1) descriptive analysis (mean, mode and median); (2) frequencies; and (3) percentages. It was found that the simple descriptive analysis shows clearly very large differences or unexpected patterns and associations. Similarly, simple, thoughtfully reported percentages, ratios, charts, illustrations, and graphs can lead to powerful insights in policy analysis (Patton and Sawicki, 1993:115). Besides, summarising data by frequencies and categorised multiple response sets for certain questions (that involved more than one answer from each respondent) has supplied adequate results of univariate or single variable for reliable findings. Cross-tabulation and scatter diagrams are used to observe pattern of direction of

change between two or more variables (Bryman and Cramer, 1990:6; Patton and Sawicki, 1993:121).

This study had certain limitations in the analysis. Some of the households who bought their property as a built house from builders have stated their prices as total package (land and house) price rather than just land price. There is no fixed formula to isolate this price because of various other factors playing dominant roles in determining house prices. Therefore this research has not utilised the property (house) price information supplied by households who did not know their land prices. Due to time constraint and the specific focus of this research, the formal household survey was limited to only the developed formal plots allocated by the DDA.

Although an approach that seeks to examine the possible associations/relationships or interrelatedness seems useful, rigorous linear or exponential multivariate analysis is beyond the scope of the present study. The statistical standards employed shed some light on the possible co-occurrences, associations and directions of some key variables.

3.6. CONVERSION OF LAND PRICES AND MEASURING UNITS

The measurements of land prices and area vary from place to place. In Delhi the prices are referred in Indian Rupees and they are often said in total plot and house prices. As the size of the plot owned varies from person to person, and the size of formal land allocations varies according to income earning status of the household, the prices are uniformly converted into a single unit called square metres. The process and method of conversions are shown below.

Land Prices And Money Value Changes

Land prices are reported in the form of either absolute prices and/or real prices. Recently, the Fitzwilliam Memorandum (1991) has suggested the conversion of all prices into real prices using consumer price index because the rate of change in land price in absolute terms do not signify a change in the real terms due to money value changes over the years (also see Pervar, 1993:152). Therefore absolute land prices are either converted (Amitabh, 1994) or used as they are (Pervar, 1993:152). The conversion operation is performed to

enable an accurate comparison to be drawn between years regardless of inflation. This is mostly used when the prices are analysed over a period of time or the price increase is gauged for drawing some important conclusions.

This research neither analysed the prices in terms of their increase nor performed any time series analysis. It compared formal prices with informal prices and mostly analysed the people's opinion on entry costs. Therefore it did not require to convert absolute prices into real prices. Furthermore, the consumer price index for Delhi is reported in three categories such as industrial workers, non-manual employees and agricultural labourers. The first two categories have connection to the study because they are confined to the urban part of Delhi. However, the third category cannot be neglected as there are large numbers of agricultural land in the Delhi City State. Therefore the prices reported in this study are absolute prices in Indian Rupees.

Conversion Of Measuring Units

As the informal land sales take place in square yards where as formal land sales/plot allocation is done in square metres in Delhi, this study uses square metres to maintain consistency and to facilitate a comparison of different data sets. This conversion method is also adopted to plot sizes and prices that are stated in square yards, square feet and other local traditional measurement units such Bigas and Biswas etc., in office records and household interviews. During the initial period of land disposal, the DDA and other developers used square yards as the unit of measurement of public land disposal and, similarly, some of the private developers used this measurement. These units were also converted into square metres. Wherever land prices and plot sizes were quoted in square yards and square feet they were converted into square metres using the standard conversion tables. The traditional units are converted on the basis of Bigha = 27,220 square feet or 2529 square metres (Amitabh, 1994). This study felt the median value (that splits a distribution in half) as an appropriate indicator to compare land prices due to the limited observed values reported in the survey investigation (Rowntree, 1981).

3.7. SUMMARY

This study adopted the survey investigation approach in order to gather the appropriate data required to answer the research questions. The data was collected from three major investigation methods: attitudinal survey of formal (134 households) and informal land owners (300 households), concerned groups primarily concerning property agents (69 agents) and secondary sources. Due to unavailable accurate sample frame, the study adopted convenient non-probabilistic sample frame. The stratified random sample technique (and stratified them by multistages and clusters) was used to reduce the sample error. The samples for informal were chosen all over Delhi were stratified by proxy indicators such as location, plot size and uses. Samples for formal plots selected from Rohini formal integrated land development project were stratified by proxy indicator plot size.

The data acquired through face to face questionnaire survey and questionnaires were pilot surveyed before the final survey. The questions were designed considering the availability of information, level of sensitiveness, respondent's interest and appropriateness to the study. The collected data were entered through spreadsheet package and analysed in SPSS package. The analysis of the data was carried out on three levels and it primarily used exploratory data analysis. The analysis of this data and the conclusions drawn from them are explained in Chapters 5, 6 and 7. The following Chapter 4 describes the growth of Delhi and the origin of the large-scale public land policy.

Endnotes for Chapter 3

¹ In order to ensure adequate representativeness and accuracy of data, the research has not used the information gathered from a questionnaire aimed to collect facts from registered applicants of DDA (non-allottees of formal land) who are waiting for plots/flats and government officials whose information was felt to be useful in the beginning. The reasons for rejecting this information supplied by these respondents are explained in the following section.

² A colony is a housing settlement locally meaning a group of houses. Their names vary depending upon the colonisers and the people living in them. They also vary in terms of plot sizes and socio-economic characteristics. A large number of colonies form part of a big unauthorised settlement (ex. Uttam Nagar) but they are referred to by different names. Due to unavailable data, these colonies could not be clustered for the purpose of a sample frame. The survey was confined to available sampled plot sizes in a colony rather than the colony's total plots.

Chapter 4

THE GROWTH OF DELHI AND URBAN LAND POLICIES

4.1. PREAMBLE

It is still unknown what kind of land policy and public intervention would enable the land markets to provide all users with sufficient land for planned uses and affordable housing. As a result, in literature, a large number of discussions can be found addressing the problem, i.e. what should be the appropriate policies and their instruments, and levels of government interventions that would guarantee an efficient land allocation. These discussions also concern with the policies that would provide greater efficiency in urban planning, and a greater equity or social justice in providing access to land for housing (Kitay, 1985:4). A large number of governments have, therefore, adopted innovative policies to keep the supply ahead of demand, and consequently to provide access to land to all users and especially to economically disadvantaged groups. Some of these suggested policies have demonstrated competence in addressing these issues. For example, the public Swedish municipal leasehold system that existed since 1924 (UNCHS, 1983:45), and Delhi's scheme of large-scale public land acquisition, development and disposal that has been existing since 1961 (Maitra, 1991). These policies aimed at providing sufficient land for planned development and for housing through public acquisition, development and leasehold disposal.

Although, these policies concern with basic objective of public intervention for achieving efficiency and equity in the methods, modes and uses of land supply their history indicate that they were rather aiming to solve a particular problem. Therefore, this Chapter discusses the basic issues that gave rise to Delhi's large-scale public land policy and the basic concepts concerning to those issues. It also describes the specific instruments, tools, terms and conditions of this policy that are expected to promote appropriate supply, use

controls, building regulation, and control of investment and speculation to stabilise land values and ensure access to housing land to genuine users.

4.2. SOCIAL, ECONOMIC AND POLITICAL BACKGROUND OF INDIA

India, a union of states, is a Sovereign, Secular, Democratic Republic with a Parliamentary system of Government. The country is divided into 26 states and 6 Union Territories for administrative purpose. India is the second most populous and the seventh largest country in the world. It is a major democracy in South Asia with variations in cultural, climatic and geographical features of sub-continental proportions (Sundaram, 1989). The 1991 census revealed that the country has a population of 846 million spread over an area of about 3.3 million square kilometres. The rate of growth of urban population was 3.1% per annum during the decade 1981-91 (Jain et al., 1993:27). The economy is predominantly agricultural, with about 34.5% of the national income being derived from agriculture and allied activities at 1989 prices, and about 68% of the working force engaged in agriculture and allied sector in 1991. The economy has been undergoing structural transformation, with an increasing proportion of the national income being derived from secondary and tertiary activities, and a decline in the workforce in agriculture (Sundaram, 1989; Sarin, 1980). However, it is also noted that there were serious inequalities in the distribution of urban incomes, with 40% of the households having less than 16% of the total income, and the top 20% having 49% of the total income (Sundaram, 1989). About 38.2% of the urban population is estimated to have been living below the poverty line in 1983-84. Another significant by-product of inequality has been the problem of rising unemployment and under employment (Sarin, 1980:94).

The Indian Constitution lays down a division of functions and powers between the Central and State governments, and also a Concurrent List (common functions). Functions such as housing, urban development, water supply and civic services fall within the purview of the state governments, and they are legally competent to formulate and execute schemes and policies for human settlements, mobilise resources and implement various programmes (Sundaram, 1989). The state governments have enacted different laws and regulations concerning the municipal bodies, urban development authorities, functional

agencies for housing and services, town and regional planning, and regulation of private development etc. Despite the constitutional position, the Central Government plays a significant role in the governance of urban areas. Since the country has adopted the strategy of development through centralised planning, all policies for economic and social planning are co-ordinated at the national level by the Central Ministries concerned within the framework of Five Year Plans and devolution of the resources to the states. Apart from the outlays for housing and urban development made in the State Plans, the central budget makes provision for earmarked outlays on schemes of special importance and for assistance to specialised housing and urban institutions. This is of course over and above the direct expenditure on schemes in the special territories like Delhi. The Central Ministries control much of the investments in the National capital. In certain cases, the Central Parliament enacted legislation for a particular aspect of urban development or housing with the concurrence of the states as in the case of the urban land ceiling law, or pollution control laws (Sundaram, 1989).

India has recorded a relatively slow but stable rate of growth in its urban population since 1921 during which its levels of urbanisation rose from 11.3% to 25.7%. The rate of growth of urban population was 3.1% per annum during the decade 1981-91 (Jain et al., 1993:27). The urban-rural growth differential has since then increased steadily. There were 3768 urban areas/towns in 1991 of which 23 cities with population exceeding one million. India has a stable settlement structure, where there is a progressive accretion to existing settlements of all sizes. Analysing 1991 census results, Jain et al., (1993) stated that the urban population is increasingly concentrated in the cities, and particularly in the million plus cities, and economic activities are gradually getting localised in such places as well as in their surrounding areas. They also noted that due to this process cities attract more and more people from neighbouring rural areas and other parts of the country.

The four major metropolitan cities of Calcutta, Bombay (now called Mumbai), Delhi and Madras (now called Chennai) are of vital importance as their prosperity and efficient functioning are of national concern. Although, Calcutta, Bombay and Madras are state capitals and major centres of commercial and financial activities in their respective regions, Delhi has emerged as the major manufacturing, trading and financial centre for the entire northern region apart from its political and administrative importance as the capital of the

nation. Delhi, a historic city, being the capital of India since before the independence of India in 1947, it has been a focal centre of the country's development and growth. It plays a crucial role during social, ethnic and community violence. In the Indian federal set up, Delhi was a Union Territory directly administered by the Central Government until 1991 when the National Capital Territory Act was enacted to provide a special statehood status to the city.

All the urban local bodies are in the domain of the state governments under the constitutional division of powers. In Indian urban planning, the concept of a metropolitan region is of recent origin. The Delhi Development Authority was the first metro-level agency to be set up, and it was charged with the responsibility of planning and co-ordination, land development and housing, and provision of developed land to meet the needs of different state agencies and for low income housing. Delhi's set-up functioned as a model for setting up of a metropolitan level authority for planning and execution of priority schemes in Calcutta in 1970, and later in many other cities including Bombay and Madras. The metro authorities in Calcutta, Bombay, Madras have benefited from the interaction with the World Bank, at least financially, while the Delhi authority is nurtured by the Central Government. All Indian metro agencies continue to search for a role, the choice varying between several models (Sundaram, 1989): (i) real estate development and city beautification as in Delhi; (ii) public works programme tempered by a growing planning and facilitatory role as in Calcutta; and (iii) region wide investment programming and co-ordination as in Bombay and Madras.

4.3. URBAN GROWTH OF DELHI AND RESIDENTIAL LAND PROBLEMS

As shown in Table 4.1, Delhi's total population has grown from 0.9 million in 1941 to 1.7 million in 1951, and it has further increased to 9.4 millions in 1991. However, the decadal growth rate of population which was 90% in 1951 has gradually decreased to 51% in 1991 supporting the suggestions of researchers that Delhi received a large number of immigrants due to the partition of India during post-independence period (Srinivas, 1995:66; Jerry, 1991:4; Sundaram and Gambhir, 1990).

The Census of India reports have also recorded that the number of urban households has grown from 0.8 million in 1971 to 1.2 millions in 1981 (50% increase). It has further rose to about 1.7 millions in 1991 (42% increase). This indicates that the growth of households is faster than the growth of total population in Delhi which may have been caused by change in family structures.

Table 4.1 Demographic growth of Delhi

Indicators	1951	1961	1971	1981	1991	2001*
Total Population (millions)	1.7	2.7	4.0	6.2	9.4	12.8
Urban Population (millions)	1.4	2.4	3.6	5.7	8.4	12.2
Rural Population (millions)	0.3	0.3	0.4	0.5	1.0	0.6
Decadal growth of Population (%)	+90	+52	+53	+53	+51	+36
Urban area (sq. km)	NA	NA	NA	448 (30%) **	NA	688 (46%)

* indicates estimated figures; ** indicates % of total area.

NA means data not available.

Source: Census of India, 1971, 1981, 1991 and DDA records.

It is also noted in literature that the growth of migratory population is more than the natural growth due to Delhi's attraction as the administrative capital of India and its position as a major centre of commercial and economic activities in northern part of India. The Census of India recorded that the ratio of increase of natural growth to migration which was 1:2 in 1951 has declined to 1:1.1 during 1971-76 has slightly increased to 1:1.5 in 1991 and projected to be about 1:1.3 during the decade 1991-2001 (Master Plan, Delhi 2001). However, it is observed from secondary data that the share of natural growth of population has been declining over years and in-migration has emerged as a main factor for the rapid growth of Delhi (NCRPB, 1988:14-15). Thus, it cannot be denied that migration is a factor that contributed to the growth of Delhi's population. As an effect of the population growth, the urban area is likely to expand from 30% of total Delhi State territory to an estimated 46% in 2001. Figure 4.1 shows the directions of physical

expansion during various time periods. Thus, Delhi being the administrative capital of India it had experienced large number of forces acting against the strategy of a planned urban development and provision of adequate infrastructure and services.

4.3.1. Land Supply For Housing And Urban Development Prior To Large-scale Public Land Policy In Delhi

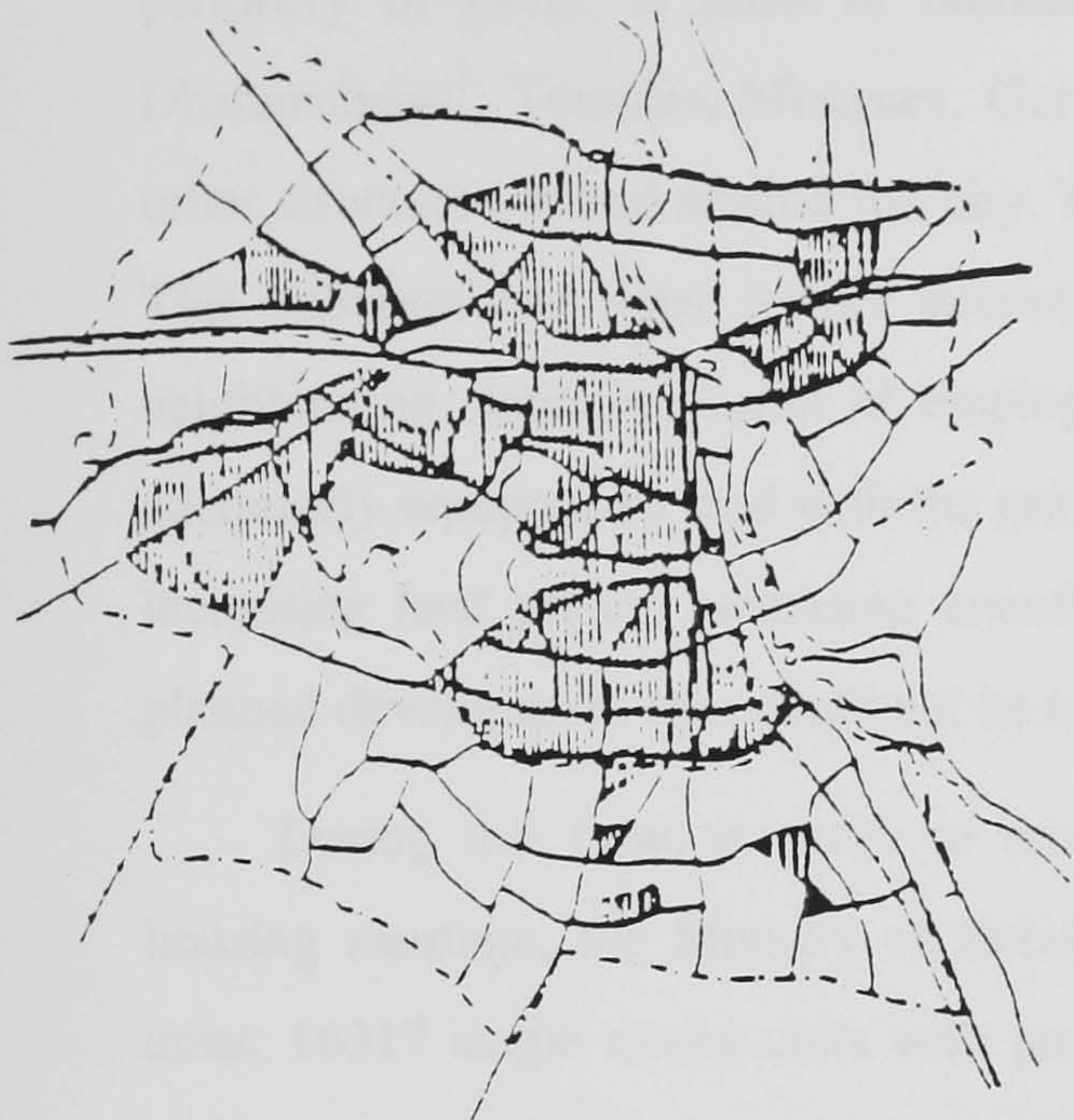
The origin of large-scale public land policy in Delhi concerns with certain circumstances that demanded direct public intervention. Those important circumstances are: (1) inability of the government to supply adequate housing and civic services to the growing number of in-migrant households due mostly that the land was primarily owned by private who preferred to subdivide and sale plots themselves; and (2) the government was unable to supply adequate land for housing and planned development due to the lack of public control on privately owned land. Moreover, the newly-formed independent government was enthusiastic to find solutions to the problems that affected large number of households. They felt the necessity of public control on city land. The following discusses the formal mechanisms of land supply that existed prior to Delhi's large-scale land policy.

The government supplied both leasehold and freehold plots along with private land developers for urban development and housing during pre-independence period. The territory of Delhi was known as the Imperial Delhi Estate and it was a part of Punjab province (GOI, 1989:20). Later, after the change of capital of India from Calcutta to Delhi, a statutory body called Delhi Improvement Trust (DIT) was set up in 1937 through a parliamentary Act to control building operations, land use, and development schemes. The DIT carried out development and it disposed of plots on leasehold in some areas and also sold developed plots on freehold in some areas such as Shakti Nagar and Roop Nagar.

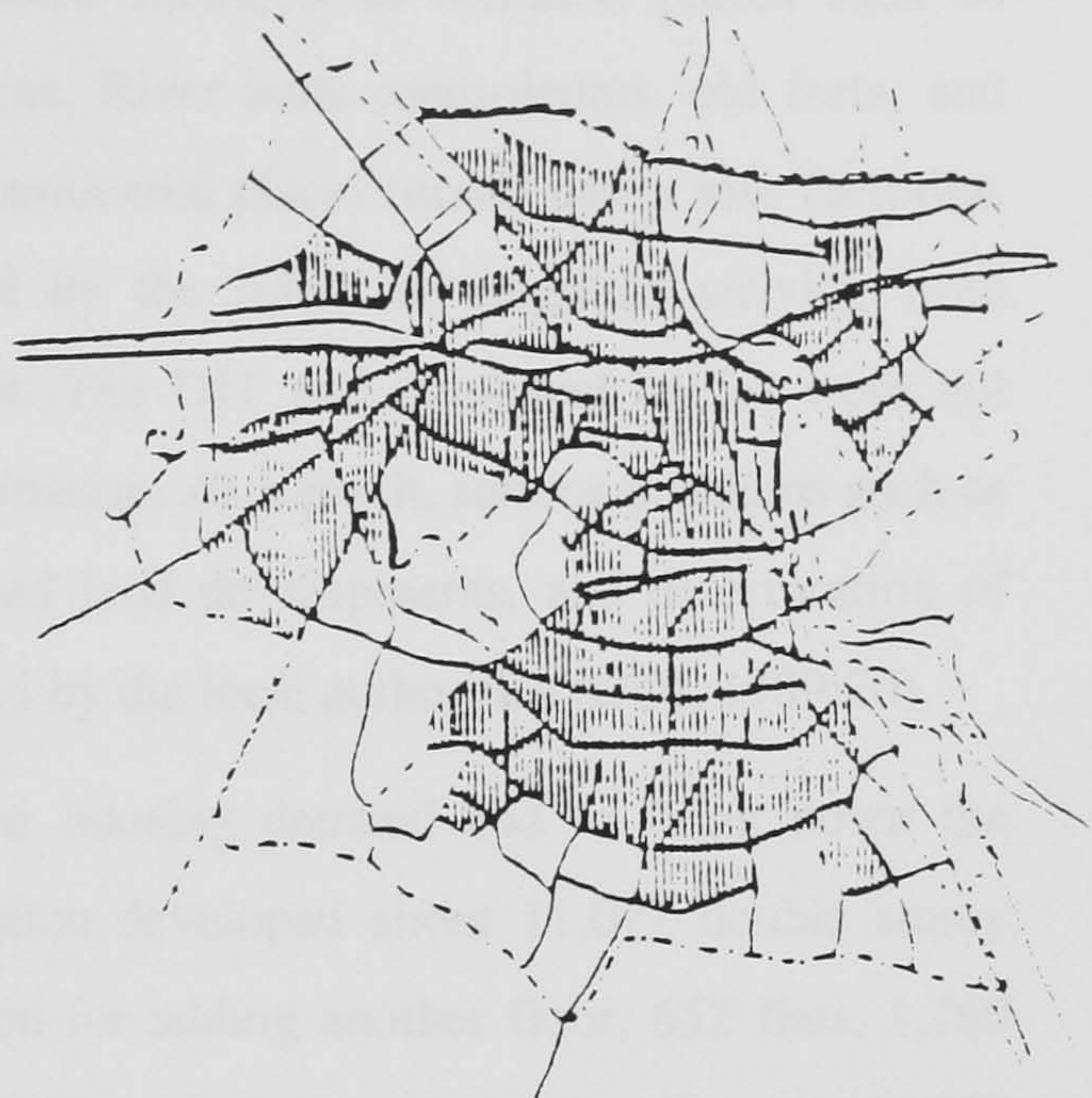
Land supply during post-independence period has undergone many changes. The partition of the country after the independence in 1947, caused a massive influx of refugees from Pakistan, and most of them moving into the major cities. During this time haphazard growth of housing and slum creation has taken place in Delhi due to both scarcity of accommodation and increasing land prices caused by land speculation.

Figure 4.1 Physical Growth and Directions of Spatial Expansion of Urban Delhi at Different Periods of Time

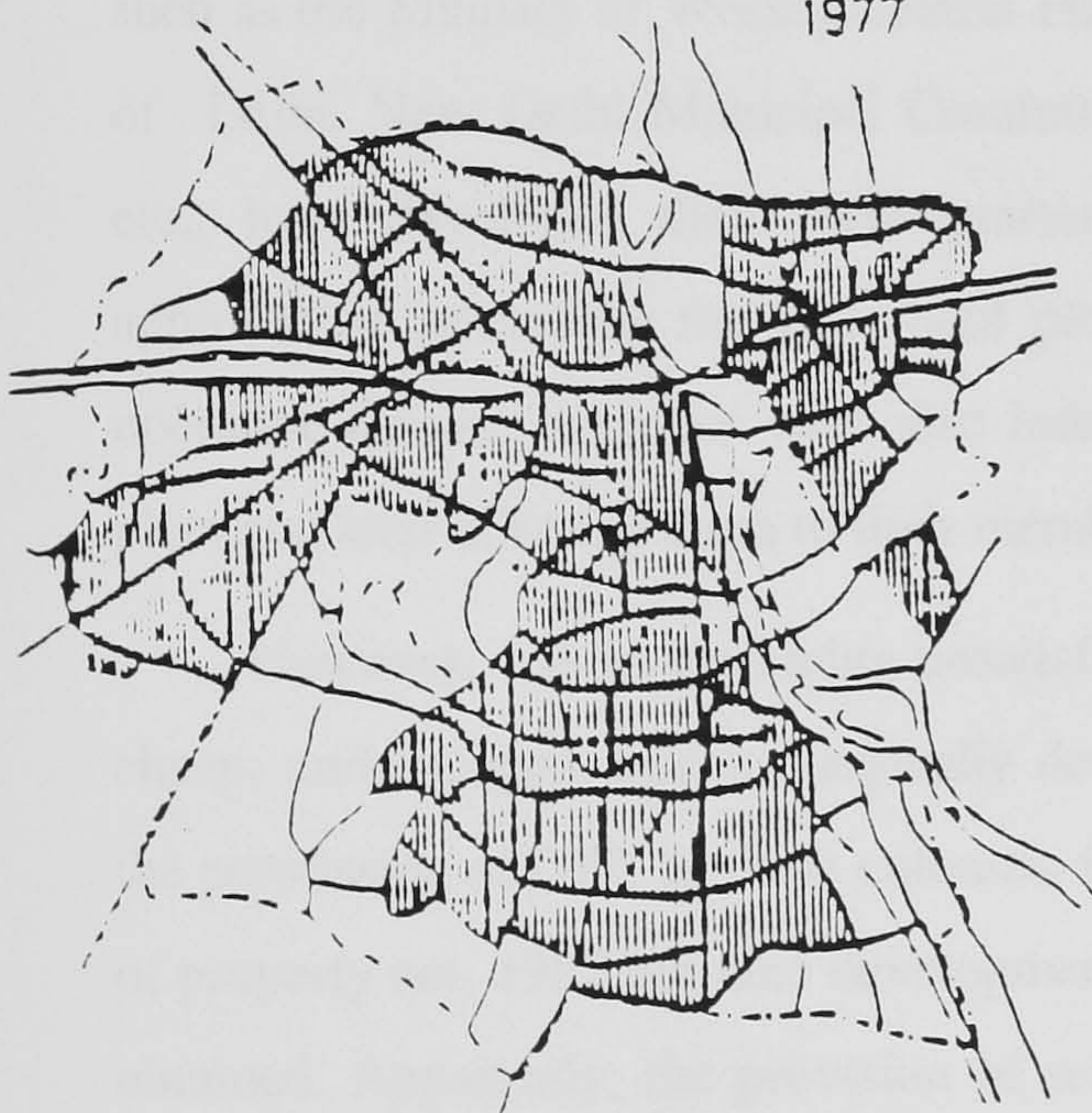
1956



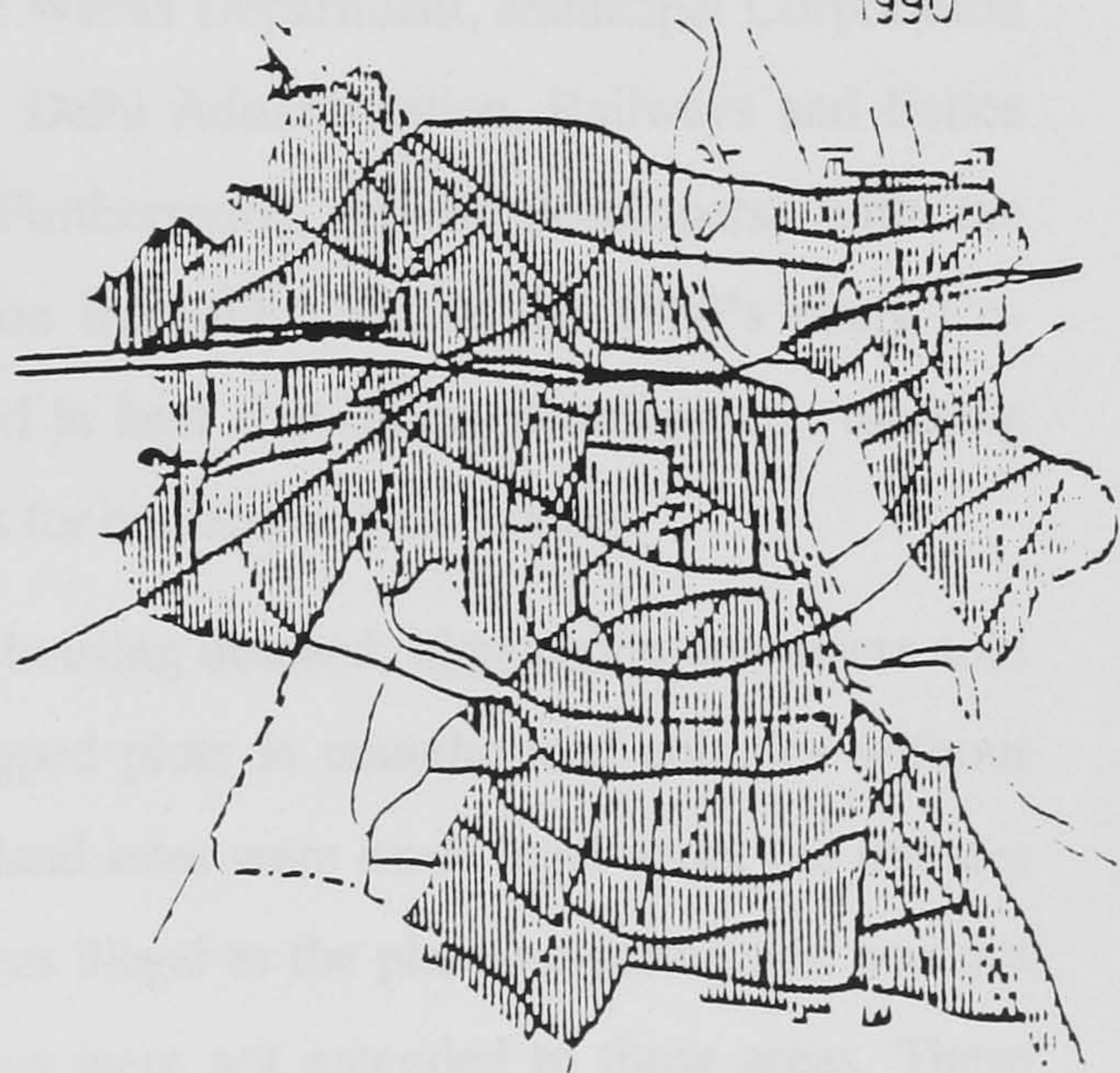
1969



1977



1990



Legend

 Area of spatial expansion

 0 1 2 3 4 5 6 7 8 miles

Source: Perspective Planning Wing, DDA. First used in Sundaram and Gambhir (1990).

Note: This map shows approximate scale

As stated in DDA records, the situation continued unmanageable with shortage of civic services, old city bursting at the seams, and unauthorised land grabbers invading the periphery of Delhi. A mass of humanity were sheltered in common places such as Dharamshalas¹, Temples, Mosques, Gurdwaras, River bank mausoleums, old forts, and other structures in and around the city. The residential places turned partly into factories. This situation has been further accentuated by the influx of migrants arriving from neighbouring states in search of employment. The DIT and municipal bodies were not adequately equipped to deal with the grave situation. As a result, serious problems such as increasing land prices, increasing unauthorised land developments, and deterioration of planned development etc., could not be tackled by the local authorities (GOI, 1989:20).

During this time, in order to meet the housing demand and to bring down the housing shortage, the Ministry of Rehabilitation developed about 11,077 double storey units, 16317 single storey units with provision for adding another floor, 652 flats, 1,760 staff quarters, 10489 cheap houses, 3685 developed plots covering in all some 64,827 households and 845 shop-cum-residence units. Besides, various Government departments such as the Ministry of Works, Central Public Works Department, Municipal Corporation of Delhi, New Delhi Municipal Committee, Delhi Administration, Railways and Police etc., have developed their staff quarters. Furthermore, private developers, with the approval of layouts by the DIT, sold plots on freehold basis. In the 1950's many Co-operative housing societies were also indulged in land acquisition, development, marking plots and later allotting them to their members for construction of houses.

However, due to increasing unsatisfied housing demand, clandestine colonisers sold cheap, undeveloped and/or marginally developed plots in unauthorised colonies without the permission of DIT. In these colonies, the land sales were made legal under the transfer of property act, 1982 but land development was illegal as the planning permission was not obtained. Apparently, the provision of services were not extended to these areas. These private developers developed land informally around refugee rehabilitation colonies and camps, and along major access routes, taking advantage of existing infrastructure and the lack of government control.

In 1951, the DIT inquiry committee headed by G.D. Birla found that the DIT's operation has prevented even a partial solution to the housing problem in Delhi, because:

1. several agencies were entrusted without proper co-ordination of efforts, and there was no supervision and planning of their activities;
2. DIT's development regulation was pursued without a Civic Survey or Master Plan, and without proper zoning;
3. it was mostly depending upon CPWD for execution of development works; and
4. its policy of selling land on highest bidder or tender regardless of the considerations of their requirement for genuine housing encouraged land speculation.

This committee then recommended a single planning and controlling authority for the whole urban area of Delhi with full independence, extensive planning powers, and financial autonomy. Consequently, in 1955, a Town Planning Organisation was constituted, and an Interim General Plan was prepared as prelude to the Master Plan; and the Delhi Development Authority (Provisional Authority) was set up to implement the plan. Later, through the Delhi Development Act, 1957, all the employees of DIT and DDA (Provisional) became the employees of Delhi Development Authority (DDA). The DDA transferred the Interim General plan into Master Plan and brought into effect in September 1962. The DDA then framed its own building bye-laws. The Master Plan for Delhi 1961-81, conceived a policy scheme of large-scale public land acquisition, development and disposal² to facilitate the implementation of the plan by securing a high degree of public control on land. This scheme later continued as a public land policy. Literature also suggests that besides land supply constraints colonial land use perspectives have played a crucial role in determining informal land developments and supply in Delhi. The following section discusses the situation of colonial land use and its influence on formation of unauthorised land developments.

4.3.2. Colonial Land Use Perspectives Prior To Large-scale Public Land Policy In Delhi

Delhi, witnessed many invasions and power changes over centuries. In fact, it consists of seven cities in it. The arrival of the British in 1803 marked the beginning of a new period in Delhi's history. Under British rule, Delhi grew to become a large city. It came under British rule after 1857, and in 1911 the British decided to make it their capital. In 1912 the British moved the capital of British India from Calcutta to the partially completed New Delhi. Construction of New Delhi was completed by 1931.

In Delhi, New Delhi part (the 20th century colonial settlement) largely still is, an area of very low residential density, originally planned and built according to the values of the metropolitan society, as interpreted by and for the use of a colonial culture (King, 1976:6). Since the end of colonial rule, this extensive area has been modified, though not fundamentally changed, by further development (ibid:8). King (1976) believes that technology, levels of living, capital available for improvement, caste and ethnic-linguistic and religious diversity, and other cultural concomitants influenced development of Delhi since its origin. It can be assumed that these factors have also contributed to encouragement of formation of illegal land developments.

Pre-independence Land Use Perspectives

The colonial administration has created two culturally and functionally specialised areas: one colonial urban settlement, primarily military and administrative; and the second indigenous settlement, primarily residential, commercial and industrial (King, 1976:209). There has been a cultural boundary between colonial urban settlement and areas occupied by indigenous people. The new settlement that was planned as a political, administrative and residential area has been continued, and a century later similar provision was made, albeit on a larger scale (ibid).

King (1976) believes that Delhi was built on the principle of duplication, of providing separate and different provision for each cultural section in the city and cultural as well as political factors that accounted for spatial use determined by its size. There were

startling differences in living standards. It could be possible that having been linked to metropolitan social, political and cultural models for years, the de-colonised society found replacement task easily unachievable.

Therefore, the “...levels of urbanisation, space standards and the quality of urban life have historically been a consequence resulting from what is desirable and what is attainable at any particular time and within a particular economic, political and cultural context” (King, 1976:281) could have played a vital role in encouraging informal developments.

Because the institutionalisation of norms, whether they relate to housing or law, is governed by what is socially, culturally and politically acceptable and despite modifications in most cities the basic pattern has often seem to have remained. As suggested by King (1976), this initial structuring of inequalities for housing, services and spatial standards could have encouraged newcomers of the city to restore the old structural pattern. They could have also attracted new elite’s flow into the expanded area of the old colonial settlement. Thus, urban development of Delhi began with the de-facto or implicit recognition of racial inequality and discrimination that would appear to continue to divide rich from indigenous poor.

As suggested by King (1976:285) at ‘independence’ the new occupants of the colonial city inherited a physical-spatial structure tailor-made to reproduce a system of ‘housing classes’ and stratification identical with the old. The colonial bungalows of New Delhi still function as major symbols of status whether occupied by foreign diplomats, business elite’s or government ministers. Their style and pattern of urban residence introduced during colonial era could have become a reference model with a liberal spatial norms, and could have encouraged the rich and affordable groups to violate the planning regulations introduced by the Master Plans and regulated through public land policy.

Post-independence Land Use Perspectives

It is suggested that the post-independence developments have led to a spatial, if not a cultural or social integration of spatially separated units by a process of residential and institutional ‘infilling’. A permanent process of in-migration from neighbouring areas has added squatter settlements to the urban fringe as well as vacant lots in the city. During the 19th and 20th centuries - the most rapid period of growth for the industrial city - vested

interests prevailed in the competition for urban space, with the planning authority performing either a negative or delaying function (ibid:24). Functional specialisation of land use had taken place, resulting in the separation of place of work from place of residence. Socially, the elite-mass dichotomy characteristic of pre-industrial society had been replaced with a social structure that was increasingly differentiated in terms of occupation, income, life-style and, location, style and scale of residential expectation (ibid:36). Thus, the metropolitan society, as part of processes of social differentiation, an emerging middle and upper-middle-class elite from whose ranks the residents of colonial urban development were drawn could have played a crucial role in violating planning standards of Master Plan and land development process of land policy.

However, the literature also indicate that the growth rate of Delhi has been very high during post-independence era due to partition and in-migration and the city administration had to cope with rapid increase of land demand with comparatively less resources. From this point of view, the government's attempt to supply adequate land has been an unparalleled achievement. This could be possible only by the advantage which the government has had in owning a large part of the urban land and therefore being in a position to control development to a certain extent (King, 1976:275).

4.4. URBAN LAND POLICIES FORMULATED IN RESPONSE TO LAND PROBLEMS

A variety of land policy instruments were executed as part of government intervention in land (UNCHS, undated:44; Baken and Linden, 1992) in order to control land market and to promote planned urban land development and management. It is observed that all of these instruments have certain benefits when they are exercised by the government. Moreover, in developing countries where private sectors hold vacant land at prime locations off the market until the demand increases the price emphasised a special approach with more than one policy instrument that could not only put the private speculation off, but also ensured that the government intervention was successful (Kitay, 1985:4; Mattingly, 1993). Therefore, the government of India's concern for a large-scale integrated land policy for the whole nation and effective special policies for cities need no emphasis in aiming to promote balanced growth and provision of shelter for all.

4.4.1. Urban Land Policy of India

Ribeiro (1992) noted that an exclusive national urban land policy was not adopted by the Central Government but several co-ordinated measures were in operation. These measures supported the formation and execution of the policy for land development, disposal and management in Delhi. Thus, although the overall land policy of India and public land policy of Delhi are logically different, the former is always connected to latter because some of the national objectives are followed in the latter (Delhi).

On the basis of recommendations submitted by a high level committee on Indian land policy, the following objectives were set to be possible to be achieved by the governments' active participation and controls in the land market (Baken and Linden, 1992:59; Acharya, 1988:1428; Howland, 1977:54, DDA, 1982:2; DDA, 1986:16; Sundaram and Gambhir, 1990:3): (a) to achieve an optimum social use of land; (b) to make land available in adequate quantities at right times, and for reasonable prices consistent with the requirements of various sectors including public authorities, individuals and especially the poorer households; (c) to promote co-operative and community effort including legitimate activities of private developers (through individual builders in housing land development and construction); (d) to control unfettered increase in land prices, and to prevent speculative profits and concentration of land ownership in a few private hands; and (e) using land as a major resource for development.

The economic development plans such as the third National five-year plan (1961-66) also gave direction to the control of urban land prices through public acquisition of land. The fourth five year plan stressed the urgency of an integrated urban land policy concerning land acquisition and stabilising land values. It also favoured positive steps for balanced economic activities so as to reduce pressure on large urban agglomerations through a regional approach to the problems of urban development. These objectives not only demanded an integrated land policy with more than one prominent instrument, but also encouraged the execution of a large-scale public land allocation policy. This further facilitated the continuation of execution of large-scale public land policy for more than three decades in Delhi.

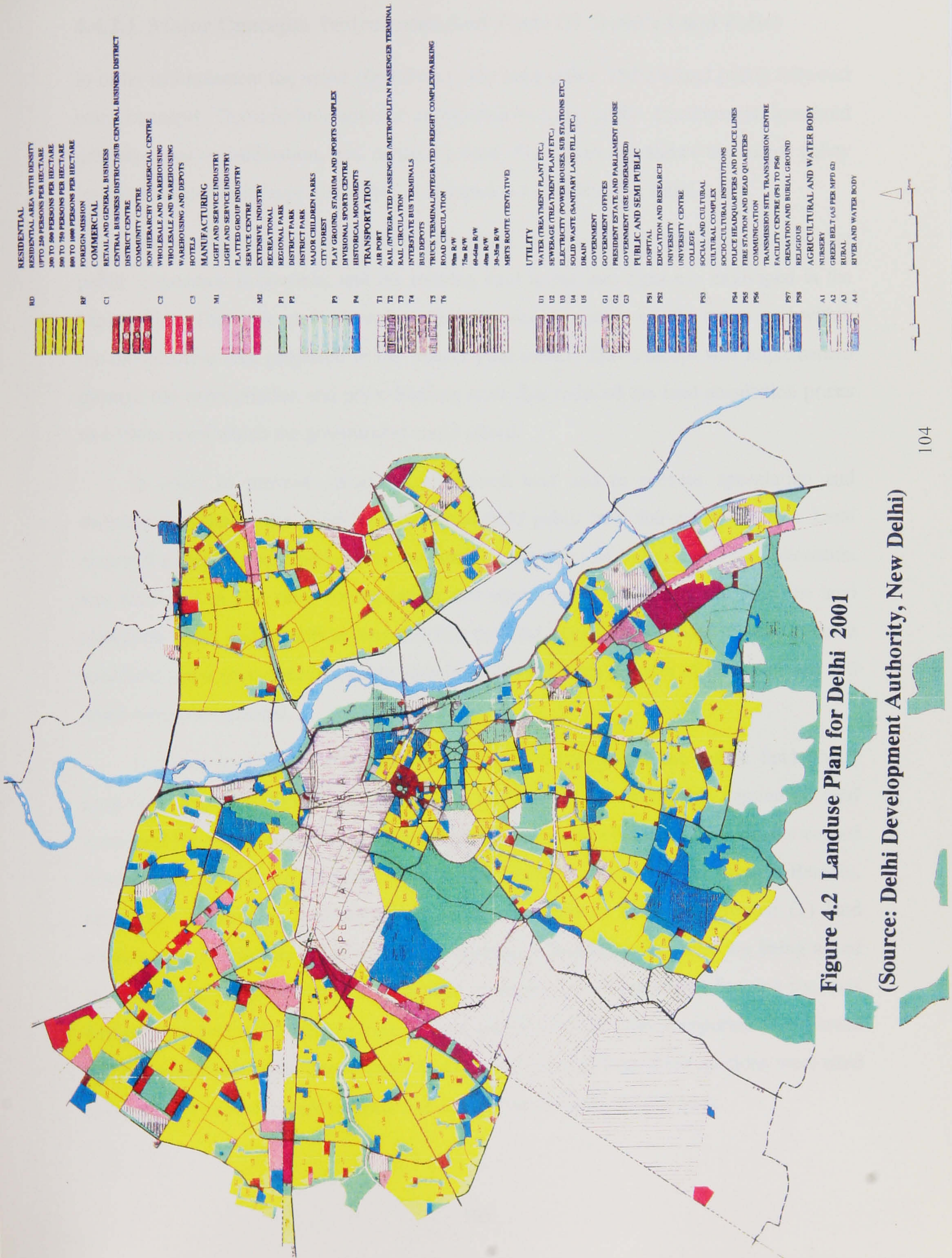
4.4.2. Land Policies of Delhi - The Scheme of Large-scale Public Acquisition, Development And Disposal Of Land

The main goals of large-scale land policy scheme were to:

- (i) check land speculation and investment;
- (ii) stabilise land prices in urban areas of Delhi; and
- (iii) ensure that plots are obtained by those people only who need them for permissible uses.

The salient features of this scheme can be described as: (1) ensuring optimum utilisation of land by restricting the size of residential plots to affordable level, and allocation of housing land to households who do not own a house or residential plot in Delhi; (2) stabilising land prices by cross-subsidisation through auctions and subsidised allocations to selected parties and/or individuals who otherwise would not have been able to afford housing; (3) facilitating private investment in housing through leasing out certain number of residential plots by public auction and promoting co-operative sector; (4) checking speculation by leasehold public allocation to individuals (allocation of only one plot per family), co-operative societies, institutions and local governments, restricting transfer of plots, and urging construction on allocated plot within a specified time; and (5) ensuring planned development according to Master Plans and building bye-laws.

Major thrust of the policy is to implement the land use plan proposed by the Master Plans. Figure 4.2 shows the land use plan of Delhi, 2001. It shows the proposed distribution of planned land uses and their spatial allocation. Its superimposition on the spatial distribution of existing informal settlements shows the situation of violation and misuse of planned land uses. It also shows the proposed distribution of non-residential land uses and transportation network with an idea of possible expansion urban area.



RD	RESIDENTIAL AREA WITH DENSITY UP TO 250 PERSONS PER HECTARE
	300 TO 500 PERSONS PER HECTARE
	500 TO 750 PERSONS PER HECTARE
	800 TO 1000 PERSONS PER HECTARE
RF	FOREIGN MISSION
C1	RETAIL AND GENERAL BUSINESS CENTRAL BUSINESS DISTRICT
	CENTRAL BUSINESS DISTRICT/SUB CENTRAL BUSINESS DISTRICT
	COMMUNITY CENTRE
C2	NON HIERARCHY COMMERCIAL CENTRE
	WHOLESALE AND WAREHOUSING WAREHOUSING AND DEPOTS
C3	HOTELS
M1	MANUFACTURING
	LIGHT AND SERVICE INDUSTRY
	LIGHT AND SERVICE INDUSTRY
	FLATTED GROUP INDUSTRY
M2	SERVICE CENTRE
	EXTENSIVE INDUSTRY
P1	RECREATIONAL
P2	REGIONAL PARK
	DISTRICT PARK
	DISTRICT PARK
	MAJOR CHILDREN PARKS
P3	CITY FOREST
	PLAY GROUND, STADIUM AND SPORTS COMPLEX
P4	DIVISIONAL SPORTS CENTRE
	HISTORICAL MONUMENTS
T1	TRANSPORTATION
T2	AIR PORT
T3	RAIL INTEGRATED PASSENGER /METROPOLITAN PASSENGER TERMINAL
T4	RAIL CIRCULATION
	INTERSTATE BUS TERMINALS
	BUS DEPOTS
T5	TRUCK TERMINAL/INTEGRATED FREIGHT COMPLEX/PARKING
T6	ROAD CIRCULATION
	90m R/W
	75m R/W
	60-64m R/W
	40m R/W
	30-35m R/W
	MRTS ROUTE (TENTATIVE)
U1	UTILITY
U2	WATER (TREATMENT PLANT ETC.)
U3	SEWERAGE (TREATMENT PLANT ETC.)
U4	ELECTRICITY (POWER HOUSES, SUB STATIONS ETC.)
U5	SOLID WASTE (SANITARY LAND FILL ETC.)
	DRAIN
G1	GOVERNMENT
G2	GOVERNMENT OFFICES
G3	PRESIDENT ESTATE AND PARLIAMENT HOUSE
	GOVERNMENT (USE UNDERMINED)
	PUBLIC AND SEMI PUBLIC
PS1	HOSPITAL
PS2	EDUCATION AND RESEARCH
	UNIVERSITY
	UNIVERSITY CENTRE
	COLLEGE
PS3	SOCIAL AND CULTURAL
	CULTURAL COMPLEX
	SOCIO-CULTURAL INSTITUTIONS
PS4	POLICE HEADQUARTERS AND POLICE LINES
PS5	FIRE STATION AND HEAD QUARTERS
PS6	COMMUNICATION
	TRANSMISSION SITE, TRANSMISSION CENTRE
	FACILITY CENTRE (PS1 TO PS6)
PS7	CREMATION AND BURIAL GROUND
PS8	RELIGIOUS
A1	AGRICULTURAL AND WATER BODY
A2	NURSERY
A3	GREEN BELT (AS PER MPD G3)
A4	RURAL
	RIVER AND WATER BODY

Figure 4.2 Landuse Plan for Delhi 2001

(Source: Delhi Development Authority, New Delhi)

4.4.2.1. Major Concepts, Instruments And Tools Of Delhi's Land Policy

In order to implement the major objectives of the land policy, Delhi's land policy followed many concepts. These include advance public land banking, public development, leasehold delivery, cross-subsidisation, and revolving fund. The Chart 4.1 shows the major policy instruments and their respective objectives hoped to be achieved in Delhi.

The concept of advance public land banking was conceived in order to ensure that public acquisition is possible, and the existing land is put into right use envisaged in the Master Plan. This concept facilitated notification and acquisition of the entire land within the urbanisable area proposed in the Master Plan earlier. This concept was implemented through the expropriation and price-freezing tools that reduced the land acquisition prices to a lower level which the government could afford.

In order to prevent resale of subsidised land and to prevent speculation and investment on land, the policy proposed leasehold public land delivery to all uses. Land acquired under this scheme vests in the name of president of India. Here, land allocation was restricted to plot sizes not exceeding 800 square yards for individuals. Also the land allocation terms and conditions ensured that the land would be allocated to only genuine leasehold users (non-speculators) as identified by the policy. Leases of 20 years and 90 years have been granted.

In order to provide affordable housing land to all users, the public land policy proposed cross-subsidisation formula. Under this formula, a considerable amount of land auctioned for commercial, industrial and high income residential uses. The profits earned from auctions facilitated for cross-subsidisation of prices to low income groups. Besides, land was allocated on pre-determined (reduced) rates to following groups: (1) land owners whose land was acquired for development; (2) industrialists who are being asked to remove their factories from their present locations; (3) co-operatives housing societies belonging to low and middle income groups, and (4) certain other categories as approved by the government from time to time. The revenue accrued from these auctions were used to finance city development projects and acquisition of land for land bank.

Chart 4.1 Conceptual framework of regulatory mechanism of large-scale public land policy of Delhi.

<i>Concepts</i>	<i>Major Instruments</i>	<i>Primary tools</i>	<i>Policy objectives/ essential features</i>	<i>Allocation norms and conditions</i>
Large-scale public land acquisition	compulsory public acquisition law, & development controls.	expropriation, price-freezing, & advanced public acquisition.	greater public control over land, control land price rise, control speculation/investment, control unplanned development, & affordable land acquisitions.	restriction on private land sales, & restriction on private land development.
Large-scale public land development	master plans, zonal plans, land use plan, & project plans.	land use regulation, building permits/bye-laws, large-scale sustainable development, & integrated land development.	efficient planned development, land use controls, appropriate & affordable standards of development, growth controls, provision of essential public services, & squatter resettlement and environmental improvement.	controls on private land development, pre-designed sizes and standards of development, density controls, design and building controls, encouragement of private constructions and co-operative housing, & land use controls.
Public ownership and leasehold disposal	leasehold allocation & public ownership.	leasehold ownership.	discourage resales, speculation and investment, control land prices, public pre-emption of disposed land, & land use controls.	land allocation on exclusive leasehold right, periodical lease renewals, periodical renewal of ground rent, time bound construction/occupation, restricted transfers/sales.

<i>Concepts</i>	<i>Major Instruments</i>	<i>Primary tools</i>	<i>Policy objectives/ essential features</i>	<i>Allocation norms and conditions</i>
Public revolving fund	cross-subsidisation.	auctioning land for highest bidder for higher income residential, commercial and industrial, & subsidised allotments to middle and low income groups and other selected categories/parties.	public investment, financial autonomy over land acquisition, development and disposal, subsidy provisions to unaffordable groups, development of public utilities and community facilities, capture betterment and earn revenue, & stabilise land prices.	auctioning land for affordable groups, subsidised allocations to unaffordable groups, provision of public services and planned development from public land revenues, recovery of 50% of unearned profits from resales, & restriction to subdivide and/or amalgamate plots.
Public land disposal	regulated public land delivery.	general terms, lease conditions, & other obligations.	equitable distribution of land, landuse regulation, control on speculation and investment, & social justice to economically and socially disadvantaged groups.	restricted transfers of allocated land, regulation of ownership of only one plot per family, use specification of allocated land, allocation of affordable sizes of land as per income earning capacity and other requirements, special allocations to selected categories, & allocation of right land to right party on reasonable prices.

Another major instrument proposed in this policy was the concept of revolving fund. It functioned as a method of financing large-scale land supply and sustaining the urban planning effort by establishing a revolving cycle of acquisition-development-disposal-acquisition. In the beginning Rs. 50 million were placed by the Central Government. Later it was augmented by another 73 million to meet the requirements of the scheme. Afterwards, the government has widened the utilisation of revolving fund for the expenses including construction of factories/industries, warehouses, bus terminals, special markets, and development of district/community centres etc.

Initially, the large-scale land policy had proposed four modes of land supply: (1) government housing by Central Public Works Department; (2) supply of land for private housing, industrial and manufacturing use, shopping centres and business premises, public and private institutions, and public utilities and community facilities by Delhi Development Authority; (3) supply of land slum/squatter relocation and allocation of land for the industries to be relocated by Municipal Corporation of Delhi; and (4) land development and allocation by co-operative house building societies and industrial co-operatives. To start with the policy attempted to provide limited undeveloped land. Later it supplied only developed land. Some of the strategies that formed integral part of this policy were freezing of private land development activities in order to reduce the competition and to abolish market-oriented approach.

4.4.2.2. Policy Tools Of Regulatory Planning And Urban Development

The tools available from the Master Plan for the implementation of this policy are: land use measures; development controls; and unified building bye-laws. The Master Plan also regulated the size of the plots, height of the buildings, ground coverage and floor area ratio, etc. It also prescribed norms and standards for the public and semi-public facilities. It provides yardsticks for subdividing land into housing, commercial, industrial and other uses. Building construction is being controlled by the DDA in the areas declared as “development area” under Delhi Development Act, until their transfer to Municipal Corporation of Delhi for maintenance of building activity.

The land use in the city is controlled through the land use plan prepared as a part of Master Plan (see Figure 4.2). In order to maintain appropriate land use and control the development, the areas have been designated as “use zones” as per the development code of Master Plan. The development in these use zones is carried out in accordance with the regulations as laid down in the development code. The plan also proposed a gross residential density of 350-400 persons per hectare at the city level, and an overall density of 180 to 200 persons per hectare.

Maximum size of private land holding in Urban Delhi is 500 square metres as per Urban Land Ceiling Act. This is further reduced to a maximum of 350 square metres in case of residential development by the Master Plans for Delhi. Land subdivision is done as per the norms and standards earmarked in the Master Plans and land is allocated as per the terms and conditions of development schemes derived from the land policy. The residential land is allocated (allotted or auctioned) on the basis of income, affordability, residency and other eligibility criteria. The beneficiaries have primarily been selected by the income range decided by the DDA from time to time.

Land developed for different uses have been allocated on seniority basis and mostly on draw of lots and/or auctions depending upon the use and allotment criteria. The land is delivered either on the basis of temporary allotment of short term lease or perpetual lease allotment of long term. The residential plots are allocated through auction for higher income households and allotted by draw of lots to others. The land delivery also controls the administration of lease deeds, mortgages, extension of time for building construction, sale permissions, and mutation to the legal heirs of the deceased original leases. The land developed for commercial and industrial uses were mostly allocated through auctions. The plots were also allotted for parking lots, taxi stands on licence fee basis and conveyance deed is being executed for built-up properties.

4.4.2.3. Public Land Delivery Terms And Conditions Of Housing Land

The Delhi Development Authority imposed a number of terms and conditions in allocation of land for housing and other uses as part of formal public land delivery in Delhi. Those conditions can be grouped into three sub-categories: (1) general terms and conditions for the selection of

beneficiaries; (2) lease deed conditions for the regulation of use, subdivision, building bye-laws, resale or speculation; and (3) tenure, financial and legal obligations.

General Terms And Conditions For Selection Of Beneficiaries

Some specific terms and conditions have been applied in land allocations. These are: (1) applicant has to be a citizen of India and an adult at the time filling application; (2) only one plot or flat is allocated per family; (3) a condition of considerable period of time of residency in Delhi; (4) the total annual income of the individual from all sources including the income of spouse and minor children should be as per the prescribed income criteria; (5) advance deposit as prescribed by the scheme concerned should be paid at the time of submitting application for registration; (6) the allotment plots/flats made on phases by draw of lots among the eligible applicants; (7) variable plot sizes fixed as per the schemes concerned and as per prevailing standards at that time; and (8) allotment of developed land is done on prescribed predetermined (PDR) and auctioned rates.

Lease deed conditions for the regulation of land

Further, the following conditions were imposed on residential lease deed execution and regulation of land: (1) the residential building should be erected, after obtaining, and in accordance with, the sanction of the building plan with necessary designs, plans and specifications of Municipal or other authority; (2) the construction to be completed within two years of the delivery of the possession of the plot; (3) the plot or building thereon will not be used for a purpose other than that of residence; (4) the lessee shall not be entitled to subdivide the plot or to amalgamate it with any other plot; and (5) the lessee shall not sell or transfer the whole or any part of the plot before or after the erection of the building without the prior permission of the lessor. The permission of resale refused for a period of ten years from the commencement of the lease. However, 50% of unearned increase in the value (i.e. the difference between the premium paid and the market value) of the plot to be paid to the lessor at the time of transfer.

Tenure, Financial And Legal Obligation

A number of conditions have been executed as part of obligation norms: (1) allocation of land (allotted or auctioned) only on perpetual (99 years) leasehold right basis and as the lessee of the President of India; (2) the ground rent will be charged at the nominal rate of Rupee 1/- per annum per plot for the first five years (10 years for co-operative societies) and thereafter the annual ground rent shall be payable at the rate of 2.5% of the total premium originally paid. The rate of ground rent is liable to be enhanced after every 30 years; (3) the lessee shall have to pay within such time the additional sum towards premium, as may be decided upon by the lessor, on the ground of increase in the cost of acquisition and development; (4) the lessee will be liable to pay all taxes, charges and assessments of every description in respect of the plot whether assessed, charged or imposed on the plot; (5) if the lease of the plot is obtained by any misrepresentation, mis-statement or fraud or if there is any violation/breach of the conditions of the lease, the lease will be determined and the possession of the plot and the building thereon will be taken over by the lessor and the lessee will not be entitled to any compensation; (6) special provision of reservation of allotment provided selected groups; (7) alternative plots were also provided on pre-determined prices to households whose land were acquired for development; (8) in order to encourage private investment in housing and to promote sufficient rental accommodation, certain number of residential plots were proposed to be leased out regularly by unrestricted public auctions waiving the condition of owning more than one plot or house in Delhi; and (9) in certain cases permission for allotment is allowed under special circumstances.

4.4.2.4. Public Land Delivery Terms And Conditions Of Commercial, Industrial And Institutional Land

The commercial lands are the most important source of revenue of DDA and it is the major source for subsidy schemes executed by the public land policy. The commercial plots are disposed of through auction/tenders as per disposal of developed nazul land rules 1981. The purchaser should be a citizen of India and should be competent to enter into contract. No bid is accepted on behalf of proposed company and change of name of intending allottee is allowed. The conditions are same as other auctions. However in the event of the consent given for

sale/transfer, the lessor is entitled to impose suitable terms and conditions and also be entitled to claim or recover 50% of the unearned increase in the value of the land. The lessor is also entitled to exercise pre-emptive right of purchase as and when the built up space is required for public use. The lessee may sell or transfer/sub-lease the floor space constructed on the plot subject to the permission of the lessor and payment of 50% of the unearned increased value.

Shops/stalls/ office units in various commercial estates and shopping centres developed by DDA are disposed of either on auction or tender, and/or through allotment made on (subsidised) reserve price to special groups with a provision of recovery of reserved price in instalments. The auction purchaser of plots in which the permitted floor space exceeds 1000 sq. ft is authorised to sell or transfer the floor space constructed on the plot subject to certain conditions. DDA has also launched self-financing commercial development scheme in 1984 and 1985.

Land is allocated to use on auction/tender purchase to all except few special categories. The conditions are same as other auctions/ allotments and construction of industrial unit is urged as early as six months and complete the same within a period not exceeding two years. See Chart 5.3 for allocation method. Land policy also allocates land to institutions that serve the interest of the population of Delhi directly. Land allotment for various institutions is also regulated through certain conditions fixed by the government and they vary from time to time depending upon government decisions taken in regard of land allocations for institutions (see Chart 5.5).

4.4.2.5. Premium/ Price For Allotment And Auction Of Land

The rates are fixed by taking into account the following elements: (i) cost of acquisition of land for plotted area (pool rates fixed by the Delhi Administration for various zones from time to time); (ii) cost of development of land calculated on the basis of Delhi schedule of rates, cost-index; (iii) minimum additional charges such as departments charges, administrative charges and interest charges; (iv) beautification charges (green areas and landscape charges) fixed from time to time; (v) charges on construction of zonal roads fixed from time to time; (vi) urban village redevelopment charges fixed from time to time; and also (vii) deficiency charges at the rate of 2.5% on items (ii) and (vi) above.

The remunerative area for the purpose of fixation of pre-determined rates is normally in the range of 45% to 50% of the gross area of the scheme which is usually determined on the basis of details worked out in the project report of a scheme. Additional charges for use and occupation are also added according to sizes. For the purpose of differential rate for subsidy to MIG and LIG categories, the cost of land was excluded from the rate for LIG but added to the rate for MIG. Since April 1985, this differential rate is calculated by adding 10% of the cost for the MIG and by reducing 5% for the LIG. In the case of Rohini Residential Scheme, the general pre-determined rates calculated as above on the basis of the remunerative area are spread in the ratio of 1:2:3 for residential, industrial and commercial in order to subsidise the rate of residential plots. This scheme was conceived essentially for weaker section of the society. An additional sum of Rs.100 and Rs. 50 respectively are added on account of equalisation charges in south and central and north and west respectively.

The reserve price for auction of residential plots are fixed with reference to the predetermined rates for MIG plots by giving 100% increase to the rates fixed for formal colonies in South Zone and by giving 10% increase to the pre-determined rates fixed for MIG plots in other areas. These rates are rounded to the next fifty rupees. These rates were fixed with no relevance to market rates received in the various auctions. But since 1985 they are linked with the average auction rates of the preceding year.

The reserve price for commercial land is fixed by taking into account the total floor space allowed the building to be constructed on the plot. The floor space is then multiplied by the average auction rate per square metre of floor space obtained in the auction of plots with similar permitted use, floor area ratio, number of storeys etc., in the same area in the recent past. In the absence of earlier auction rates in that area or in adjacent area or comparable area, the rate for fixing of reserve price is calculated on the basis of average auction rate obtained in the latest auction held in that area and adding thereto or deducting therefrom percentage of increase or decrease in the market/auction rates of other plots since the last auction. The pre-determined market rates fixed by the government for commercial purpose are also taken as a guide for the purpose of fixing reserve price for auction. However, recently in view of the slump in the commercial market, reserve price for commercial plots were fixed by reducing the average

auction price in the immediately preceding year by 10% subject to its not being less than the cost of acquisition and development of the plot.

Reserve price for commercial units in commercial estates is calculated adding actual cost of construction with the cost of land and additional charges decided from time to time. The rates were reduced in view of depressed market conditions. Reserve price for industrial plots were fixed on the basis of the average of the previous auction prices for the area concerned. Institutional land is allotted on either no-profit no-loss (NPNL) rates or concessional rates that are less than NPNL rates or 1.25- 4 times of NPNL/market rates depending upon the institution. The rates also vary depending upon the development nature of the land, i.e., whether they are undeveloped, semi-developed and fully developed.

Disposal of DDA-built flats/shops were priced as follows: (i) cost of construction including discharged liabilities if any, (ii) overhead charges such as departments (10% for MIG/LIG, and 8% later reduced to 6.5% in 1978 for EWS), interest charges (7.5% per annum for a period of 1.5 years for all categories of houses which later revised as 9% per annum for MIG, 7.5% for LIG and 6% for EWS for period of 9 months since 1978, and administrative charges (2% per annum for a period of 1.5 years later since 1978 it is revised to 1% per annum for MIG/LIG only, (iii) cost of land charged at pool rate fixed by Delhi Administration for 75% of the group housing area excluding areas earmarked for shopping centres, schools, electric substations but charged for community facilities. The prices were worked out by colony to colony from time to time.

4.5. SPECIAL CHARACTERISTICS OF DELHI

The municipal office records state that the Delhi urbanised area is about 50% of its jurisdictional area. This means that a large part of rural land was designated as part of the capital and expected to be urbanised in due course. Special characteristics of Delhi also include its large number of settlements (about 231 villages) out of which many retained the characters of urban villages. It is also observed that farming potential is gradually decreasing and as a result farmers are attracted to other activities.

It is also observed that the existence of local municipal bodies such as MCD, NDMC, Cantonment Board (for the provision of civic infrastructure and management) and local authority

(such as DDA for planning, land development and housing) and Delhi Administration (for administration and land acquisition) has made Delhi's institutional set-up quite different from what is existing elsewhere (see Chart 5.2). In addition, Delhi's growing potential for commercial, institutional and employment activities has made it the primate city within the northern region of India.

4.6. SUMMARY

It is observed in this Chapter that the Delhi's large-scale public land policy has evolved in order to solve the housing problem and especially to eliminate illegal land developments that were widespread during the post-independence period. The policy, initiated as early as 1960's, had conceived in it many theoretical concepts, instruments and tools that were expected to provide quick solution to the problems appeared in the past. It was believed that the public land acquisition, development and disposal policy implemented through some effective instruments and tools would be able to provide sufficient land for housing to all users. It was also believed that this policy implemented through a single organisation having planning, development and allocation powers and financial self-sufficiency would be able provide adequate land for planned development and in retrospect can eliminate all unauthorised developments. The following Chapter analyses the performance of this policy in terms of land demand and supply.

Endnotes for Chapter 4

¹ Religious or charity run houses where free or subsidised accommodation is provided.

² This scheme is called in many names such as Delhi's large-scale land acquisition, development and disposal policy (Howland, 1977), scheme of large-scale land acquisition (DDA, 1992) and in this research it is called as large-scale public land policy.

Chapter 5

LARGE-SCALE PUBLIC LAND ACQUISITION, DEVELOPMENT AND DISPOSAL POLICY AND ITS IMPLICATIONS ON HOUSING LAND SUPPLY

5.1. PREAMBLE

As discussed in Section 4.3.2, the large-scale land acquisition, development and disposal policy of Delhi,¹ a scheme of unique, imaginative (Howland, 1977:53), and systematic approach with adequate principles and policies (Pugh, 1991:378) aimed to solve problems common to poor countries around the world (Howland, 1977:53). The policy was introduced in 1961, and the first Master Plan for Delhi approved in 1962, identified the required planning provisions and urban development mechanisms for the operation of land development schemes under this public land policy.² The policy combined some effective instruments informed by the concepts of public land banking, expropriation, leasehold disposal, and management, and was believed to be the best way to supply sufficient land for all planned urban uses and prevent unplanned haphazard developments (DA, 1961). The policy thereby aimed to provide the required land for planned urban development by arresting land speculation and controlling increase in land prices through regulated priority allocations, capturing subsequent unearned increments from resales, and allotment of housing land at subsidised prices for selected groups who may not be able to afford it otherwise.

The policy also aimed to make available adequate quantities of land at the right time and at reasonable prices to public authorities, co-operative sectors and individuals. Considering the increasing number of low income households, and their inability to afford formal open market land, the policy aimed to protect the interests of economically disadvantaged households by: (i) ensuring adequate and timely delivery of housing land to all sections of the society; (ii) preventing ownership of land in the hands of few private individuals; (iii) checking speculative rise of land values by restricting resales; and (iv) simultaneously promoting the ability to afford among economically and socially disadvantaged households through a cross-subsidised pricing system (Mitra, 1990:194).

The Delhi Development Authority (DDA)³ claims that over the years it has created a long list of achievements (DDA, undated; DDA annual report 1992-93):

1. generating over a million dwelling units;
2. resettling and/or relocating more than 0.25 million slum/squatter dwellers (the highest in the world);
3. developing Inter-state Bus Terminus, Asiad complex/stadiums, sports complexes/multigyms and sports fields (also hosting national and international level tournaments);
4. developing about 15,000 acres of green; and
5. allocating land for 2200 social institutions of medical, educational and cultural, etc.

Such an achievement could not have been expected in the absence of this policy. These developments are financed mostly from the revenues of public land sales for which an initial revolving fund had been set by the Central Government for land acquisition by Delhi Administration, and loans obtained from public financiers and Banks etc. However, few programmes operated for squatter resettlements and upgradation have been partly financed from the Five-year plan funds of Central Government.

The success of this public land policy is also observed in terms of rise in its revolving fund capital (Pugh, 1991:376; Misra, 1986:68; Acharya, 1988:1434; Sarin, 1983:244), and supplying housing land to low and middle income households at low prices (Mitra, 1990:194), especially, to a large number of lower income range households who would have otherwise been driven out of urban Delhi, with no means to enter the formal housing market operated by private developers (Maitra, 1991:345). Researchers state that this policy has also provided comparatively cheap housing to high income households through self-financed flat allocation schemes (ibid), and developed some societal and community requirements normally ignored by the market forces (Misra, 1986:63). The DDA also believes that the resettlement of squatters in a large number, large-scale developments of formal individual and co-operative housing, commercial complexes, industrial estates, and development of large parks for community use etc., in a planned manner have become possible only because of this public land policy, enforced as early as the late fifties (DDA, 1985:21).

On the other hand, the public land policy operated by DDA has been regarded as a failure that contributed to large-scale illegal developments. The major reasons stated for the failure of the public land policy are (Pugh, 1991:381; Sarin, 1983:249):

1. inherent deficiency of policy objectives;
2. inadequate legal provisions and operational capacity;
3. lack of institutional co-ordination; and
4. misuse and/or mismanagement of land management tools and planning provisions.

It is argued that at the end of its 34th year of public land management, this policy has resulted in delay in land acquisition, led to the building of luxury housing against people's affordable need, forced up the price of land for housing particularly low cost housing (Baken and Linden, 1992; Acharya, 1988; McAuslan, 1985), and in turn contributed to unauthorised land developments and illegal sales of formally allocated land (Baken and Linden, 1992; Mitra and Nientied, 1989).

Specifically, it is argued that in the processes of operation of public land supply, DDA was forced to make huge profits in the name of cross-subsidisation (Buch, 1984), thus losing sight of its primary purposes and abandoning its public welfare objective of allocation of sufficient subsidised land for low income housing (Mattingly, 1993; Sarin, 1983:249). In result, DDA behaved as a monopolist and speculator (Pugh, 1991:368; Misra, 1983; Howland, 1977). It acquired land in advance only to release it slowly (Howland, 1977). It did not supply adequate quantities of land for low and middle income group applicants and did not ensure the availability of formal housing land at the right prices, when, and where needed. Thus, it could not prevent land price inflation through illegal transfer of subsidised plots (Mitra and Nientied, 1989; Acharya, 1988:1435; Howland, 1977:61), and priced out a large number of households opting for informal land developments (Acharya, 1988:1435; Misra, 1990:56).

It is also argued that the DDA's failure owes to its inadequate managerial and technical capabilities to undertake land developments on a large-scale (Sarin, 1983:249; Misra, 1986:66,1990:55). Researchers note that the DDA's inability to provide adequate housing land was due to its later-opted priorities such as city beautification and Asiad complex projects that failed to exploit the implementation potential existed for planned development through large-scale public land policy (Pugh, 1991:378; Sarin, 1983:249). The research community (Acharya, 1988: 1435; Misra, 1990:57; Pugh, 1991:378) also state that the way the public land delivery was operated has mostly benefited higher income businessmen, politicians and public servants, and favoured the rich at the cost of the poor. It is also noted that the large-scale public leasehold operation promoted corruption in land disposal and administration of transfer of leases (Acharya, 1988:1435; Misra, 1986:67; Pugh, 1991:378). Pugh (1991:378) also highlights that there is a widening

influence of “black money” which has its origins in land policy regulations and restrictions in the urban property market. These reasons are believed to have contributed to failure of public land policy operation and the creation of unauthorised land developments on a larger scale.

The policy operators argue that the increasing number of land encroachments and unauthorised colonies are primarily due to (Jolly, 1994:41): (1) delay in public land acquisition precipitated by the large number of court cases filed by vested financial interests; (2) lack of co-ordination between various development organisations and their working priorities; and (3) some economic and political factors that played a significant role in favouring the formation of unauthorised land developments. The DDA records also state that the biggest problems faced by DDA in achieving successful completion of land development projects and delay in land acquisition, development and disposal were: (i) lack of inter-agency co-ordination between DDA and other local authorities in supplying the required trunk services (water, sewage and electricity), building city level roads in the development areas; (ii) slow operation of land acquisition fully entrusted to Delhi Administration; and (iii) inordinate delay in handing-over of developed colonies to MCD for civic management (DDA, undated).

Therefore, although, it may be interesting to examine the conception of the above policy in terms of whether it is right or wrong, and/or what could have happened in its absence, the general research observation seems fair: that the contribution of this policy remains as one of the few substantial land management episodes that demonstrate competent intervention and manipulation of urban land markets (Mattingly, 1993:109), especially in developing countries where the poor outnumber rich, and most of the public policy operations lack dedication and determination. Thus, it becomes necessary to find out what has really happened under the operation of Delhi’s public land policy, and what kind of household response exists in regard to the operation of large-scale public land allocation policy?

Of the two kinds of views observed above, the views criticising the policy operation dominates the argument. Therefore, we start with the assumption that although the concept of large-scale public land policy of Delhi was conceived as a theoretically viable approach, the operational inability of this policy has constrained the supply of legal land for housing, thereby encouraging unauthorised land supply. This Chapter also attempts to answer the following questions in order to assess the kind of effect that encouraged the

creation of unauthorised land developments and led to the failure of public land policy. Those are:

1. Did large-scale public land policy acquire adequate land for planned development and housing?
2. Did it offer adequate affordable housing land?
3. What are the views of households and concerned groups on DDA's formal housing land supply?
4. What are the ways in which Delhi's public land policy could have encouraged illegal settlements?

5.2. PERFORMANCE OF OBJECTIVES, OPERATIONAL MECHANISM AND INSTITUTIONAL SET-UP OF LARGE-SCALE PUBLIC LAND POLICY

The origin of large-scale land policy, in the circumstances of unequal distribution of wealth and income earning capacity, large migration resulting from partition of the country,⁴ and early notification of large tracts of land for expropriation on the basis of draft Master Plan/Interim General Plan witnesses the strong political commitment, and determination to achieve equity in distribution of housing land as part of planned urban development in Delhi (Howland, 1977:53; Misra, 1986:67). There is no doubt that this policy firmly embodied a fairly comprehensive package of measures including certain elements of (Misra, 1986:67; Mitra, 1990:194):

- (i) land banking to make available desired quantities of affordable land in advance for proposed planned development;
- (ii) public ownership of land in order to prevent resales leading to investment and speculation that might raise prices, and to ensure the availability of disposed land when required by the government;
- (iii) land use planning and building regulations to control the use of built-up space; and
- (iv) public land management to ensure adequate supply of land for all planned urban uses, and provision of necessary access to affordable land to all households through a cross-subsidisation formula.

The overall idea of policy makers has been quite simple: when the city's urban land is under the virtual control of a single public authority responsible for planning and

development, it can achieve efficient and equitable use of land by avoiding wastage and underuse of land, especially done by the private sector in the past (Maitra, 1991:344; Misra, 1986:67). The idea of a single powerful authority is supported in view of the experience of the local authorities' inability to control large-scale profit oriented illegal land developments of private colonisers in Delhi (GOI, 1989:20). The idea is that public land banking and the public land allocation (with free of speculation) policy be best conducted by a single authority (Flechner, 1974; Devoy and Rodrungruang, 1983).

But an inherent deficiency in the aims and objectives, operation of regulatory mechanism and institutional co-ordination has been observed by researchers. There are four sets of reasons said to have contributed to the failure of this policy, which in turn may have encouraged formation of illegal land developments.

The first set of reasons advanced to explain ineffectiveness of public land policy relates to the overall supply constraint, unrealistic objectives, and inadequate legal provisions⁵ for land acquisition and development (Misra, 1984:21-23; Baken and Linden, 1992:63). These were held responsible for the ever-widening gap between the Master Plan's proposed phasing of development and the actual phasing (Gupta, S.C, 1991:35).

The second set of reasons relate to poor co-ordination:- 1) the DDA's managerial and technical capabilities were not up to the task of full implementation of public land policy (Misra, 1986:66; Sarin, 1983:249; Pugh, 1991:378). DDA was empowered too late and the lack of co-ordination within DDA compounded the general lethargy in taking action against land Mafia, resulting in encroachment on acquired land (Jolly, 1994:40).

2) secondly, under the pattern of Delhi's urban development/ municipal management set-up, some of the development and maintenance functions alternated between DDA and MCD, and the operation was not tackled in totality. The multiplicity of land-owning public authorities (ibid,1994:40), lack of fiscal co-ordination among DDA and MCD in maintaining the infrastructure constructed by DDA (Pugh, 1991:377) and untimely provision of essential trunk services (water and electricity, etc.), greatly diluted the overall achievement.

3) thirdly, there has been a complete technical, administrative and financial mismatch between DDA and Delhi Administration. Land acquisition, payment of compensation, transfer of acquired lands (especially by Delhi Administration's Land and Building Department) and maintenance of land records (Jolly, 1994:40), all inevitably constrained the very availability of land.

The third set of reasons contributing to the failure of Delhi's land policy relates to the regulatory mechanism faulted for mismanagement of provisions and failure of public land allocation (see Section 5.4). The fourth set of reasons relates to external controls: late approvals of Master Plans by the government, and delay in approvals of large-scale land development and housing projects by the Delhi Urban Arts Commission (GOI, 1989:24).

5.2.1. Aims And Objectives Of Large-scale Land Policy Of Delhi

As discussed in the Section 4.4, the primary aim of the large-scale public land policy of Delhi has been to acquire, develop and dispose off sufficient land in order to achieve overall development proposed by the Master Plan, that is to organise various sectors in a proper way and prevent haphazard development. (DA, 1961:1). This primary aim⁶ and the ousting of profit-motivated private developers were the concerns of this policy.

The absence of an independent objective has not prevented a series of scholars identifying a clear one: public welfare of low income housing, and socialisation of land through cross-subsidisation from auctions. The policy contained inherent limitations in its approach, and these limitations generated vagueness, confusion and ambiguity (Acharya, 1988:1431). It has led to target years were unestablished (Howland, 1977; Acharya, 1988:1431-34). But the DDA claims that the policy aimed to promote and secure the planned development of Delhi according to Master Plans. This contradiction emphasises a need for a new research in this field.

Yet it is clear that the policy intended to achieve: (i) a more efficient and equitable distribution of land for housing as well as for industry; (ii) to save urban land from speculation and/or profiteering (DA, 1961:1); and (iii) to ensure universal availability of land at reasonable prices (Baken and Linden, 1992:62). Thus, the overall objective of Delhi's land policy could be interpreted as an attempt to control and keep the supply ahead of demand in order to keep land prices stable, and to make housing land affordable by every party (Maitra, 1991:344; Sarin, 1983:242). The more detailed objectives are subsidiary, and the overall framework remains that of the Master Plan. Nevertheless, it shows that the operational and/or regulatory mechanisms, and administrative and/or institutional structures of large-scale land policy could have encouraged illegal developments more than any inherent deficiency of policy objectives.

5.2.2. Operational Mechanisms And Regulatory Controls Of Delhi's Large-scale Land Policy

The Master Plan for Delhi approved in 1962 and the large-scale public land policy are virtually inseparable for Delhi. The Master Plan proposed large-scale public land acquisition, development and disposal in order to control land prices and curb speculation; in turn, the large-scale public land policy was conceived to facilitate the implementation of the Master Plan by securing a high degree of public control of land (Ribeiro, 1992:39). Thus, the operation of this land policy depended upon the concerned Master Plans which: (i) identified land for current use zones; (ii) prescribed appropriate norms, standards, subdivision regulations, and development controls for different uses; and (iii) devised specific building regulations and bye-laws that could monitor the construction activity.

The Master Plan proposals were translated on the ground into Zonal Plans (which act as link between the Layout Plans and Master Plan), converted into suitable development schemes/projects. Later, these were executed according to terms and conditions of the operational mechanism. The large-scale land policy, besides facilitating the land acquisition for development schemes/projects, also controlled the land use and building operations through its land allocation norms and conditions (see Chart 4.1). The present system of Master Planning and building regulations were primarily aimed to check the unintended growth and to ensure the planned development in all parts of Delhi. Thus, the DDA's operational jurisdiction extended all over the Delhi, but its building regulation applied only to the areas developed by DDA, leaving the rest to be controlled by the respective Municipal Authorities.

Delhi's regulatory set-up is somewhat similar to the widely acclaimed success stories of Sweden and the Netherlands, where municipalities prepare their plans within the purview of approved provincial plans and are empowered to dominate local land markets in order to ensure the availability of sufficient land for future urban growth. These municipalities are also responsible for the provision of infrastructure and all public housing, besides their municipal functions. DDA, however, provided only peripheral services within the formal developments, assigning the responsibility of supplying trunk services (such as water, sewers and electricity) to local bodies particularly MCD for bulk supply to new developments in peripheries (Chart 5.1). Road building (proposed by Master Plans) was the responsibility of Delhi Administration. The overall idea is quite simple: that the DDA's focus on new developments would enable it to supply as much newly developed land according to Master Plan as supplying municipal services.

Functionally, Delhi's Master Plans identified appropriate areas for development, and these areas were declared as Development Areas through the legal provisions of the Delhi Development Act, 1957. The Central Land Acquisition Act (1894 amended in 1984) facilitated the acquisition of these areas notified, and the tool of expropriation and payment of compensation below market prices were applied to acquire land on cheap prices. In the declared development areas, no land development including any building activity was permitted without DDA's building plan approvals. Retrospectively, all executives have been vested with the necessary powers to pass demolition orders on unauthorised developments. But the literature observes that DDA has not acquired all proposed lands, and it also lost large amount of acquired land to encroachments. This aspect is discussed in detail in Section 5.3.1.

5.2.3. Administrative And Institutional Set-up Of Large-scale Land Policy

Delhi has three levels of administration involved in planning, acquisition, development and disposal of land (see Chart 5.2). The Ministry of Urban Affairs,⁷ Government of India, at central level, controls the DDA's land policy operation, approves Master Plans, facilitates declaration of development areas for DDA's land development, and issues directions for the efficient administration of the Delhi Development Act, 1957 (GOI, 1989:23-4). At state level, the Delhi Administration was assigned the responsibility of notifying and acquiring all the identified land, and the operation of the revolving fund for land acquisition on behalf of government and DDA. The Lt. Governor, who is Chief Administrator of the Delhi state,⁸ is the ex-officio Chairman of DDA. The Vice-Chairman of DDA is appointed by the Central Government. The full administrative and financial powers of the government on land acquisition lie with the Lt. Governor and/or Chief Commissioner of Delhi Administration (Ribeiro, 1992:35).

DDA consists of 11 core members appointed/ nominated from time to time by the Central Government. Operations and decision making in DDA's large-scale land development involves three committees: (1) the Advisory Council of about 17 members of local governments and departments nominated by the Central Government, two members from Lok Sabha, and one member from Rajya Sabha; (2) Standing Committee with Lt. Governor, an appointed Vice-Chairman and 13 other members. All the major projects related to urban development must be approved by it; and (3) Technical Committee which examines all projects for conformity with the proposals in the Master Plan. It is chaired by the Vice-Chairman and includes all agencies concerned with co-ordination of plan

implementation and development. The Commissioner of the Municipal Corporation of Delhi is an ex-officio member of DDA and intended to ensure MCD's co-ordination for DDA's development programmes.

Concerning DDA's institutional and technical capacity, its annual reports show a growth from about 500 staff in 1957 to a massive technical and administrative strength of about 30,000 in 1983, over 33,000 in 1990, now reduced to about 28,000 regular and work-charge employees. DDA consists of 8 core technical departments: Architecture and Planning; Engineering and Horticulture; Land Management and Disposal; Housing; Accounts and Auditing; Systems and Training; Personnel; and Slum wing (recently transferred to MCD). Each department has technical and administrative staff, and a training cell has functioned since December 1983. DDA collaborated with the Ford Foundation and Town and Country Planning Organisation of Ministry of Urban Affairs to prepare the first Master Plan for Delhi, 1962. But, in the 1980's, it prepared the revised Master Plan for Delhi 2001 (approved August 1990) with its staff and expertise.

DDA reports (DDA, Undated:3; DDA annual report 1992-93:4) show that it was called upon to perform a variety of functions and activities, and asked to contribute to several important events. Apart from the ancillary and voluntary activities that led to the inevitable expansion of DDA, involuntary expansion made additional demands upon it. These involuntary activities include regularisation of unauthorised colonies, and maintenance of urban villages, dairy colonies and transit camps, etc. DDA has also been asked to establish industrial and commercial complexes, support and assist the IX Asian Games Committee in building some prestigious landmarks, decongest the Walled City, and preserve electrification, sewerage, roads, and other basic amenities in concert with other civic bodies (DDA annual report 1992-93). Major additional functions that exceed the very purview of large-scale land policy and Delhi Development Act include: administration of Delhi Lotteries until 1992-93; running the Inter-state Bus Terminus it had long developed; large-scale flatted housing construction that had not been proposed by the large-scale land policy; maintenance of resettlement colonies and slum clearance related activities entrusted to MCD until they were transferred to MCD during middle of 1988; some Asiad projects; and maintaining the colonies developed by DDA (GOI, 1989).

Of about 512 colonies developed by DDA, only 226 have been transferred to MCD for civic management since 1990-91. This is contrary to the proposals of land policy, that is to transfer the developed lots to the concerned municipal body for maintenance (supply of civic services and collection of taxes to augment new services). DDA reports also show that it provides technical expertise to Delhi Administration, MCD and NDMC for

preparing road alignment plans, intersection design and transportation studies, etc., (DDA, undated:17). The delay in handing over developed colonies to the MCD have reduced the work-force that ought to be used for developing new areas, and delayed its new operations. Similarly, a constraint in the way DDA's response is some delay in the provision of services such as water and electricity by the Municipal Corporation Delhi and Delhi Electricity Supply Undertaking (DESU) respectively during 1969-70.

Secondary sources also show that although DDA has been granted statutory autonomous power to acquire, hold, manage and dispose of land independently, it was obliged to depend on the Ministry of Urban Affairs and Delhi Administration for the declaration and acquisition of land respectively. Land may be acquired only by the Delhi Administration and transferred to DDA. Besides, large-scale building, engineering projects, or indeed any development proposals which might affect the skyline or aesthetic quality of surroundings were required to be approved by the Delhi Urban Arts Commission (DUAC) (GOI, 1989). Other departments scrutinised building bye-laws, provision of infrastructure, etc., (see Charts 5.1 and 5.2).

Similarly, the reason for DDA's lack of internal co-ordination is due to a large number of administrative staff involved in land, housing and engineering departments whose engineering and allied functions leave them little time for planning due to other functions. The prime objective of quick Master and Zonal Planning and monitoring suffers thereby (GOI, 1989:23). This state of affair is partly exacerbated by the policy of revolving fund and cross subsidy.

5.2.4. Finance Mobilisation For The Operation Of Large-scale Public Land Delivery

The experience of land development in other developing countries points to finance as a serious obstacle, but Delhi has shown that large-scale land supply can be successfully financed by public development. This is ascribed to expropriation of land below market prices and its later auction to the highest bidder for HIG residential, commercial and industrial uses. This is theoretically justified as permitting subsidisation of low income households, and development of land for social infrastructure and recreational use, but criticised in operation for being 'nothing short of looting' (Sarin, 1983:244; Pugh, 1991:376). The Public Accounts Committee review of Delhi's land development noted that DDA's margin was excessive and that the revolving fund was based on this inordinate difference between buying and selling prices (ibid). Sarin's observation supports Grimes (1974) who acknowledges a "threshold percentage of betterment capturable by public

authorities". The attempt to exceed this threshold would provoke landowners to seek redress through the court system. This is noticed from the cases of success stories such as Sweden and the Netherlands where the acquisition assessments were often much lower than compensation awarded. In the Netherlands, Central Government was obliged to offer the landowner a price higher than existing use value to avoid lengthy expropriation procedures.

DDA records shows that the revolving fund was indeed used mostly for land acquisition. The Central Government provided a seed capital of Rs. 50 million, later augmented to Rs.123.1 million (Jha, 1984:64). The expenditure incurred by DDA on land development was to be met from the proceeds of the sale of industrial, commercial, and residential plots, with the surplus credited periodically to the revolving fund administered by the Delhi Administration to acquire new lands or to meet the liabilities of old land. The revolving fund intended to maintain a single account of land development, with sales proceeds ploughed back to the fund for financing new acquisition and development. It was stipulated that the surplus from the disposal of developed land would also be credited to the revolving fund. The fund is deposited with the Delhi Administration and DDA pays for land acquisition every year out of its revenues.

DDA annual reports also state that loans were obtained from the Government of India (Rs.28 million repayable by instalments during 1961-62), for large-scale land development and disposal of developed land. The DDA has also obtained loans from LIC (10 millions each in 1968 and 1969) for constructing LIG/MIG houses. DDA's annual reports also state that fresh loans were taken from banks every financial year and sinking funds created with Punjab National Bank and State Bank of India, whose repayment the DDA met by floating debentures. This indicates that DDA has not depended only upon the revolving fund.

The revolving fund was established to avoid financial problems in land acquisition. To this end, DDA contributes part of its land sales every year to the Delhi Administration. Money paid by DDA is compensated with the land acquisition payments pending with the Delhi Administration. DDA submitted a recent proposal to the Government of India for loans of about Rs. 200 million from HUDCO, SBI, NHB, HDFC and other banks. In 1985-87, the financial resources of the DDA remained tight from an earlier commitment of the funds to Asiad works and other schemes, and failure to recover the maintenance cost of resettlement colonies. However, DDA continued uninterrupted with its land development and disposal with the help of land auction revenues.

Jha (1984:63) defines the revolving fund as a method of revolving initial working capital in such a way that it yields a handsome return on investment which along with the principal is ploughed back. This secures an increasing return in each cycle of investment. In fact, the financial success of DDA's public land development can be appreciated by the fact that in a period of 20 years, the initial seed capital (revolving fund) has expanded from Rs.123 million to over Rs. 2 billion in 1980-81 (Pugh, 1991:376; Misra, 1986:68). The seed capital increased due to land auction for high income residential, commercial and industrial use (Misra, 1986, 1990:55-56; Pugh, 1991), as well as revenue earned from self-financing flats for higher income group (Maitra, 1991). But the revolving fund is not profit: it is the money reserved for future land acquisitions. Therefore, the accumulation of the revolving fund alone does not indicate the success of revolving fund or auctions of land by DDA. DDA makes valid claim of profits through auctioning commercial plots to private builders and higher income group. Hence, what seems important here is the overall performance of large-scale public land policy in the context of Delhi.

5.2.5. Performance Of Operational Mechanism & Institutional Set-up

Previous sections had noted that Delhi's large-scale land policy suffered deficiencies on account of vague objectives, operational weaknesses and lack of co-ordination. Nevertheless, Delhi's land policy confirms the theory that effectiveness of government intervention in the urban land-market depends a great deal on publicly owned land (Linn, 1979:240; Acharya, 1988:1428). It gives adequate flexibility and power to local government to make land available to various housing programmes, upgrade slum and squatter settlements, provide security of tenure to squatters and provide access to housing to economically and socially disadvantaged (Misra, 1990). The idea of large-scale land policy is therefore logical given that more than 30% of Delhi's households are poor and socio-economically disadvantaged (ibid). Private ownership would have posed serious problems to the legal and financial resources of any other form of public intervention for low and middle income housing land (Acharya, 1988:1428).

DDA faces problems of co-ordination with other agencies or authorities discharging connected or supplementary functions. But most of the DDA's functions were assigned by the Central Government with consideration to DDA's institutional and financial capacity. Furthermore, the surplus profits received from DDA's extra functions were used for its land development operation, and, specifically, lottery profits financed the construction of social and physical infrastructure. These activities enhanced the financial capabilities of DDA rather than constraining its development potential.

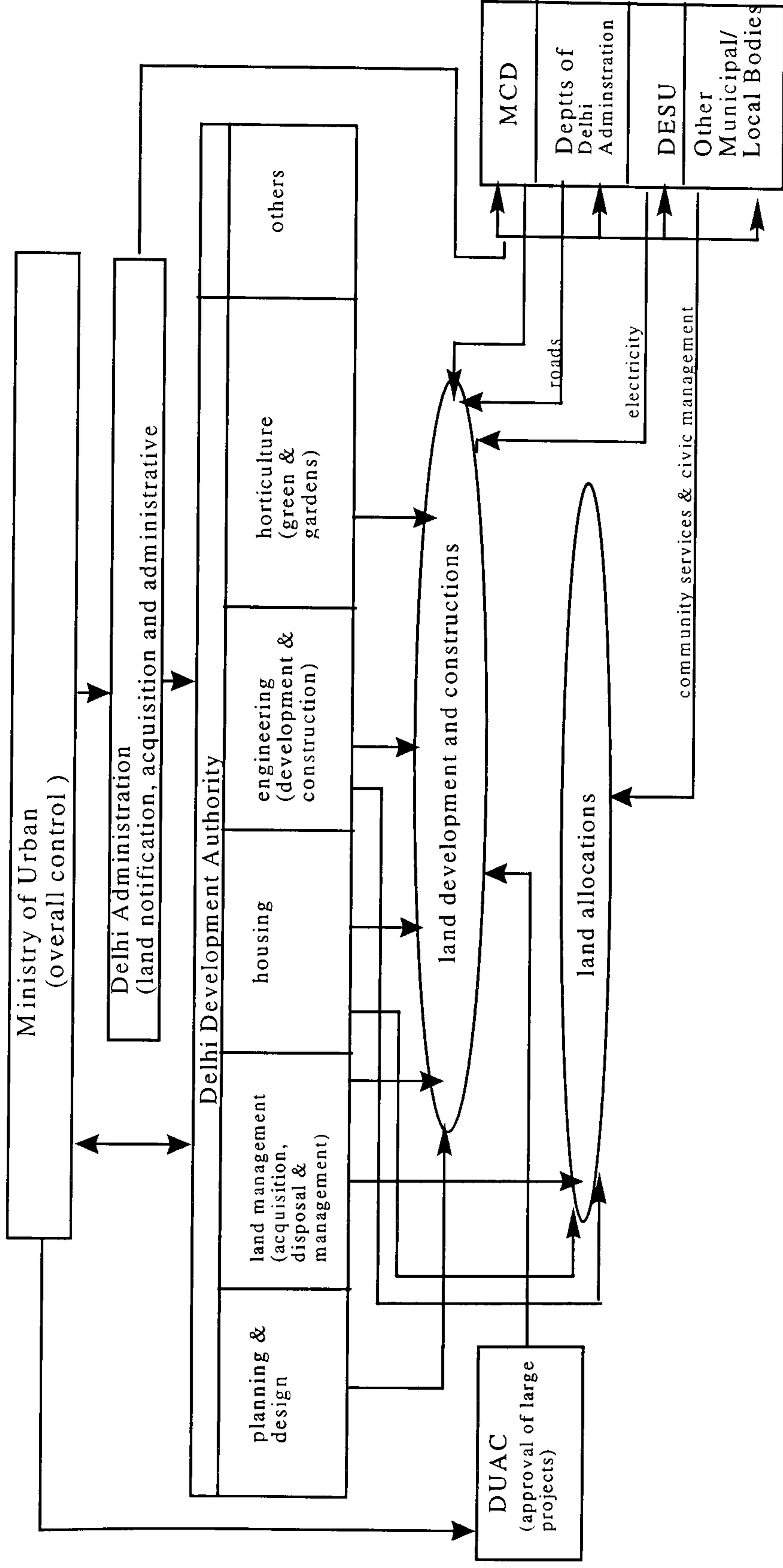
Chart 5.1. Institutional responsibilities of large-scale public land policy

Major Key Tasks	ORGANISATIONS							
	Central Government / Ministry	Delhi Administration	DDA	DUAC	MCD	NDMC	Delhi Cant.	Others DESU etc.
I. Land planning and acquisition								
1. planning and identifying land for development	*		*					
2. declaration of development areas								
3. notification and acquisition of land		*						
II. Development and allocation of land for planned land uses including housing			*					
III. Land use control and checking building bye-laws								
1. designs in the municipal jurisdictions					*	*	*	
2. designs in the new development areas			*					
3. Large-scale land development projects				*				
IV. Supply of community services								
1. water supply			*		*			
2. electricity			*		*			*
3. sewers			*		*			*

Note: *denotes the responsible organisations for the specified task

Key: DDA (Delhi Development Authority); DUAC (Delhi Urban Arts Commission); MCD (Municipal Corporation of Delhi); NDMC (New Delhi Municipal Committee); Delhi Cant. (Delhi Cantonment); and DESU (Delhi Electricity Supply undertaking).

Chart 5.2 Institutional set-up for the execution of large-scale public land policy in



The response of interviewed households who bought illegally sold land indicate that formal land delivery procedures, and the opportunities for investment and extra income earning were prominent reasons for their choices (see Table 5.6). Similarly, the responses of large number of households who bought plots in unauthorised colonies indicate that they were mostly attracted due to their feeling of unaffordability of formal land prices, and supply based reasons. This points to inefficiency of DDA's land development and disposal operation rather than inherent deficiencies involved in policy operation. On the other hand, researchers argue that DDA's land acquisition, development and disposal have been slow since its inception, and therefore ineffective. The following sections 5.3 and 5.4 analyses these reasons in detail.

5.3. PERFORMANCE OF PUBLIC LAND ACQUISITION AND DEVELOPMENT

As envisaged in the Master Plans, the major concern of Delhi's large-scale land policy operation has been to make available sufficient quantities of serviced land, and release it at right intervals to all planned uses and users. In order to keep the supply ahead of demand, the DDA, a single high-powered public authority, assumed the entire responsibility of planning, large-scale advanced land acquisition, development and disposal. It has invoked compulsory land acquisition laws which include effective tools such as expropriation, price-freezing and advance public acquisition (see Chart 4.1) to assemble land at cheap prices. Furthermore, DDA developed most of the land on its own and restricted private development to certain activities. To avoid financial problems in large-scale land development, it auctioned land mostly for commercial, industrial and some residential uses, and raised loans from public institutions, and also recovered profits from unearned increments from resales. This practice has provided many advantages such as cheap land acquisition, and greater control over land development and use regulation, and provided financial autonomy towards curbing land speculation and stabilising prices (Pugh, 1991:378).

DDA proudly claims to have developed over 47,000 acres by the end of 1983 (during first Master Plan period 1961-81) and almost 60,000 acres by the end of 1993. Its announced aim is for planned and balanced development in totality, and developing land for all uses including recreation. Its target is for 40% of space to be built-up, and

remaining 60% for essential amenities and public services, such as roads, parks, playgrounds, dispensaries, educational institutions, shopping facilities, milk booths, recreational centres, etc. DDA records suggest that land development suffered as a result of numerous factors: the pressure to mobilise funds through various sources in order to sustain the cross-subsidy mechanism; and other major tasks assigned by government such as resettlement of slums/squatters, regularisation of unauthorised colonies, development of infrastructure for the city's prestigious events, and investment of its land revenues in construction of sports complexes and community services.

Yet, it has been argued that the DDA's large-scale land acquisition and development is inefficient. Ever since Delhi began its land banking programme, DDA has been slow to acquire and develop land, leading inevitably to a "distorted" development (Howland, 1977; Basu, 1988). The major reasons have been identified as legal complications of land acquisition law, financial constraints, and physical implementation constraints (Gupta, 1985; Misra, 1986).

DDA's commitment to remunerative land development such as for commerce, industry and higher income residential areas have resulted in shortage of housing land (Ribeiro, 1992:41 and Acharya, 1987). However, these were not as remunerative as expected because a large number of commercial units were not sold immediately. The Times of India (12.11.1994) reported that about 5630 commercial structures (over 4000 shops) developed by DDA were lying unsold. DDA then began to auction commercial plots rather than constructed structures to beat the spiralling cost of their dead investment.

5.3.1. Land Acquisition Performance Of Large-scale Land Policy

Many legal and operational bottlenecks operated in the process of land acquisition for large-scale land development in Delhi (Misra, 1986:66). Specifically, inadequate statutory acquisition powers of DDA and delay caused in the Central Land Acquisition Act slowed the first phase during 1961-81. Despite the existence of a provision for public land acquisition and advance notification thereof, the DDA's lack of legal powers to directly acquire land without involving Delhi Administration, and restriction on advance acquisition beyond the Master Plan period has handicapped it from acquiring entire land already notified (Misra, 1986:66). This resulted in delayed acquisition of notified land, subsequently delaying the integrated development by the Master Plan. Partial acquisition, and with patches of unacquired land within notified areas, delayed land development and attracted illegal development and squatting in those areas (DDA, 1985:19; Misra, 1986).

Mattingly (1993:110) has observed that a price freezing policy generates enormous pressure from politically powerful landowning classes who are potential investors and/or speculators of private land and motivate them to resist public land acquisition. He also believes that delays in acquisition could have resulted in middle and low income households and/or land owners taking advantage of rising market prices by resisting the sale of land to government and/or illegally subdividing or claiming unauthorised land.

In practice, the Central Land Acquisition Act (1894, revised in 1984)⁷ and Delhi Development Act, 1957, enabled easy advance land acquisition of the entire notified area in the following sequence: preliminary notification, inviting objections, final notification, declaration of the preliminary award, settlement claims, payment of compensation, and transfer of acquired land for development and disposal. By the Act, acquisition lapses in the event of failure to settle the process within two years of notification. Compensation award is based on market value on the date of preliminary notification, with an additional 15% solatium for compulsory acquisition and cost of structures where applicable (Singh, 1991; Misra, 1986). The market price for the award is usually evolved from the registered sale deeds and land records. In cases of prolonged delay, the land is frozen and barred from any other use. This encourages many land owners to challenge the acquisition in courts on technical grounds such as motion lapse, frozen land, and inadequacy of compensation paid, etc., thereby further delaying the transfer of private land.

Landowning farmers interviewed by this study, who had subdivided their land themselves and/or sold to colonisers, admitted that compulsory public land acquisition performs poorly because of profit seeking in the face of expropriation policy (see Table 7.5). Cheap rates of compensation (33%), and other reasons such as bribes involved in land sales to government (17%), long process and harassment during acquisition (11%), prolonged court cases that delayed their payments (11%) were also cited by them as having weakened public land acquisition in Delhi.

The performance of public acquisition is seem to have improved slightly after the revision of the acquisition process and enhancement of solatium from 15% to 30% in 1984 (Singh, 1991). DDA records state that although the government rates had become more attractive to the farmers, the legal disputes, court cases and encroachments continued due to the inability of DDA to actually afford the enhanced prices. However, in the wake of recent improvements in land acquisition, about 5800 acres out of 10000 acres being planned in Dwarka Project and about 1200 acres in Narela were acquired by DDA (DDA, undated:17). This shows that there is a slight improvement in land acquisition after the enhancement of compensation. But this has not stopped the formation of fresh

encroachments and unauthorised developments in Delhi. Thus, despite legal complications, the governments' failure to protect the acquired land could have encouraged large-scale encroachments and unauthorised developments and that in turn could have constrained public land development.

DDA has depended on the strategy of demolition after encroachments rather than protect the acquired land encroachment and/or illegal development. DDA depended more on local police than its own land protection force during the initial phase of land acquisition. However, a special protection cell headed by a Deputy Commissioner (Police) established by Delhi Administration removed about 8028 encroachments, of whom about 2000 families were then provided with alternative plots during 1961-81. The recent experience with establishing its own land protection force has proved to be a success (Gupta H. C, 1991:32-34). Fencing 45 Kms (about 3000 acres) of acquired land and daily patrolling by a trained protection force/squad, have been effective in curtailing encroachments and illegal developments.

Legal complications could have been reduced and more land acquired by enacting a new acquisition law exclusively for Delhi. But the government's ability to enact a new law and the fact of the majority of wealth owned by a powerful few are empirical realities. The quickest action that might have reduced illegal encroachments and unauthorised developments would have been amendment of the Central Land Acquisition Act earlier than 1984. This still not the best solution because DDA seems to be finding it difficult to acquire sufficient land due to enhanced compensations since 1984, and revolving fund fell short of the expenditure on infrastructure (Noronha, 1991). Thus, DDA's ability to discourage illegal developments had depended upon its ability to supply adequate land for planned developments at the appropriate time. The following section 5.3.2 examines DDA's land development performance and its impact on supply of sufficient land for residential and other uses.

5.3.2. Land Development Performance Of Large-scale Public Land Policy

The literature state that the DDA's primary functions such as land planning and monitoring were increasingly relegated to second place due to its active involvement with engineering and allied functions (GOI, 1989:23). Further, DDA's additional functions such as city

beautification (parks, city forests, flyovers and city highways) and Asiad complexes have also been held responsible for its failure to exploit the land development potential of the large-scale public land policy (Sarin, 1983:249; Pugh, 1991:378). Its purposive public monopoly and most low-yielding urban investments delayed its returns (Buch, 1984:5 and Sarin, 1983:244). As a result, the resources were not utilised for land development schemes. It is also argued that DDA has not developed adequate land for residential use as it was aiming to make profit from other developments.

Table 5.1 shows the various uses of land developed by DDA. It shows that land for residential use has increased from 50% of its total by the end of first Master Plan (1983) to 65% by 1994. Chart 5.3 indicates that by the end of August 1994, DDA has developed almost all the land that was acquired and transferred by the Delhi Administration¹⁰, and that the land use distribution is somewhat closer to Master Plan proposals envisaged for urban extension (Government, 1990:121). The data also indicate that the additional land development progress was not as rapid as it might have been because between 1983 and 1994, DDA had developed only 26% more than that of land developed during the first Master Plan period. This shows that DDA concentrated more on construction activity than land development during the second phase of development (1983-994). This supports the argument that DDA's involvement in Asiad projects and large-scale construction of commercial, industrial and office complexes has slowed the development of land already acquired for public housing.

Chart 5.4 shows DDA major development functions carried out during its land development and disposal operation. Its functions include priority and voluntary activities in addition to planning, land development and housing as part of execution of large-scale public land disposal in Delhi. Among them, land development for housing and other uses seem to be major functions. But the function such as development of infrastructure facilities and execution of special projects seems to be an additional activity that was entrusted to DDA considering its responsibility of land planning, development and disposal.

5.3.2.1. Land Development For Housing And Integrated Residential Towns

DDA is the prime developer of land for housing in Delhi. Table 5.1 shows about 38177 acres of land developed by August 1994. This took the form of specific housing ("residential") schemes executed by DDA (Figure 5.1) and housing developments executed as part of integrated development schemes ("subcity projects" or "integrated

developments”) (Figure 5.2). Details on housing land development that formed part of DDA’s land allocation are discussed in section 5.4.

Table 5.1. Land developed and disposed as Nazul land II¹¹ (in acres) by DDA

Use	Land Developed Upto 1983	% To Total Land Developed	Land Developed Upto 1990	% To Total Land Developed	Land Developed Upto 1994	% To Total Land Developed
Residential	23422.6	50	29083.5	50	38177.2	65
(i) Plots/flats	13298.9	(57)	18487.5	(63)	26495.0	(69)
(ii) Cooperative group housing	4563.9	(19)	4805.6	(17)	5806.1	(15)
(iii) Slum and squatter relocations	5559.7	(24)	5790.3	(20)	5876.0	(16)
Commercial & institutions	8616.3	18	9774.0	17	10048.7	17
Industrial	2693.3	6	2555.3	4	2790.8	5
Horticulture & green	7230.1	15	7289.3	13	8289.6	14
Balance/vacant	5404.0	11	8376.6	15	217.2	0.4
Total	47366.6	-	57078.8	21*	59523.6	26*

Data in the brackets shows the percentage to total residential land developed.

* Percentage of additional land developed since 1983.

Source: Compiled from DDA records.

Note: There is a problem of accuracy data in published information on land development in Delhi. The aggregate data in DDA’s annual administrative reports too do not tally with its other documents such as Vikas Varta and factsheets as they are mostly derived from the additions of annual totals rather than cumulative data.

Chart 5.3 Land developed (Nazul II) by DDA for different uses by August 1994

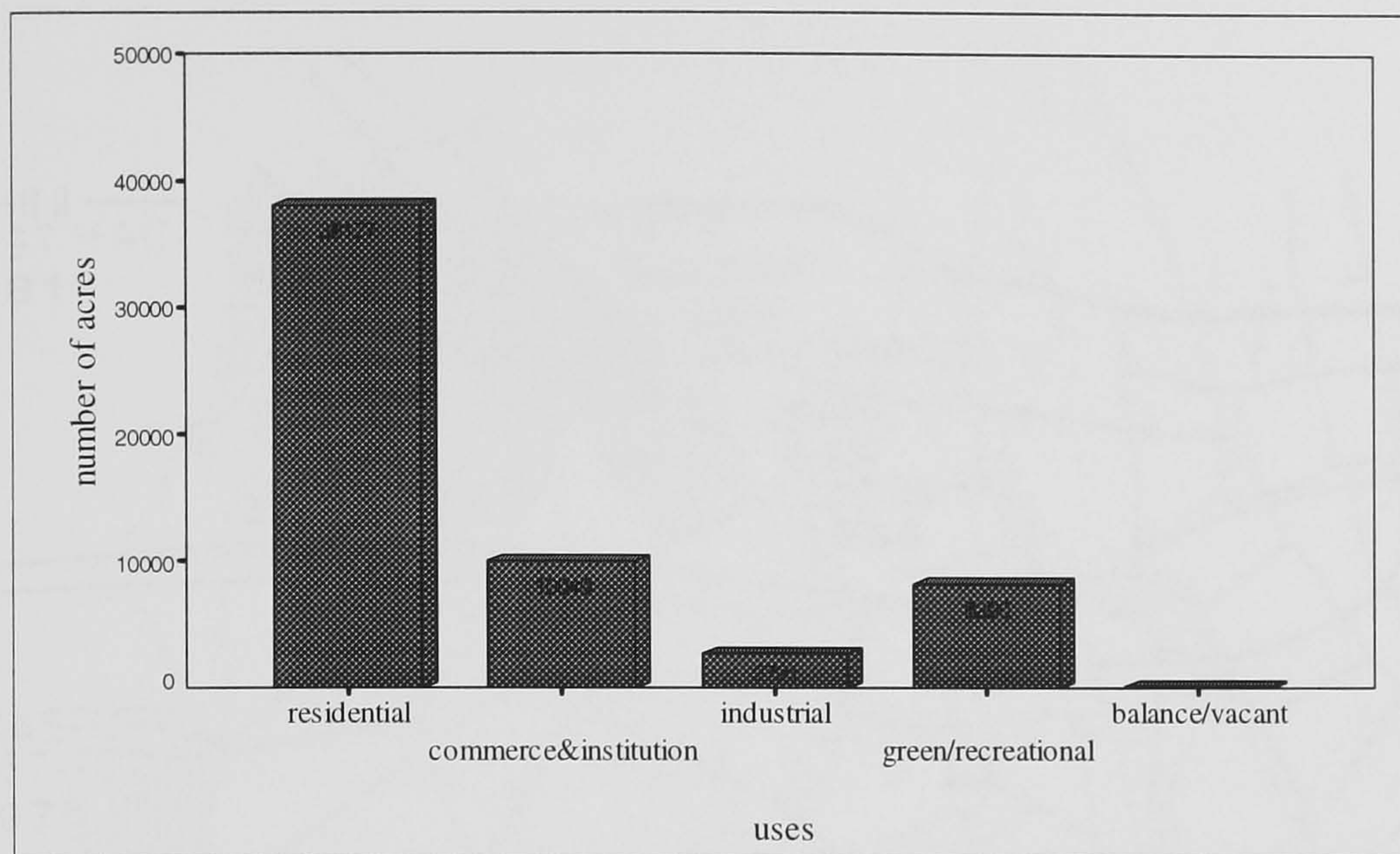


Chart 5.4 Major Development Functions Carried Out by the Delhi Development Authority

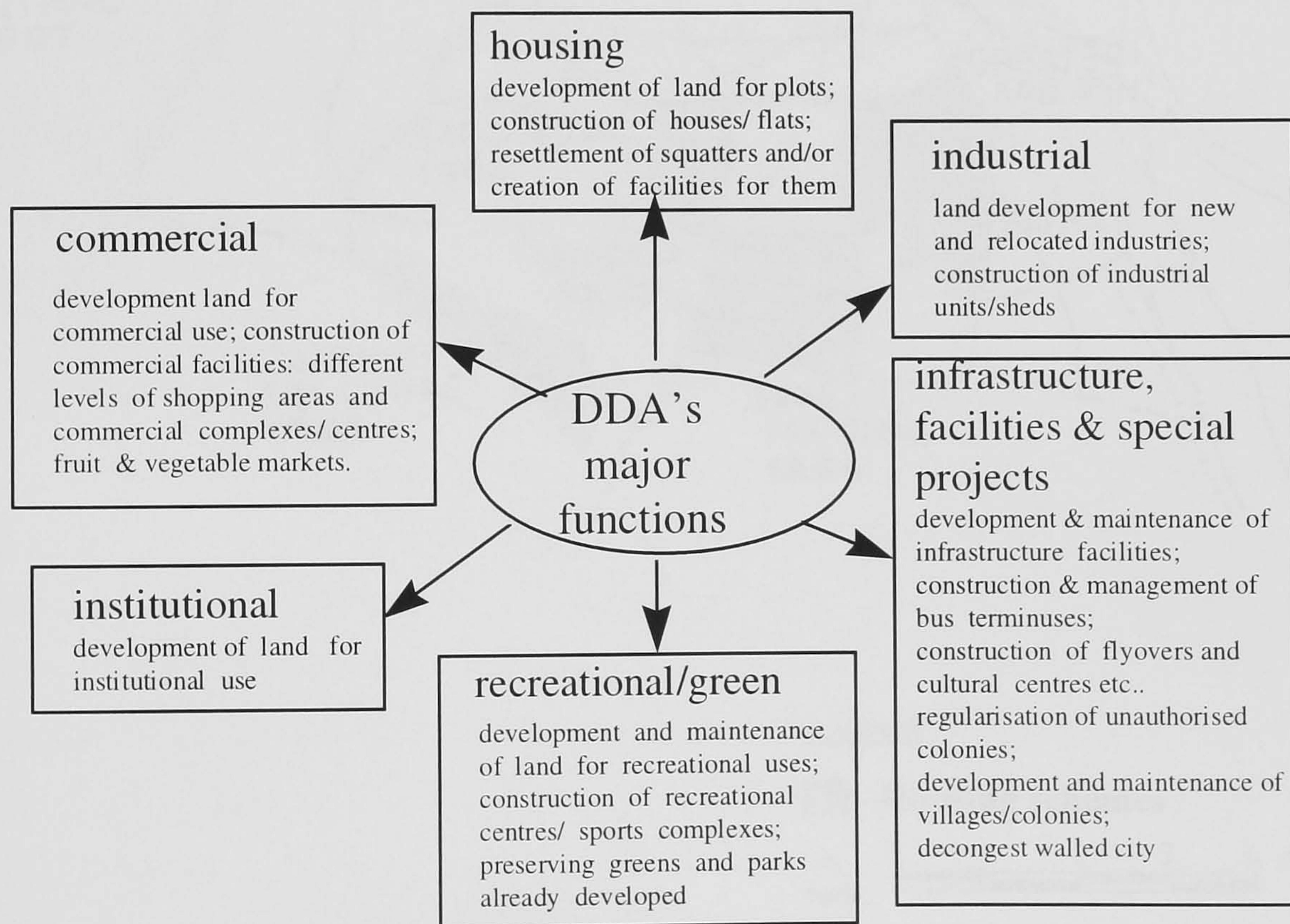
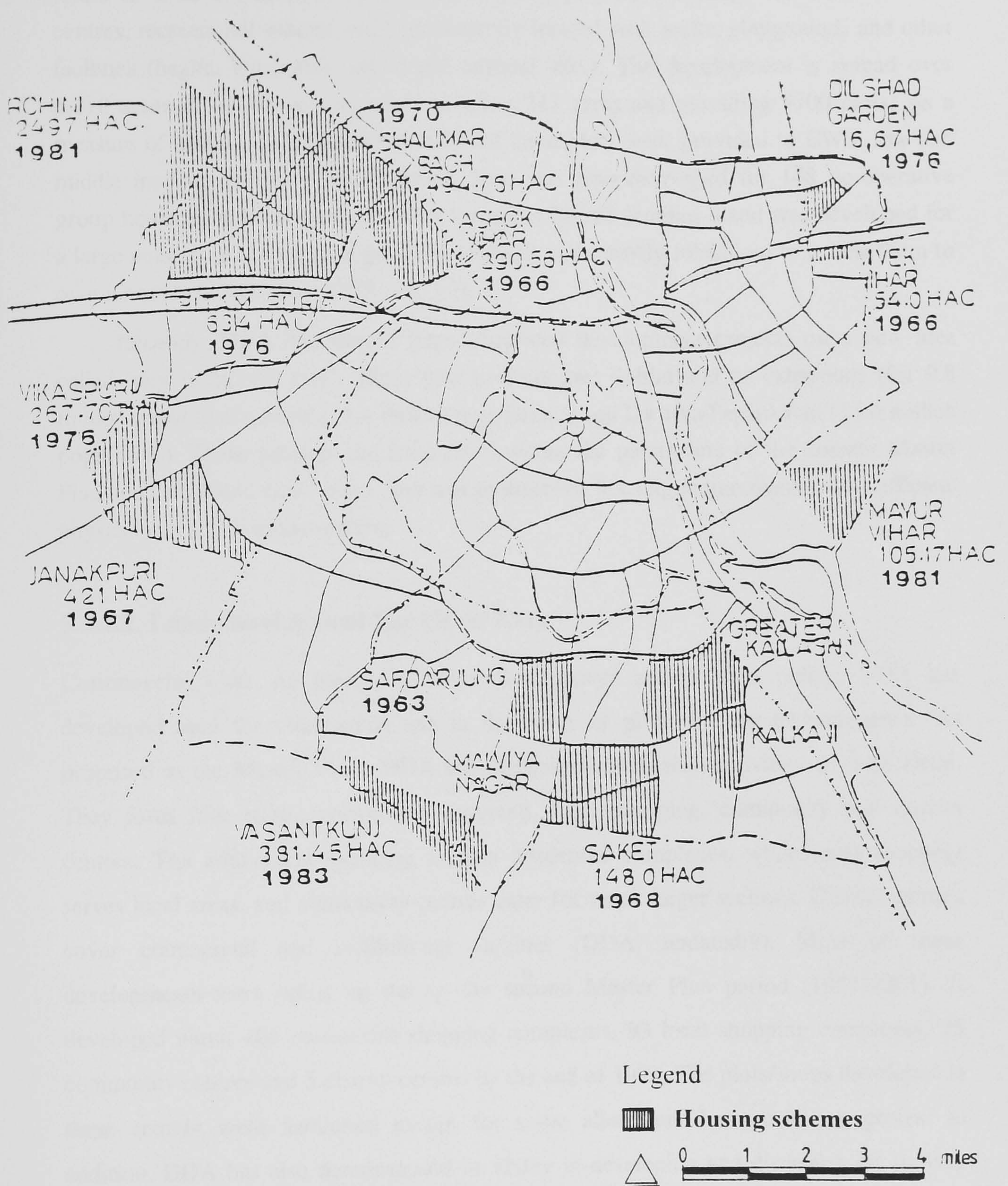


Figure 5.1 Location of Some of major Housing Schemes Developed by DDA



Source: Perspective Planning Wing, DDA. First used in Sundaram and Gambhir (1990).

Note: This map shows approximate scale

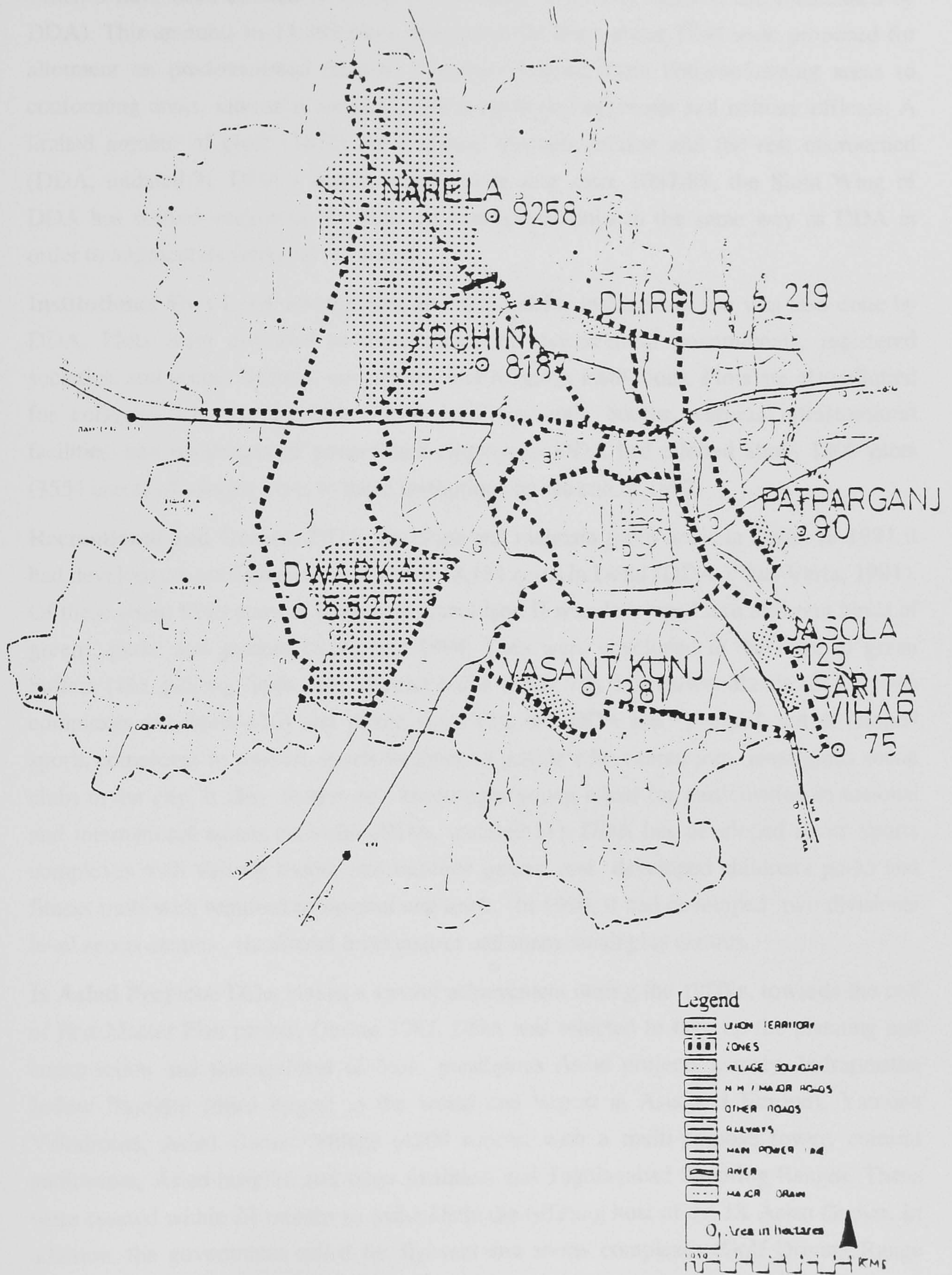
DDA has also planned and developed a new residential project called Rohini. DDA refers to it as a symbol of comprehensive multi-purpose township with (homes, work centres, recreational centres, etc.) conveniently located with parks, playgrounds and other facilities (health, education, social and cultural, etc.). The development is spread over 6,170 acres in 19 sub sectors, each covering 247 acres and providing 5700 plots. As a measure of equity and social justice, 97% of these plots were provided to EWS, low and middle income groups. In this scheme, land was also developed for 148 co-operative group housing societies providing flats for about 23,000 families. Land was developed for a large number of low income group households and heavily subsidised to enable them to own a house of their own (DDA, 1983:2).

Recently, DDA has started large integrated development projects on a new idea called 'city within the city'. These new projects are: Rohini and its extensions (for 0.8 million population); Narela (1.4 million population); and Dwarka/Papankalan (1.06 million population). These projects are formulated within the parameters of the current Master Plan and concerned zonal plans, and aim to meet the housing requirements with sufficient physical and social infrastructure.

5.3.2.2. Land Development For Other Uses

Commercial Use: As part of planned development and auction policy, DDA has developed land for commercial use in the form of plots and estates/complexes. As proposed in the Master Plans, DDA has dispensed commercial activities all over Delhi. They form four strata: convenient shopping, local shopping, community and district centres. The convenient shopping adjoins residential complexes, while local shopping serves local areas, and community centres cater for much larger sections. District centres cover commercial and institutional facilities (DDA, undated:9). Most of these developments were taken up during the second Master Plan period (1981-2001). It developed about 405 convenient shopping complexes, 93 local shopping complexes, 25 community centres and 5 district centres by the end of 1993. The plots/shops developed in these centres were auctioned except for some allotments for special categories. In addition, DDA has also demonstrated its ability in developing and disposing off (mostly auctioned) about 3500 commercial plots for hotel sites and other commercial uses.

Figure 5.2 Location of Major Integrated Land Development Schemes Developed by DDA



Source: Perspective Planning Wing, DDA. First used in Sundaram and Gambhir (1990).

Industrial Use: By the end of 1992, DDA had developed 22 industrial areas/estates (of which 5 have been allotted to co-operative industrial estates and rest are maintained by DDA). This amounts to 11,881 plots developed. Of these about 7740 were proposed for allotment on predetermined rates to industries shifting from non-conforming areas to conforming areas, industrial societies, and unemployed engineers and military officers. A limited number of plots (3876) are disposed through auction and the rest encroached (DDA, undated:7). DDA's annual reports state that since 1987-88, the Slum Wing of DDA has started auctioning its built up commercial units in the same way as DDA in order to augment its financial resources.

Institutional Use: Land development and disposal for institutional use was also done by DDA. Plots were provided to departments of states/central governments, registered societies, and social, cultural, educational and religious institutions. Plots are also allotted for colleges, schools, hospitals, court buildings, milk booths, various infrastructural facilities, and residences of government employees. DDA had allotted about 1800 plots (3554 acres) of varying sizes to these institutions by the end of 1992.

Recreational and Greens: DDA develops and maintain green areas in Delhi. In 1991 it had developed a total green area of about 18,184 acres in Delhi (DDA Vikas Varta, 1991). Of these about 8289 acres of land from Nazul land II was developed into different kinds of greens, parks and gardens by August 1994. They were developed in the form of green buffers (16), playing fields (10), district parks (850), city forests/woodlands (56), sports complexes (8), lakes (16) and picnic spots (8), etc. DDA has planned and developed sports complexes to provide sports facilities to people who cannot join prestigious social clubs in the city. It also fosters and encourages young talent for participation in national and international sports activities (DDA, undated:11). DDA has developed seven sports complexes with various indoor and outdoor games, and developed children's parks and fitness trails with required equipment and track. In 1990, it had developed two divisional level sports centres, six district level centres and many small play centres.

Ix Asiad Projects: DDA claims a special achievement during the 1980's, towards the end of first Master Plan period. During 1982, DDA was selected to take up the planning and construction and management of four prestigious Asiad projects namely, Indraprastha Indoor Stadium (third largest in the world and largest in Asia and Europe), Yamuna Velodrome, Asiad Games Village (4200 rooms, with a multi-purpose tower, cultural auditorium, Asiad hospital and other facilities) and Tughlaqabad Shooting Ranges. These were created within 24 months to make Delhi the befitting host of the IX Asian Games. In addition, the government called for flyovers and sports complexes (Golf Driving Range

and Yamuna Sports Complex of 28 hectares), built to a standard by the DDA which attracted much acclaim (DDA, undated:14). Besides, DDA has also undertaken special projects such as construction of fruit and vegetable markets at Azadpur and Okhala, and construction and maintenance of Inter state bus terminus, Haz Manzil.

5.3.3. The Implications Of Integrated Land Development For Housing Land Supply In Delhi

In the Netherlands and Sweden municipal public planning and sizeable land reserves through advance land acquisition were successful in slowing down the rate of increase of land prices and reducing the speculation by bringing unimproved and agricultural land into urban use at a rate roughly corresponding to demand (Grimes, 1974). In Sweden, municipalities were empowered and even encouraged to dominate local land markets in order to ensure the availability of sufficient land for urban growth. But, it appears that in both the countries, unlike Delhi, the land acquisition policies ensured acquisition of sufficient land through voluntary purchases and enforcement of expropriation powers in the event of their failure.

These governments also made provision for “worsement” benefits compensating land owner claims about decrease of value of his holdings caused by municipal planning decisions. A unique feature of this process is that the Swedish government incurs all the costs of expropriation procedures, including the court costs of private parties. The application of same method may have provided different results in Delhi, but it is an open question as to how far the government could afford it in the light of its own lack of financial autonomy and stiff resistance from landowners. Speed takes precedence over foresight in the urban land planning, and acquisition of land reserves at reasonable cost in particular (Grimes, 1974). This inevitably leads to policy decisions in favour of expropriation as the tool.

The development of land acquired through large-scale land policy was mostly carried out by DDA, and local bodies such as CPWD were also engaged in development of land transferred to them (Government, 1990:186). The Master Plans¹² that provided the necessary guidance for land development has envisaged that 62,000 acres be developed by

the end of 1981, and further proposed acquisition of additional 45,000 to 60,000 acres more for development to 2001. The second plan has also extended the urban area by an additional 9884 acres. Only 47366 acres have been allocated to different uses by 1983 and 59,524 acres by August 1994, indicating that progress is slower than anticipated.

As discussed in Section 5.3.1 some of the land acquisition procedures and development provisions available to DDA, and the landowners' resistance to expropriation at off-market prices have contributed to delays in public land development operation in Delhi. However, more important to informal land developments and unauthorised housing is the insufficient supply of land for public housing and the general failure to deliver the right land to the right person. The following Section 5.4 discusses the impact of formal housing land supply on overall demand.

5.4. FORMAL HOUSING LAND SUPPLY AND REGULATED DELIVERY PERFORMANCE OF PUBLIC LAND POLICY

DDA claims that its land development activities drew wide praise and that it has put Delhi on the Asian development authorities map (DDA annual report, 1992-93). It claims that its large-scale public land policy has supplied one million dwelling units in 28 years, the highest in the country. It also claims to have settled/relocated the largest number of squatter and slum dwellers in the world. Despite legal complications, it did succeed in meeting most of the demand estimated by the Master Plans and supply housing to low income groups, and satisfy other public uses, all of which might have remained unrealised in the absence of Delhi's public land policy.

Specifically, it is noted that lease conditions and terms followed in leasehold allocation has ensured the supply of land to the right person at right time and at reasonable prices in order to control speculation and stabilise land prices. These conditions along with Master Plan development controls have also ensured appropriate land uses and planned development. While public land allocations are admitted to have taken as long as six months, sometimes further delayed by technical formalities such as approval by committee, they are said to have conformed to the land policy's terms and conditions, and as quickly as possible under the circumstances.

The DDA's monopoly in land delivery, effected by eliminating formal private land supply, been said to intensify scarcity and distort other parts of the housing land market

(Pugh, 1991:370). Thus, the policy has been criticised for neither eliminating the speculative private market nor meeting the growing land demands of low and middle income households (Mitra, 1990:194).

The policy did not envisage, therefore administration could not cope with monitoring illegal transfers of leasehold properties, unearned increase of property values, and violations of land use and building controls (Acharya, 1988). Leasehold land allocation involved a large staff and created potential for mismanagement and high overheads, and promoted corruption in the administration and transfer of leases (Misra, 1986:67; Acharya, 1988). The practice of leasehold disposal and restrictions on legal transfers aimed at greater control on allocated use, and resale restricted the spatial mobility of people and as a result provided an incentive to illegal transfers (Misra, 1986:6).

DDA's leasehold land allocation policy followed the theoretical principles of high productivity (Acharya, 1988:1435; Doebele, 1983:84): (1) sophisticated lease administration to restore market elements amid public domination; (2) an integrity in the bureaucracy to corruption and favouritism; and (3) monitoring quick construction on the site. DDA's policy was also founded on public ownership combined with leasehold delivery, (Doebele, 1983:86). But in Delhi housing demand was not met because: (1) the Master Plan/DDA had underestimated it; and (2) this demand increased steadily, widening the gap on account of DDA's reluctance to supply adequate land for unprofitable low income housing (Acharya, 1988:1432; Ribeiro, 1992:58; Misra, 1990:56) in favour of auctions to higher income households for profit (Acharya, 1988:1433; Pugh, 1991:381; Ribeiro, 1992:4; Baken and Linden, 1992:63). Howland (1977) and Maitra (1991) argue that DDA auctioned more plots against the policy norms. This was only slightly better than what the free market might have done (Howland, 1977). This unsatisfied demand has then attracted to illegal formal land sales and unauthorised land developments.

People bought user-righted property instead of lease ownership in view of delays in formal land delivery by DDA. Formally allocated land was sold illegally using invalid powers of attorney.¹³ This promoted corruption in land lease administration in two ways (Misra, 1986): in verifying the genuineness of lease papers on illegal sale without official proceedings; and negotiations with concerned staff for obtaining a valid power of attorney against the condition of restriction of sales for 10 years period and/or by payment of comparatively lesser conversion charges.

It is also argued that the following reasons have attracted a large number of households to informal land. Maitra (1991) states that the DDA's discriminatory practice of auctioning plots over 167 square metres in area to higher income households with no suitable formal housing provision for Economically Weaker Section was a reason for the latter's preference for encroachment. It is also believed that the annual surplus of revenue from land sales was not channelled to land development for the poor (ibid).

Land allocated to low income groups' relocation colonies were away from employment sources (Baken and Linden, 1992:63; McAuslan, 1985:88; Mitra, 1990:216; Acharya, 1988:1428). Their isolation from city also seems contrary to Master Plan recommendations and believed to have encouraged low income groups to seek their most suitable options that were illegal (Sarin, 1983:242; Acharya, 1988:1428). Further, it is believed that DDA's insistence on high development standards and their locational disadvantages have paradoxically served to encourage illegal transfers of designated low income plots/houses to higher income groups, lowering even further the 'de facto' supply to low-income households (Baken and Linden, 1992:64; Mitra, 1990:216).

5.4.1. Housing Need And Methods Of Registration Of Demand For Regulated Public Land Delivery

There are many ways through which housing demand might increase in a given time (see Section 7.2). Ratcliff (1949:88) noted an aggregate potential demand for a quantity of housing sufficient to accommodate the entire population. This demand may fluctuate depending upon the natural increase of population and/or migration and/or by families changing in to single or extended families through changing marital status and age at marriage (Lean and Goodall, 1966:323). In conjunction with this fluctuating potential demand the change in family incomes, sizes and structure can affect the type of accommodation sought at any given time.

In fact, the Delhi's public land policy expected that this potential demand could be adequately met by supplying land in the form of regulated delivery, i.e. for residential use alone, precluding investment and/or speculation. The policy also hoped that the regulated delivery on the basis of a registered priority list would substantially discourage the demand and enable the public authority to meet it. Accordingly, Delhi's Master Plan 1962 envisaged construction of 887,000 dwelling units during 1961-1981 to eliminate the housing shortage. Further, the second plan approved in 1990 estimated 1.62 million new housing allocations.

Researchers argue that the Delhi's public land supply strategy had miscalculated, and that the DDA's register of need was only part of the actual demand (Acharya, 1988; Ribeiro, 1992; Misra, 1990). The DDA's land allocation conditions did not include the current changes in income levels, relative affordable prices and household sizes, all of which affect the characteristics of housing demand (Gupta, 1985). It is also believed that various developments and improvement programmes such as large-scale land development, squatter relocation and provision of additional facilities on squats and informal areas have contributed to increase in the demand by attracting more migrants into the city (Srinivas, 1995; Singh, 1991). In this context, the following sections analyse the actual demand and public land supply.

5.4.1.1. Estimated Housing Land Need /Demand In Delhi

Sundaram and Gambhir (1991:108) provide alternative estimates of Delhi's annual housing demand, using the principal component method¹⁴ and minimum norm approach. The former yields an annual demand of 127,590 dwelling units for the year 1990-91. The latter method segregates demand as follows: (1) housing need for additional population; (2) need based on existing housing conditions that require alternative housing; (3) housing shortage that exists during the year of estimation; and (4) housing registrants awaiting formal allocations. This yielded a figure of 1,472,909 dwelling units for 1990-91. Both estimates are higher than that of the estimated formal housing supply that included regularised unauthorised colonies during the period 1981-91. Also, Srinivas (1995:67) noted that Voluntary Health Association of India has estimated Delhi's housing stock (including slum, squatter and unauthorised colonies) as 1.6 million, with a shortage of 0.44 million in 1989 (projected to over 0.8 million in 1995).

In a similar way, the actual segments of demand that could have attracted informal land developments (illegal and unauthorised housing) are estimated for the year 1990-91 as follows (Table 5.2). In this estimation, **D = dw+de+dr+dn+dc+ds**. It yields a total demand that was vulnerable to the influence of illegal developments. This demand (D) is derived by adding, demand due to registrants awaiting formal allocations from DDA (dw), demand from encroached squatters who need relocation or legal accommodation (de), demand from replacement requirements (dr), demand for new houses from population increase (dn), demand from families living congested dwellings/sharing houses (dc), and demand from dwelling shortage brought forward from previous years (ds). The

total number of households aspiring to housing land in 1990-91 was thereby approximately 1.5 million households.

Table 5.2. Estimated housing need/demand as on 1990-91

Housing Need/Demand Component	Number Of Dwelling Units, 1990-91
1) Housing need due to registrants waiting for formal land allocations (dw)	367,909
2) Housing need due to encroached squatters who need alternative housing or replacement (de)	240,000
3) Housing need due to dwellings that need immediate replacement (dr)	68,000
4) Housing need due to additional families (natural increase and migration) desiring new housing (dn)	329,000
5) Housing need due to families living in congested areas and/or sharing houses (dc)	145,000
6) Housing need due to shortage that brought forward from the previous years (ds)	323,000
Total housing demand based on need (D=dw+de+dr+dn+dc+ds)	1,472,909

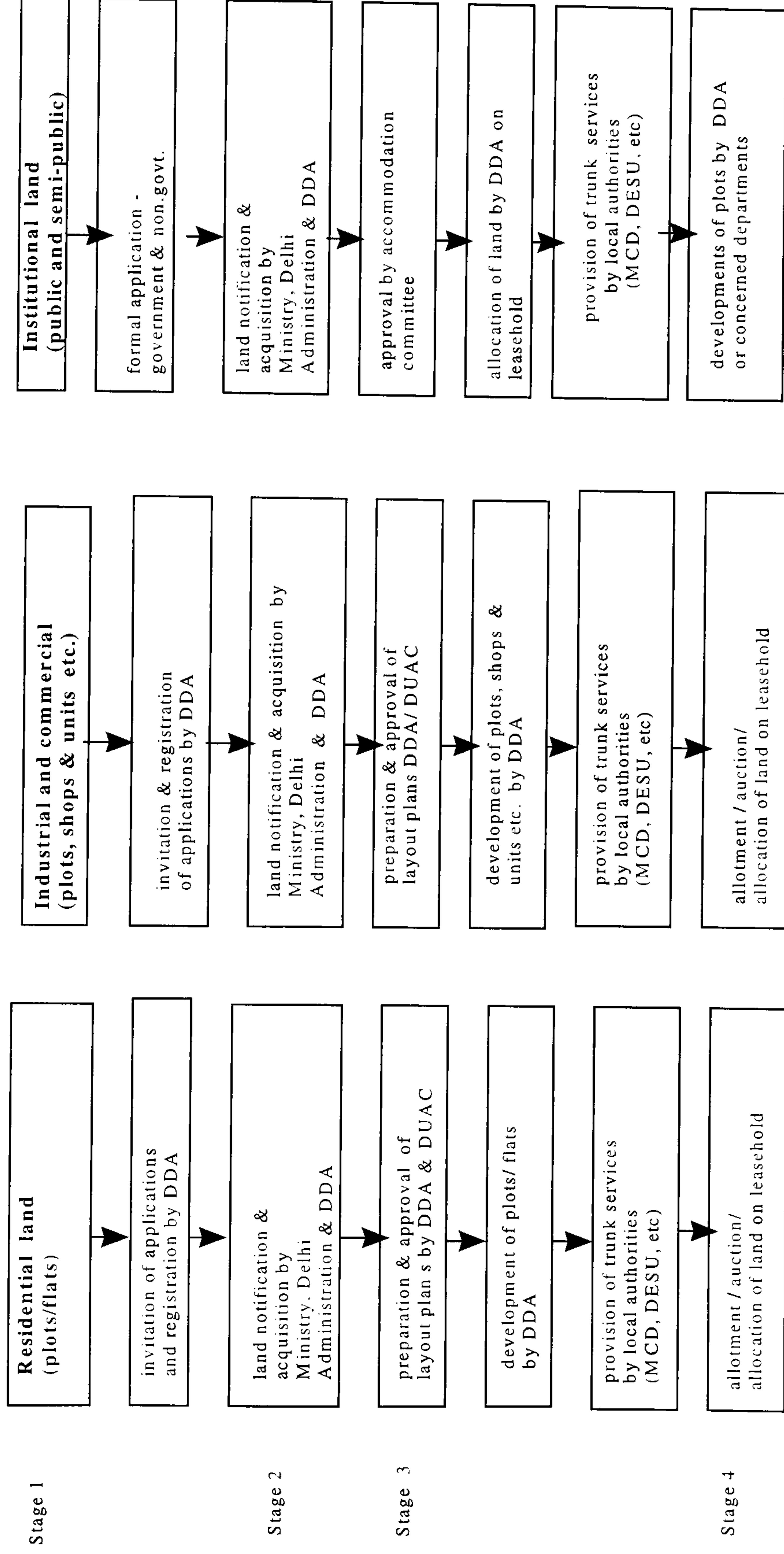
Source: Data compiled from DDA records. First used in Sundaram and Gambhir, 1991.

DDA records indicate that it allocated about 0.62 million dwelling units (DDA, undated), including serviced but unbuilt plots, against a potential demand of 1.5 million. There are no other large formal channels in Delhi, and DDA was charged with a very serious mission, using mechanisms such as revolving fund to generate resources. The following section discusses the performance of public land delivery.

5.4.1.2. Formal Registration Strategy Of Regulated Public Land Delivery

The methods of registration and public allocation of land for housing and other uses followed a number of sequential actions (Chart 5.5): acquisition of land as proposed, invitation of applications, development of land, and allocation of developed land on the basis of delivery norms, conditions and procedures. All registrants are required to pay a deposit and submit required documents.

Chart 5.5 Public Land Disposal System in Delhi



Note : A separate notification of land acquisition was not required where commercial, industrial & institutional land developed as part of subcity or large residential schemes

Selection of the proposed number of applicants is done by drawing lots whenever the number of qualified applicants exceeds the limit. DDA in certain cases provide a choice of location or storey in a high rise building of Self-financing and Group Housing Schemes. Applications for land allotment and auction are invited through advertisement in leading dailies (DDA, 1980-81). In special circumstances, the transfer of registration from one scheme to another is permitted and forms a separate priority in the allotment. Allotment of plots is done in phases by lot. The DDA's housing demand registration strategy can be categorised in two types: (1) registration for built houses/flats; and (2) registration for developed plots. The details of registration are as follows.

DDA's Formal Constructed Housing Demand Registration Strategy: the DDA has attempted to tap the right demand by registering the households in different priority schemes as follows (Table 5.3).

1. General housing registration scheme:

This is the first scheme floated by DDA in 1969; later ones were launched in 1971-72, 1972, 1972-73 and 1976. Of the five, the one launched in 1972-73 was aimed exclusively at socially disadvantaged families belonging to the designated communities. The schemes promoted built houses in the form of flats and the plinth area coverage was 60-100 square metres for MIG category, 40-70 square metres for LIG, and 23-37 square metres for EWS/Janta. The eligible beneficiaries were selected on the basis of annual household income, financial capacity to pay initial deposit, minimum five years of living in Delhi, and other terms and conditions (see Section 4.4.2.3).

Half plots were allocated higher purchase basis for repayment on equal monthly instalments, and the rest on cash down payment basis. In the beginning popular demand was sluggish. Requests from public sector bodies such as LIC, banks and other public sector undertakings for staff were honoured by DDA. This scheme was extended in 1982, 1985 and 1989 for retired and retiring persons, and special scheme for socially disadvantaged designated communities. These sub schemes had the same plot size and income category as the previous 1969 scheme, but the initial deposit, allocation ratio and method of payment were slightly changed.

DDA annual records state that under this group housing scheme about 11,000 (23%) flats were allocated to the government institutions and about 27% of total registrations were cancelled/refunded due to un-met terms and conditions. The rest are allocated to

individuals according to land delivery norms and conditions (see Chapter 4). Except the recent registration called Ambedkar Awas Yojna, allocations of all other sub-schemes were completed allotment in 1988-89.

2. New Pattern (HUDCO Model) housing registration scheme:

This scheme aimed to follow the HUDCO pattern of construction and pricing of flats. It was launched in September 1976 in continuation of earlier schemes but with changes in plinth area coverage, income criteria and registration deposit amount. This pattern aimed to increase the supply and affordability to by reducing the standards. The plinth area was reduced due to steep rise in construction cost, and the income criteria was lowered due to increased cost of living. Initial registration deposit was reduced and further reduced for socially disadvantaged households. All EWS flats are allotted on hire purchase basis and repayment period is 20 years. In all 75% of LIG flats, and 60% of MIG flats are allotted on hire purchase. Relaxation was provided on repayment of instalments, and reservation provided to selected categories.

This scheme did not succeed in meeting its registered demand within the proposed time. DDA records show that as on August 1993 about 26 % of registered households are still waiting for allocation (see Table 7.7). In 1990, DDA had to make a new provision for long queues of MIG and LIG registrants to form co-operative group housing societies in the name of Awas Sakar Yojna and permitted them to construct their own houses on plots supplied by DDA.

3. Self financing housing registration schemes:

This housing scheme has been launched for higher income group, and seeks financial participation from allottees during construction. No income limit is observed, but applicants are charged 25% of the estimated cost and an initial deposit. The rest is payable at 20% , 25% and 20% at six monthly intervals, and 10% at the time of taking possession. A computer based draw finalised the list of successful allottees. The amount deposited by the unsuccessful applicants was refunded. The normal period of construction is 2.5 years, and in case of delay, 7-10% per annum interest is paid (Times of India, 1994). There are eight self financing registration schemes launched under this category between 1977 and 1985, and two special schemes opened for retired/retiring persons. Upgrading from a registered income category to an upper one was enabled in 1987, considering the increasing household income and family size. Since 1985 a master seniority list has been drawn in order to estimate the time registrants must wait to secure an allotment.

4. Housing registration for slum tenements:

Slum Rehousing and Residential Flats Registration Scheme was opened to clear certain old buildings declared dangerous by the Slum Area (Improvement and Clearance) Act, 1956. This resettled the inhabitants in other places. It provided for 23 square metres each for about 20185 flats. Later, in 1985, the Housing Scheme for slum dwellers and other who do not own a residential unit in Delhi, was launched and 27,693 applicants registered. Until 1990, only 1264 flats were allocated; these registrants are now organised into co-operative group housing societies and expect allotment soon.

Table 5.3 Method of DDA's housing registration and supply from 1961- 1993

Scheme/sub-schemes and year of commencement	Number registered	Number supplied as on 31.3.93	Number waiting as on 31.3.93
Built houses/flats	338,855	223,126	73,003 (22%)
I. General Housing Schemes for LIGs & MIG 1-8 schemes, 1969-1989	72,538	65,590	Nil
Recent scheme (launched in 1989)	20,000	989	18,689 (93%)
II. New pattern scheme, 1976 -LIGs and MIG	171,272	118,909	45,735 (27%)
III. Self financing scheme - HIG 1. Self financing scheme (SFS) I- 8, 1977-1985	77,672	68,270	9,402 (12%)
Developed plots			
I. Allotment of plots to individuals			
(i) General	NA	NA	NA
(ii) Rohini Project, 1981	82,384	41176	39,679 (48%)
(iii) New Projects	NA	NA	NA
II. Allotment of plots for co-operative societies	NA	NA	NA
III. Supply of plots for relocated squatters	NA	NA	NA

Source: Compiled from DDA records. Note: data in the brackets shows percentage to total number of registrants in that category. NA: Not available.

DDA's Formal Housing Plots Demand Registration Strategy

The DDA has launched five types of plotted housing schemes: (1) allotment of plots for residential use under general scheme as and where is basis; (2) allotment of plots in Rohini sub city area, (3) allotment of plots for house building and group housing societies, (4) allotment of plots for squatter resettlement and (5) allotment of plots in new mega city projects in new urban extensions i.e. Dwaraka and Narela. All these projects have included allotted plots for EWS, LIG and MIG, and auctioned plots HIG households.

Among them, the scheme one pertains to the land that was not acquired by large-scale land policy but transferred from different sources such as Delhi Improvement Trust and Central Ministries who were involved in land development prior to DDA's formation. Under Scheme Two, Rohini plotted development, about 82,384 EWS, LIG and MIG households were registered for fixed plot size of 26 square metres, 32-48 square metres and 60-90 square metres respectively. Scheme Three registered households in the form of co-operative societies who would be able to build their houses together in the pattern of multifamily group housing buildings. These co-operative societies are registered with the Registrar of Co-operative Societies, Delhi Administration and the seniority list forwarded to DDA. The fourth category was squatter relocation, and The fifth new extensions aimed at accommodating the waiting list of individual and co-operative societies.

5.4.2. Methods Of Regulated Public Housing Land Delivery/Supply

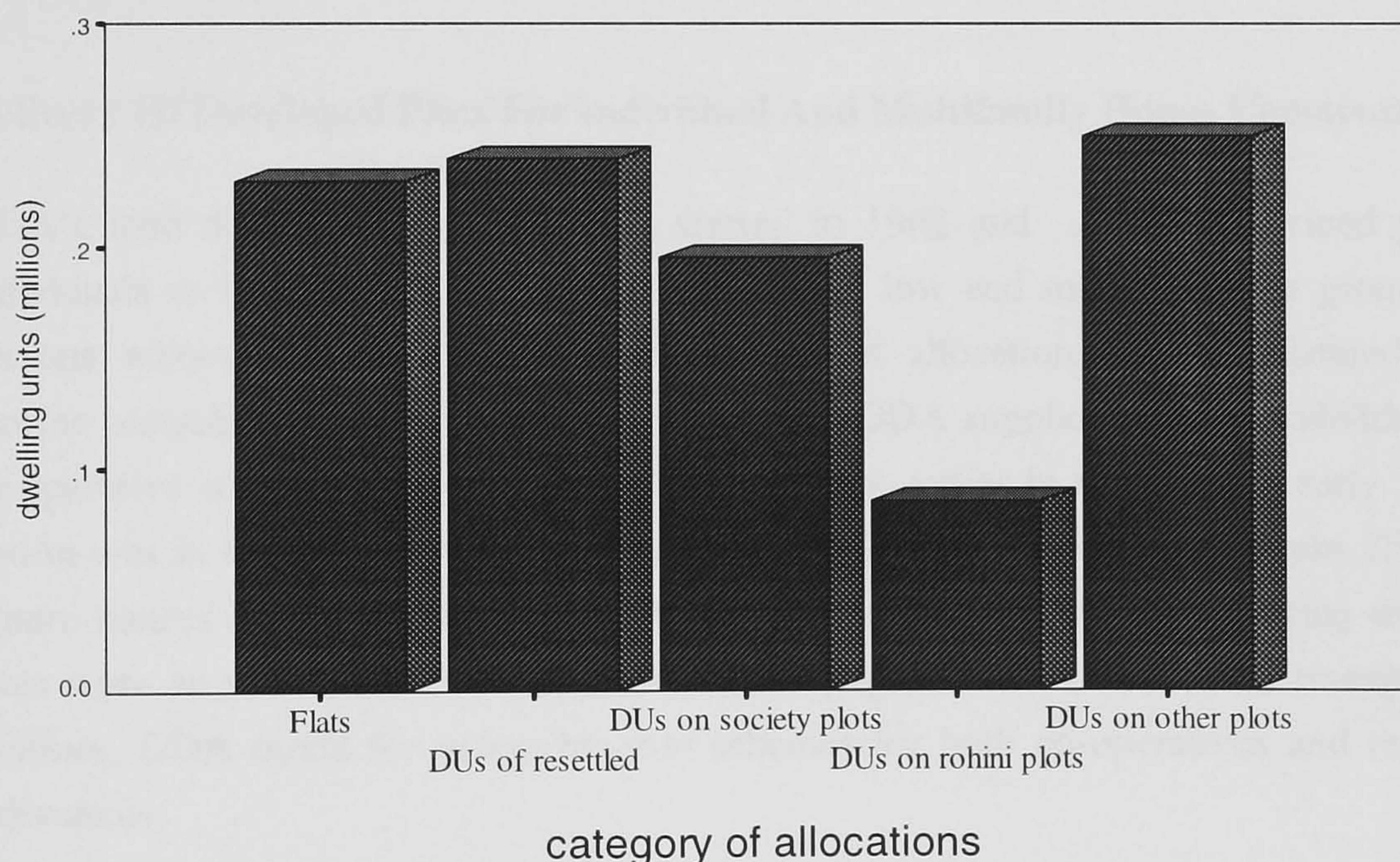
In order to cater to the affordability and preference of households, DDA has followed various methods of supply of housing land. In 1965-1967, it changed its approach from selling serviced plots to the provision of constructed houses/flats (both cash down and hire purchase). During 1975-77, it resumed delivery of developed plots as well in order to meet the rising demand. On the directions of government, it undertook the resettlement of squatter families and regularisation of unauthorised colonies to increase the housing stock. During 1980-84, DDA conceived Rohini residential township to accommodate a large number of households who had been waiting for housing land. Since then, the emphasis changed from small area development (200,000 population) to subcity development (a million population). Table 5.4 shows the total amount of housing land delivered by October 1994. Chart 5.6 indicates that DDA has distributed more plots for individual and/or society constructions than flats or housing.

Table 5.4 Number of dwelling units supplied by DDA by October 1994.

Category	Dwelling Units (Millions)
Flats/houses constructed by DDA	0.24
Dwelling units on squatter resettlements plots	0.24
Dwelling units on plots provided to co-operative societies	0.195
Dwelling units on plots provided at Rohini township area	0.085
Dwelling units on plots developed by DDA in various parts	0.25
Total	1.00

Source: Compiled from DDA office records

Chart 5.6 Number of dwelling units supplied by DDA by the end of 1992-93



DDA has undertaken various schemes of housing land supply catering to the purchasing capacity of different strata of society. It supplied housing land through allocating built flats, and providing developed plots for construction to individuals and to co-operative group housing societies.

Delivery Of Multifamily Built-Flats

The approach of supply of multifamily built-flats as group housing was devised by DDA when it found allottees are either delaying the construction on their newly allocated plots or reluctant to move to newly developed areas, in spite of its attempt to deny infrastructure to allotted plots lying vacant. This built-flats approach was believed to be an advantage in regard to allottee's reluctance to raise structures and to those who prefer built flats/houses instead serviced land. In order to accelerate the pace of construction of flats/houses under this approach, an independent construction cell was created in DDA in November, 1967.

DDA had provided about 244,036 dwelling units to registered households in the form of multifamily group housing buildings by August 1994. Of these, 32% were allotted to EWS households, 29% to LIG households, 22% to MIG households, and about 16% to HIG households through self financing schemes. DDA records show that some of these flats were allotted on hire-purchase basis (cost repayment on instalment basis) to ease the affordability of poor. But hire-purchase schemes were found to be unsuccessful due to lack of cost recovery in spite of DDA's administrative efforts towards of arrears (Noronha, 1991:7).

Delivery Of Developed Plots For Individual And Multifamily House Construction

DDA's land development programmes started in 1962 and supplied serviced plots to individuals as housing land allotment to registered low and middle income groups and persons whose land was acquired, and auctioned allocations to un-registered higher income households. Among registered applicants, DDA supplied plots to individuals and co-operative societies. Noronha (1991:6) states that earlier in the 60s and early 70s, the option was in favour of plotted development with serviced plots ranging from 25 to 500 square metres each offered to registrants and co-operative societies. Realising that large plots were an unaffordable luxury due to increasing pressure on land and transportation facilities, DDA opted for group housing schemes for both co-operatives and registered individuals .

The DDA also allotted land to co-operative house building societies that were initially registered by Delhi Administration. Later, in 1970, DDA introduced the concept of co-operative group housing societies in which individuals were encouraged to form societies and build their flats in the form of multifamily group housing. DDA's main function then was to allot developed land and recover ground rent. Mortgage permission

was granted to raise loans for their construction, and flats were allocated among their registered members. Ribeiro (1992:58) deemed it unsuccessful in promoting quick affordable housing stock and fulfilling residential need, because until 1985, of 29,412 plots allotted to various societies, about 11,995 plots (40%) lay vacant.

Delivery Of Plots For Squatter Relocations

As early as in 1950, a scheme called Jhuggie-Jhonpri (huts, lean-tos, adshanties) removal, and resettlement of inhabitants was initiated by the Central Government and entrusted to the Municipal Corporation of Delhi (MCD). Under this scheme, 19,999 squatter families from 19 settlements were relocated by MCD until March 1968 and then by DDA until June 1988. DDA relocated about 57,368 squatter families and supplied individual plots and tenements in 1975. During the political emergency period (1975-77), 16 new colonies covering an area of 987 hectares, with a total of 148,262 plots were developed by DDA. This scheme had provided 67 square metre leasehold plots in the beginning reduced in 1962 to 21 square metre: DDA once observed that a large number of these plots had been resold in benami names (DDA, 1969-70).

As these squatters further increased, some were resettled on the peripheries of Delhi with basic amenities on a smaller scale. In these settlements, plots were also allotted to private organisations for organising cultural and social activities and DDA supplied water through sink tube wells in the absence of municipal supply. It reports having by 1981 it developed 44 resettlement colonies by 1981 covering 8,649 acres of land with adequate care to their needs for employment, and physical and social amenities. However, DDA also reports heavy expenditure on these resettlements and redevelopment, which severely affected its financial position. DDA has also contributed to development of civic amenities in regularised colonies and urban villages transferred to MCD in 1987.

Land Delivery Through Slum Rehousing And Supply Of Residential Flats

The Slum Wing has cleared certain old buildings declared dangerous by an clearance Act, and resettled the inhabitants in other places. This scheme was operational till the end of the 6th five year plan and about 20,185 flats of 23 square metre have been constructed under this scheme. Later, in 1985, the Housing Scheme for slum dwellers and others who do not own a residential unit in Delhi but live in slums, was launched. The slum and squatter families affected by the clearance of dangerous and dilapidated buildings, have been allotted 20,030 flats (DDA, 1987-88). These flats were provided by DDA on licence fee basis and later converted into leasehold ownership. The shelter needs of the poor are also

best met through self help: about 50,000 serviced plots have been provided to the urban poor for incremental housing.

The Slum Wing has also been involved in improving the environment of the slums through making provision for essential services in declared slum areas. It has also taken up slum katra repair and renewal programme for the maintenance of dilapidated buildings, and provided about 83 multi-purpose community facility complexes for socio-cultural facilities in various congested slum areas. The Slum Wing has provided accommodation facilities to the absolutely homeless migrant population in 16 night shelters. Recently, since 1991-92, it has introduced a new squatter alternative accommodation scheme.

Besides, large-scale land development and house construction, stringent measures have been taken to ensure quality in DDA built housing, design and development programmes since early 1983. Quality control and inspection are performed in all DDA works. Intensive and extensive supervisions of all works at various levels are ensured, while efforts are made to supply more materials departmentally. Sample houses are constructed prior to mass housing building in order to identify and avoid the possible mistakes that may otherwise become repetitive. The DDA's works are subjected to open technical inspection by the Central Vigilance Commission etc., (DDA, 1983:3-4).

DDA has also permitted mortgage with any recognised institution since 1987-88. The income criteria laid down in the new pattern of registration scheme and retired persons scheme were scrapped as they had caused harassment and generating corruption in the housing department. Now, allotments are made in respect of registered categories without insisting on documents to determine eligibility by income group.

DDA also states that it attempted to ensure awareness of DDA's schemes, and during 1987-88, emphasis was laid on streamlining the working procedure, redressing public grievances and improving the working atmosphere. The counter system has been improved, and publicity given through the press about fresh proposals and guidelines so that the general public is kept informed. Since beginning of 1990, as a special significant feature, DDA has simplified its procedures of allotment and provided all information to allottees at one window: the "single window clearance". Efforts are made to give extensive publicity through the press regarding allotment dates, procedure, and also regarding the dates on which eligibility lists will be displayed. The demand letter for the required payment is issued on production of identification documents, and semi-decentralised zonal centres are put up to facilitate speedy and convenient issue of demand letters to allottees. The system of redressal of grievances of the registrants and allottees has also been

introduced. Self explanatory booklets containing guidelines and specimen proforma for all activities of DDA are printed and supplied to public at a nominal charge.

5.4.3. Land Delivery Performance And Its Impact On Supply Of Sufficient Land For Housing- Household Response

DDA claims to have supplied a large amount of land for residential use through its regulated land delivery: over a million dwelling units were made available by the end of 1994, and a large number were provided to low income groups on subsidised prices. Maitra (1991) and Misra (1986) also believed that without this public land policy the poor would have been forced out of the city and planned development would have been difficult.

Yet the DDA has been faulted: its selection criteria seems to have blocked the access of households who could not afford to register with DDA and left them unfortunates in some way. Furthermore, DDA's promotion of flats for higher income households under Self Financing Scheme in order to prevent "downward filtration"¹⁵ benefited upper income groups and provided better accommodation than is available in private sector (Maitra, 1991:345).

DDA's regulatory policies are also said to have failed to provide LIG housing as per Master Plan targets (Payne, 1988:43; Jerry, 1991). Daily newspapers note that besides individual registrants, there are numerous co-operative group housing societies (912 societies with around 0.11 million members) registered with the registrar of co-operative societies have waited for housing land since 1983. These figures were never lower because Howland (1977:73) estimated in 70s that this policy has accomplished only a little more than a free market might have done it.

It is also argued that the supply shortages, high standards and subsidies promoted by large-scale land policy have encouraged the commercialised recycling of the state-run formal housing system and encouraged a proliferation of illegal property dealers in all DDA built areas (Payne, 1988:43). This encouraged a large number of resales of DDA plot/flats in the form of a "downward raiding" (Thirkell, 1995:11) process, in which middle income group households have a tendency to buyout the land supplied to low income groups. This commercialisation of DDA flats/plots, unauthorised constructions and encroachments of open spaces has been noted in the DDA developed formal colonies such as mini city of Rohini (Indian Express, 19.9.92).

It is also noted that some of the lease conditions have attracted illegal sales of DDA allocated land and in turn attracted households to move to unauthorised colonies or obtain illegal land in order to overcome inadequate formal supply. On the other hand, Lee (1994) suggests that unduly expensive legal development to the effective exclusion of private sector developers offers scope to unauthorised development outside the urban regulations with most minimal services and environmental protection, such as reported to be happening in DDA colonies.

Despite the existence of legal provisions against misuse and unauthorised construction, there is general misuse of residential space for commercial use, and a large number of residential buildings are partly or fully converted into commercial shops (Figure 5.3). The reasons could be what Jerry (1991) noted as ample corruption in the civic administration and enforcement of land use laws. It thus becomes necessary to analyse the situation of formal land delivery with reference to residents' opinions.

In the Rohini plotted scheme, most of the formally allocated plots were resold to middle and higher income households. Of 366 households contacted, only 24% admitted being the original allottees. Interviewees also reported that a large number of plots were resold repeatedly, as many as 83% of resale purchasers had procured their plots through property dealers. Also, the DDA's decision to withdraw the 10-year restriction on flat resales has increased the number of sales. This seems to have intensified the active role played by property dealers in transacting plots subsidised for LIG and EWS households.

The Rohini data also reveal that the present occupiers of DDA resold plots are generally upper income groups (see Table 7.14). Most EWS plots are occupied by MIG households, and most LIG and MIG plots bought by HIG households. Thus public land delivery has contributed to the creation of "downward raiding" affecting mostly low income groups. Furthermore, the lease condition of delivery of only one plot per household and restricted authorised private developments leave no doubt that these households will opt for cheaper semi-formal or regularised unauthorised plots and/or informal land developments.

Table 5.5 shows that 86% of the households who had bought resold plots had never applied for DDA plot/flat. A small number of households who either had sold off their DDA plot/flat and/or whose land allotment was refused by DDA, and/or awaited allocations, have also been encouraged by resold plots. Most belong to higher income groups (57%). This indicates that DDA's strategy of formal registration and priority allocations have not satisfied higher income housing land demand. This unsatisfied demand encouraged middle and high income households to obtain resale plots.

Figure 5.3 Violation of use criteria on formal land: misuse of residential space for commercial activities at Rohini, Delhi



Picture above shows residential building converted into commercial shops along main access roads



Picture above shows residential space misused violating both use criteria and permitted floors along major access roads at Rohini, Delhi

Table 5.5 Formal housing registration status of respondents who bought resale plots

<i>Registration status</i>	<i>Households</i>	<i>Percentage</i>	<i>Cumulative percent</i>
Waiting for DDA flat	7	6.6	6.6
Waiting for DDA plot	2	1.9	8.5
Waiting for DDA slum plot/flat	1	0.9	9.4
Applied but withdrew	2	1.9	11.3
Sold DDA allotted flat/plot	2	1.9	13.2
Allotment was refused by DDA	1	0.9	14.1
Never applied	91	85.8	99.9
Total	106	100	

The major reasons given by interviewees at Rohini (Table 5.6) for their purchase of resold plots were the inadequate supply of formal land for housing and investment. Most were higher and middle income groups, and a majority (59%) engaged in self-employed business; hence, it could be concluded that DDA's slow housing land delivery encouraged them to opt for resales. DDA's slow operation of commercial land development and building of commercial estates has also accelerated the exploitation of shopkeeping opportunities among retailers who could not otherwise have easily afforded residential space with commercial potential due to land use restrictions and the practice of auctioning commercial land. Business opportunities in a new township and the permission to build two floors have encouraged some to convert their ground floor to a shop and/or sell the ground floor for commercial use. This gives reasonable grounds to conclude that the flexible lease permitted to auctioned plots for sale of their ground floor has attracted higher income households to resold formal properties.

Therefore, auction policies and slow pace of land development resulting from DDA's monopoly and delays in housing supply have contributed to resale and violation of building regulations and lease conditions in Rohini. This phenomenon has been widespread in all of DDA's 520 colonies with some exceptions to intensity of resales, plot/flat prices and nature of violations.

Table 5.6 Reasons for buying DDA resale plots - Rohini

Reasons	Number of responses	Percentage of responses
Avenues for investment & extra income earning		37.7
Commercial/business related purpose	13	22.4
Cheap land rates/prices	4	6.9
Property investment and business	2	3.4
Formal land allocation terms and conditions		3.4
Long procedure of permission for unbuilt flats	1	1.7
Could not make cash down payment	1	1.7
Formal quality, standards and choices		5.1
Dissatisfied with DDA allotment	2	3.4
Wanted low rise flat	1	1.7
Formal supply/delivery based		37.8
No other option was available	5	8.6
Could not find cheap rental accommodation	5	8.6
Could not wait longer for DDA allotment	2	3.4
Recently moved from out side Delhi	5	8.6
Desperate for better accommodation	3	5.2
Close to employment	2	3.4
Others		13.7
Good environment and location	5	8.6
Nearness to school for children	1	1.7
Relatives around	2	3.4
Total responses	58	96.2

On the other hand, the DDA's practice of building self financed flats for higher income group has not reduced the practice of 'downward filtration'. Income criteria that determined the subsidised allotments were not successful in finding the right income group using the existing evidences of documents/income certificates and affidavits. In result, it provided land to wrong persons and tempted them to resell when prices boomed. Table

5.7 showing that of 28 resold DDA allottees of Rohini plotted scheme who were finally located and interviewed, very few number of households are still in the same group. The rest were in the respective upper income groups. This shows that either these households had downward filtered or their income earning had increased. About 57% of the interviewees had moved to larger size of plots than those allotted to them. This shows that DDA's method of selecting EWS, LIG and MIG beneficiaries has not succeeded in providing subsidy to the right person due to change of household income and/or downward filtration of high income group to whom residential plots are auctioned.

Table 5.7 Down ward filtration of DDA plot allotments at Rohini

Employment Status	Allotted Category EWS; Plot Size: 26 Square Metre (Sq. Mtrs.)				Allotted Category LIG; Plot Size: 32-48 Sq. Mtrs.			Allotted Category MIG; 60-90 Sq. Mtrs.	
	EWS	LIG	MIG	HIG	LIG	MIG	HIG	MIG	HIG
	Current Income				Current Income			Current Income	
Salaried in Government	-	-	1	-	1	2	1	1	2
Salaried in Public Undertaking	-	-	-	1	-	-	1	-	1
Self-employed business	-	-	-	4	-	-	3	-	1
Employee in Private	-	-	-	2	1	1	-	-	1
Retired from service	-	-	1	-	1	-	-	-	-
Unskilled Labour	-	-	-	-	1	1	-	-	-
Total	-	-	2	7	4	4	5	1	5
			(22)	(78)	(31)	(31)	(38)	(17)	(83)

Note: Figures in brackets shows the percentage of respondents' current income category

Nevertheless, it is observed from the reasons stated by sellers of DDA allotted plot that the prime reason (Table 5.8) for resale of their subsidised plots is the higher appreciation by market terms (from Rs.100-200 per square metre in 1982 to Rs.1538-14,844 per square metre in 1992). Other major reasons for resale were: acquiring another

plot through formal or other sources, closeness of work place to residence, small size of the plot provided by the DDA, etc.

Table 5.8 Reasons for reselling DDA plot allotted at Rohini

Reasons	Percentage Stated As <u>General</u> Reason	Percentage Stated As <u>First Most</u> Important Reason	Percentage Stated As <u>Second Most</u> Important Reason	Percentage Stated As <u>Third Most</u> Important Reason
Higher sale price of DDA plots	96	36	29	11
Acquired another plot	-	21	29	14
Acquired plot before allotment	64	-	-	-
Acquired plot after allotment	25	-	-	-
Work place close to residence	46	14	14	4
Small size of the plot allotted	-	11	4	19
Problem of finance for construction	18	4	11	4
Lease conditons- building bye laws	7	-	7	4
Restriction to start business	7	4	-	-
Other reasons	14	7	4	-

Therefore, Delhi's public land supply, and the strategy of regulated priority delivery of formal land has not made available adequate residential and commercial space at the right time and at the right place to potential aspirants. Its impact has contributed to large-scale resales of formal plots. This process has also encouraged downward riding of upper income groups.

5.5. DELHI'S LAND MARKET SITUATION BEFORE AND AFTER THE EXECUTION OF LARGE-SCALE LAND POLICY

In Delhi's history, an idea land bank for public land development was discovered as early as 1911, and that bank supplied land for the development of New Delhi as a new capital of British India. This land bank also supplied land for major developments such as housing and creation of infrastructure then. Later, the public land development was continued by the Delhi Improvement Trust (the then local body responsible for planning and development) on a small scale. During that time, the increased demand for urban land and operation of many private land developers has made the land market attractive to investment and speculation. This resulted in formation of informal housing areas during early 1950's but on a small scale.

This situation has changed after the introduction of large-scale public land policy in Delhi. On the one hand, it is argued that in spite of implementation of large-scale public land policy the land prices have risen frequently and illegal land developments continued growing. On the other hand, it is appreciated that the leasehold land (market) prices are only a fraction of freehold land (market) prices that were not under the direct control of large-scale public land development and disposal (Misra, 1990). It implies that the prices would have been higher than the present prices in the absence of this public land policy. The literature also argues that in spite of the policy efforts to facilitate the implementation of Master Plans to eliminate unauthorised land development, and informal private operations have not changed.

5.5.1. Land Market Situation In Prior To Large-scale Land Policy

The literature notes two major modes of land supply before the commencement of large-scale public land policy in Delhi (Mitra, 1990:195). The local body called Delhi Improvement Trust (DIT) developed formal land in order to check haphazard growth and it provided land at reasonable prices for residential, commercial and slum improvement activities since 1937 (Ibid:196). But, it was accessible only to high income households; low income groups were priced out of formal and private land markets. They mostly depended upon rentals, government subsidised tenements and overcrowded inner city slums (Ibid:96).

At the time the government's administrative and financial capacity was limited, and hindrances such as time consuming process stipulated by the land expropriation law, the limitation of technical personnel, the rising costs of construction and lengthy procedure of

land acquisition etc., existed. These constraints reduced the amount of land supplied to various uses (Mitra, 1990:197).

The DIT controlled the quality of development in residential areas developed by the private sector, yet large-scale legal and illegal subdivision of agricultural land for residential plots by real estate and land development agencies was wide spread for profit making reasons (Mitra, 1990:198). Bonafide land developers and real estate companies called colonisers acquired agricultural land from original landowners on agreement and/or negotiating sale and subdivided it with DIT's layout approvals. Plot sizes varied between 200 and 800 square yards, and infrastructure was provided in a planned manner. Flexibility in terms of instalment's facility was available. Profits varied from 33% to about 600% (Mitra, 1990:198). However, the insistence on high standards of development and profit making motives of colonisers/landowners kept land prices high, thereby restricting access to higher income groups (Mitra, 1990:199).

During 1947-63, a major private developer called Delhi Land and Finance (DLF) agency developed plots ranging between 200 square yards and 1000 square yards. It accommodated 13,063 households on 1,547 acres of developed land at an annual supply rate of 934 plots per year. The low density areas with spacious houses with wide lawns confirmed that they could only supply 7% of the demand, when about 65% households lived in one-room houses (Maitra, 1991:344). Later, in 1960, the second major developer, Ansals, began commercial development. During this time there was no large-scale building activity in Delhi. However, low income groups had no access to this private market and the housing shortage was about 155,726 dwelling units. In result, squatting rose: there were 12,749 squatter households (199 clusters) in 1951 and 78,346 (599 clusters) in 1961.

Misra (1990:54) notes that during the 1950's the absence of a public land policy meant that the city grew fast and haphazardly. The land market became highly speculative and quickly priced out the majority of households including a large number of low income groups. As a result, shanty towns and marginal settlements grew all around the city. In the process, a number of informal land markets started operating. During that time, the need of the hour was to provide shelter on a large-scale to all aspirants, especially for the low income groups who can not afford private housing.

Gambhir (1991:9) has also observed that prior to the large-scale land policy, there was no institutional arrangement for public housing either built or plotted. Major formal government housing was done by the CPWD for Central Government employees, and by

local bodies for their employees. The Ministry of Rehabilitation took the responsibility of providing housing to displaced persons who came to Delhi after Partition.

In order to offset haphazard urban growth, and to promote planned development along with access to affordable land for housing, the government proposed a 20 year Master Plan for Delhi. Adopted in early 1960s, the first in the country, conceived of public ownership over the bulk of the land: this was to become the large-scale public land policy.

5.5.2. Land Market Situation After The Execution Of Land Policy

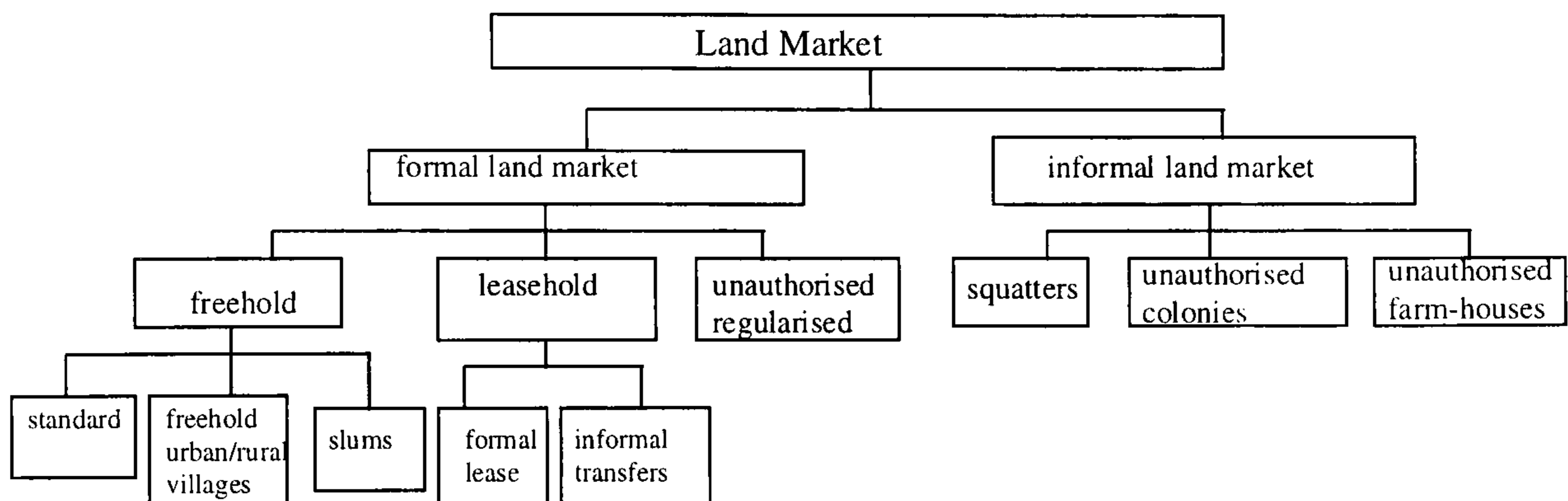
Large-scale land acquisition, development and disposal policy envisaged as early as 1950 proposed cheap land acquisition through public land expropriation and aimed to provide affordable land through public land development and disposal. It aimed to lower land prices, and set up a public land financing system called revolving fund. It is appreciated that Delhi's experience of leasehold system and large-scale public land delivery has to some extent restricted the spiralling of the land price and the price of leasehold land is 30 to 40% lower than that of freehold lands (Misra, 1990:58).

It is also argued that the overall prices increased by many times due to the slow pace of land acquisition, development, and the public land disposal policy's inability to release an adequate number of plots at the right time and at the right location (Acharya, 1988:1433). Specific reasons for price rise in Delhi are listed as (Singh, 1991; Misra, 1986; Acharya, 1988:1434): an increasing gap between demand and supply; the artificial scarcity created by DDA's practice of auction disposals and slow supply of acquired land; the trickles of plot auction which fetched a higher price in subsequent auctions but rise prices; and lack of assessment of requirements and priorities. Researchers observe that the rising prices have restricted the chances of obtaining legal land and pushed the majority, particularly the poor, to fringes, yet, further away from their workplaces (Acharya, 1988:1434). It is also criticised that the subsidy norm of allotting land to MIG on 10% more than the actual cost and for LIG 5% less than the actual cost has not been followed (Maitra, 1991). As a result, even the subsidised prices are regarded as unaffordable by many families.

It was observed from field surveys that Delhi's large-scale public policy operation has created many segments of housing land markets (Chart 5.7). They are broadly categorised into two: formal and informal. Each sub-market could be subcategorised depending upon their legal status, plot standards and house structures and land prices prevailing in them. Among formal segments, they could be subcategorised from illegal

leasehold to formal freehold. On the other hand, among informal they vary from informal substandard squatters to unauthorised large sized farms. The peculiarity of Delhi's land market is more than one element of illegal transactions. Large-scale public land allocation has not only created formal and informal segments but also encouraged illegal resales of formal land sales/allocations, and resulted in a variety of illegal categories such as squats on public land, benami sales/transfers of unauthorised lands, and transactions of unauthorised housing lands.

Chart 5.7 Land market segments of Delhi



Another peculiarity of Delhi's land market is its prices and speculation. An additional limitation to state involvement concerns its ultimate ability to control land speculation, once it has disbursed developed plots to individuals, organisations and firms, and once such plots are allowed to command a free market price. The second time such plots change hands, they will no longer be sold at the original price but at a new market price commensurate with their real market value. The condition is worse when government tries to control the demand by priority and conditioned supply, because registering only part of the actual market demand creates artificial competition. This increases the price many times as observed in the Rohini plotted scheme (Table 5.9). DDA has created many categories of price structures through its allocation methods: subsidised or predetermined; auctioned; and informal resale price. Table 5.9 shows predetermined prices is lower than informal resale prices. But, auctioned prices to the highest bidder are often higher than the other two categories.

Table 5.9 shows that the resale prices of DDA allotted plots in Rohini have increased many times in 12 years. The first draw was held in 1982 and plot resales started as early as

1985 and the median prices have reached 9 times the average pre-determined prices on which the DDA plots were allotted. However, the higher ranges are more than the median prices. This shows that the large scale land policy has not controlled the prices considerably.

Table 5.9 DDA allotted Pre Determined and resale prices-Rohini

Year	PDR	DDA Plots	Average	Median	Agent Range
	Average	Resale Price	Resale Price	Resale Price	Quoted Price
1984	155	-	-	-	769-6667
85	190	1146-2967	2057	2057	-
86	190	2917	2917	2917	-
87	314	1538-1667	1603	1603	-
88	314	2308-4688	3324	3436	-
89	380	1250-5208	3451	3594	-
90	763	1269-6667	3838	3642	1346-3000
91	763	2083-8654	4476	4141	3125-10000
92	763	1538-14844	6643	6172	3462-33333
93	-	2500-8750	4898	4861	2692-41667
94	-	2604-14167	7999	9135	2656-26667

5.6. CONCLUSION

The scheme of large-scale land acquisition, development and disposal of Delhi has enabled acquisition, development and disposal of a considerable amount of land for all uses in general, and for residential use in particular. The DDA claims that it has made a tremendous success because the land ownership pattern in Delhi was highly unequal at the inception of this policy, during the early post Independence period. DDA's data also shows that it developed a large amount of land for recreational use, and allocated a considerable number of plots for low income squatter resettlement through cross-subsidisation by profits from land auctions. Its data also shows that a large number of plots and flats were allocated to low and middle income groups on subsidised prices.

The analysis of field data indicates however, that subsidised plots were illegally bought by higher income households for investment and extra income earning. This is clear downward raiding of upper income groups into low and middle income group plots. On the other hand, the resales of subsidised land took place due to higher prices offered, the desire to acquire more than one formal plot, distance of place of work from residence, and small size of the plot. This indicates that the DDA's strategy of formal registration of housing demand and priority allocations of formal land has not supplied the right land to the right party, and has resulted in accumulation of unsatisfied demand.

Public land delivery has therefore contributed to "downward raiding" and unsatisfied demand mostly affecting low income groups. The major reasons for purchase of resold land stated by interviewees at Rohini were inadequate supply of formal land for housing and investment. Most respondents were from higher and middle income groups, and a majority (59%) in self-employed business.

Nevertheless, Delhi's public policy practice has provided many advantages in terms of cheap land acquisition, greater control over land development and use regulation, and provided financial autonomy towards curbing land speculation and stabilising prices. But, DDA's land development progress was slower than anticipated by the Master Plans. This was because: (1) legal constraints of land acquisition, and landowners' resistance to public land expropriation at off-market prices; (2) land development affected by the DDA's primary goal of mobilising revenues for cross-subsidisation; (3) DDA's concentration on construction rather than land development during the second phase of development (1983-1994) and additional functions that delayed its progress; and (4) delay in technical formalities such as approval of concerned committees of government/DDA.

Having concluded that a large amount of unsatisfied demand resulted from the inefficient and ineffective land supply of public land acquisition, development and disposal policy, it is assumed that this unsatisfied demand along with new demand created informal or unauthorised land developments. Land allocation in Delhi was a DDA monopoly and alternative channels were absent. To this extent, DDA does bear responsibility for the distortion outside its jurisdiction. Chapter 6 analyses the nature of informal land developments in Delhi.

Endnotes for Chapter 5

¹. The public land policy was executed in the name of large-scale land acquisition, development and disposal scheme during its inception. This scheme later continued in the

same name and also referred in different names (Howland,1977; DDA,1992). In this research, it is referred as large-scale public land policy.

². Misra (1986) observed that Delhi's large-scale public land policy came into force from mid-1961 along with a comprehensive land use development plan (Master Plan) 1961-81 to guide the development. The public land acquisition was initiated even before the finalisation of Master Plan, on the basis of Interim General Plan for Greater Delhi issued in September 1956 (Sundaram and Gambhir, 1990:2).

³. The Delhi Development Authority (DDA) is a single, high powered (acquire, hold, dispose and contract property) public autonomous body mandated for the implementation of large-scale public land policy and Master Plans for the planned growth of Delhi.

⁴. India was partitioned into two countries: India and Pakistan in 1947. During that time most of the families who migrated to India settled down in major cities: Bombay, Calcutta, and Delhi.

⁵. The inadequate legal provisions contribution to insufficient land acquisition, development and disposal is discussed in the sections 5.3 and 5.4.

⁶. It sometimes appears that there has been no independent aim or objective addressed by this large-scale public land policy. It was framed to facilitate the implementation of Delhi's Master Plan, envisaging systematic land use and prescribing guidelines for appropriate supply and distribution of land and other activities. Therefore, the large-scale public land policy of Delhi helped to execute Master Plans. The Delhi Development Act, 1957 mandated the DDA to achieve the objectives of the National Urban Land Policy as enunciated by successive five year plans (Sundaram and Gambhir, 1990:3).

⁷. The Ministry of Urban Affairs and Employment was renamed from the Ministry of Urban Development.

⁸. Delhi was recently given the status of a state; it had been an Union Territory.

⁹. The Central Land Acquisition Act, 1894 which had provisions for advance land acquisition on expropriation, and award of compensation at below market value, was enforceable to all parts of India. This Act was found most useful and applicable to Delhi due to its coverage of urban and rural land in its capital territory.

¹⁰. Singh (1991) has noted that 89,678 acres were acquired by the government during the period 1960-1989, of which 70,000 acres were acquired for DDA and 19,583 for other government agencies for non-plan developments. He has also noted about 93,243 acres of land acquired for plan-schemes during the period 1948-1989. Non-plan developments were carried out by Flood and Irrigation Department, Delhi Transport Corporation, Delhi Electricity Supply Undertaking, Indian Oil Corporation and Municipal Corporation of Delhi, etc.

¹¹. Nazul land II is the category of land that was acquired through large-scale public land policy for planned development by DDA. DDA also developed, disposed and/or maintains about 691 acres of land procured from the then Ministry of Rehabilitation, about 6,649 acres of land transferred from the Ministry of Urban Affairs and/or Gram Sabhas (Village Panchayats).

¹². So far two Master Plans were prepared and approved by the government. The first plan approved in 1961 was in force from 1961 to 1981. The second plan approved in August 1990 will guide development to 2001.

¹³. Invalid power of attorney is the one obtained through judicial processes without making required payment (50% of the unearned increase) to Delhi Development Authority. This gives the user right of occupation until either lessee or lessor revokes the ownership right. The valid power of attorney is the one executed by concerned department of Delhi Development Authority after the required payment has been made.

¹⁴ The simple formula used for this estimation is $D = db + dp + dr$, where D is demand, db demand due to backlog, dp demand from population increase, and dr demand from replacement requirement.

¹⁵. Maitra (1991:344) note that as the HIG plots were auctioned, there was no provision for HIG in flatted housing scheme at that time. In result, the problem of “downward filtration” occurred widely as HIG applying for relatively lower income group housing producing false affidavit and documents.

Chapter 6

INFORMAL LAND DEVELOPMENTS: CHARACTERISTICS, CAUSES AND EFFECTS OF THEIR EXISTENCE

6.1. PREAMBLE

In Chapter five we ascertained that Delhi's public land policy, operated under the statutory land planning requirements (expropriation, public development and leasehold disposal), has supplied a large amount of land for all activities including housing. But, it is argued that in spite of its large-scale public allocation, there is a large amount of land occupied by substandard informal settlements such as squatter areas and unauthorised settlements of all sorts in contravention to the public policy.

Concerning the intensity of such informal settlements, Hardoy and Satterthwaite (1989) argue that in 1982 half or more of Delhi's population lived in very poor conditions. Basu (1988:103) estimated about 75% of Delhi's population living in sub-standard areas: 1.4 million in unauthorised colonies, 1.0 million in squatter areas¹, 1.0 million in resettlement colonies, 0.3 million in urban villages, 1.8 million in slum areas and 0.5 million in rural areas. Ali (1990:15) estimated about 45% of the capital city as substandard in so far as establishment of minimum essential environmental facilities are concerned. Indian Express (21.3.91) reported that about 40% of Delhi's population were living in informal settlements within Delhi: 20% in Slums and 20% in unauthorised colonies.

Recently, Ali (1995:73) argued that out of the 9.3 million population, as per 1991 census, that three quarters of Delhi's population live in substandard areas with features similar to slums. These include 1.4 million in unauthorised colonies, 1.3 million in squatter areas, 1.2 million in resettlement colonies (areas where squatter families are relocated), 0.15 million in urban villages and about 0.5 million in rural areas. In addition, there are about 0.25 million slum households. Thus, at any given time, the population living in informal lands is not less than 40% as reported by the Indian Express (1991). This is against the conception of the large-scale public land policy proposed by the Master Plan

for Delhi of 1962, and the experiences gained by Sweden, Netherlands and other countries who operated similar land policies.

However, the literature states that informal settlements exist in almost all developing cities, regardless of the nature and type of urban land policy intervention undertaken. Many argue that the land issue is inevitably bound by the cultural tradition and historical conditions of every country, making each system to a large extent unique (Angel et al., 1983:8; Doebele, in Thirkell, 1995:13). Gilbert and Ward (1985) suggest many types of unregulated submarkets and state that they vary among each other and in comparison with the legal or formal alternatives. Their cost of entry, land cost repayment methods, according to perceived levels of security and their household affordability make them wide-spread.

Therefore, to understand the real existence of these settlements, their similarities with the informal settlements found world wide, and to identify the reasons for their existence, it becomes necessary to analyse the creation process and their causes and effects. This study focuses on unauthorised land developments that are believed to be different from substandard squatter settlements, and which comprise affordable households that contravene the public land policy regulations in Delhi. The Chapter attempts to answer following questions:

1. Is there a substantial number of informal settlements in Delhi?
2. Are informal settlements in Delhi similar to informal settlements observed world wide?
3. What are the causes and effects of these informal settlements?
4. What type of informal land market emerged under the implementation of large-scale public land policy in Delhi?

6.2. EXISTENCE OF INFORMAL SETTLEMENTS

Informal settlements are defined in terms of the nature of their formation. Thirkell (1995) noted two main distinctions: (i) the alienation, delivery and occupation of land which is not formally owned by title by the occupant or trader; and (ii) the subdivision and sale of lands which are formally owned by the seller but are disposed off without formal subdivision and/or planning and/or building permission as stipulated by the local authority concerned.

Hardoy and Satterthwaite (1989) also observed that housing in squatter settlements is illegal in two senses: land is occupied illegally, and the site and building are developed and built illegally - contrary to zoning, subdivision and building regulations. In Delhi, informal settlements are recognised as either encroachments (mostly squatters) or the subdivision and sale of land without the formal permission of the concerned local governments.

The informal settlements or group of spontaneous, unplanned, unregulated, unauthorised, self-help, slums and squatters, illegal, and popular areas are called barrios pirate, colonie ilegales and barrios clandestinos in South America and ejidos in Mexico (Payne, 1988:5; Hardoy and Satterthwaite, 1989). They are also known by a number of local terms such as 'gecekondus' in Turkey and 'bastis' or katchi abadis in Pakistan, and 'juggi jhonpris' and unauthorised housing in Delhi. Although all these illegal settlements are called informal settlements, there is a difference in terms of their location, plot size, building material, occupied income group and land tenure status.

It is observed in the literature that informal settlements have been in existence since the early 1950's and are to be seen in almost all developing countries including European capital cities, for example in Portugal (Ferreira et al., in Payne, 1988). Payne (1988:6) argues that in some cities, informal submarkets have grown rapidly, representing up to one third of the entire housing stock, and it is the most common means by which poorer households obtain residential land and housing. He quotes from Durand-Lasserve (1987) that in the Philippines they account for 86% of housing production; in Brazil, 82%; in Venezuela, 77%. Hardoy and Satterthwaite (1989) have also estimated about 44% (7 out of 16 million) of people living in some form of uncontrolled or unauthorised settlements in Mexico City in 1982, and in Nairobi (Kenya) about 40% of the city's population are housed in unauthorised units. By the late 1970s most of the Third World's multi-million cities had each more than a million living in settlements that had developed illegally. Sao Paulo, Rio de Janeiro, Bogota, Lima, Mexico City, Manila, Karachi, Delhi, Bombay, Lagos, Cairo and Bangkok are among them. Therefore, informal settlements are wide spread regardless of the nature of the land policies enforced.

6.3. SIMILARITIES AMONG SPONTANEOUS CHARACTERISTICS AND CIRCUMSTANCES THAT ENCOURAGE THE CREATION OF INFORMAL SETTLEMENTS

Informal land developments are often argued to be a by-product of some circumstances, characteristics and causes that are common to many socio-economic environments rather than the effect of public policies designed to achieve certain objectives. However, Payne (1988:40) suggests this submarket as a provider of service that could not be met on a sufficient scale by the public sector. He regards informal market as a private sector that is more pragmatic and efficient in identifying what most people want and are willing to pay. This is because there are no restrictions on standards, and they are quicker and better organised. Gilbert and Ward (1985) found the Bogota informal system as neither equitable nor efficient, but functioned well in the context of the city's working pattern. Although Angel et al., (1983:11) argues that informal practices exist due to the ability of developers to provide housing stock to a great majority of low income groups that were not achieved by official attempts on a significant scale.

These informal settlements occur in the circumstances of availability of a large amount of marginal lands such as environmentally sensitive areas: flood zones, steep slopes and low lying river beds etc., (Ward, 1984; World Bank, 1980). They are believed to coincide with certain cohesive characteristics such as socio-economic conditions, cultural tradition, administrative systems, law and order. Pirate subdivisions exist due to long delay in granting permission for legal development (World Bank, 1980).

Infrastructure seems to be a reason for the growth of informal settlements. Better standards of development of illegal subdivisions with some basic infrastructure (unpaved roads, water and electricity) have encouraged a large number of people in Bangkok (Payne, 1988). In Karachi, as an exception, these settlements exist without any provision of the essential services and facilities. As noted by Nientied and Linden (1990:233-34), except for layout demarcation and hopes to arrange water through the metropolitan agency, the informal developers do not provide essential infrastructure. Assurance given to provision of infrastructure for informal settlements seems to be a common electioneering technique in Latin America (Collier, 1976; Gilbert and Gugler, 1981; Thirkell, 1995).

Thirkell (1995) observed illegal infrastructure (electricity tapping) and/or unenforced laws encouraging informal land developments in Cebu.

The availability of a wide range of plot sizes is noted to be a prime character of informal developments. Payne (1988) state that pirates in Bogota is characterised by small plots rather than local standards. Ejido settlers in Mexico are believed to acquire adequate size of plots with acceptable levels of security with the hope of infrastructure provision in the reasonable future.

Investment seems to be a motivating character in informal developments. Misra (1990:58) suspects that middle and high income groups in Delhi buy properties in the informal markets mainly for capital gains. But there seems to an increasing number of low and middle income groups entering the informal land market in Mexican and Latin American cities for various reasons (Payne, 1988; Thirkell, 1995). Informal land market in Cebu houses a broad cross section of urban society in terms of income, education, occupational and migrant status rather than the poorest urban residents (Thirkell, 1995).

Similarities in land acquisition are also noted to be one of the characters that encourage informal developments. There are three types of informal land acquisitions noted in the literature: (1) invasion of land (both public and private); (2) purchase of land beyond the limits of conventional and legalised housing areas such as in Valencia, Mexico City and Bogota (Gilbert and Ward, 1985); and (3) purchase of community lands such as ejido land (which has the right to use but not the right to sell) in Mexico City and its transfer from agricultural to urban informal use (fraccionamientos clandestinos, illegal subdivisions), outside the federal boundary. It is also noted that lack of a legal enforcement mechanism encourages land acquisition by hiring squats or physical threats, and selling lots carrying invalid ownership documents in pirates (World Bank, 1980).

Informal actors/agents play a crucial role in encouraging the creation of informal settlements in many places. Payne (1988:40) noted that in Karachi informal subdividers are motivated by the *“opportunity for profit and in some cases employ gangs to ensure cost recovery irrespective of hardship, and others make promises, such as provision of services, which they do not, or cannot fulfil”*.

There is a strong belief that an intimate relationship between subdividers and government agencies exist in many developing countries. The evidence for this is the local administrators' control over informal areas in Nairobi, and the profit share provided to government officials in Karachi (Payne, 1988).

It is also noted that relationships among political leaders, administrative leaders and their personnel, developer and his personnel and residents encourage informal developments (Payne, 1988). Especially, the following relationships seem to be encouraging informal developments around the world: pirate subdividers who are key to the political system because of their source of patronage (Gilbert, 1981; Thirkell, 1995); politicians who negotiate with the bureaucracy for planning permission and the provision of services to pirate urbanisers (Gilbert and Gugler, 1981:112; Thirkell, 1995); informal subdividers in Karachi who obtain government protection to subdivide vacant public lands, and commercial entrepreneurs who either circumvent the administrative apparatus or corrupt it (Baross and Linden, 1990:2). Lack of significant changes in the rules of the formal sector have widened the scope of agents operating informally in the land market (Durand-Lasserve, 1987:332; Thirkell, 1995:7).

As some researchers have noted, informal land developments are a planned and highly lucrative business operated by specialised agents, which bring together lawyers, brokers, land officials, court clerks, kin groups and local civic and political leaders (Serageldin, 1990:2; Doebele, 1994:48). Thirkell (1995) suggests that undocumented links exist between institutions and informal land developers in the Philippines. Researchers also argue that although a majority of popular settlements have been created illegally in a planned and premeditated manner by coalitions of economic and political interests, unauthorised developments are also created due to the connivance of unscrupulous colonisers, corrupt bureaucrats and politicians in Delhi (Angel et al., 1983; Noronha, 1991:7).

Circumstances such as the provision of selling plots for nominal prices and often donating for free of cost, can also encourage people to choose illegally developed land. In Mexico, farmers are tempted to sale their land to informal subdividers instead of selling to the formal projects. It is because such informal sales obtain a reasonable price for their

land and they also fetch an opportunity of payment of compensation by the government when formal titles are issued to plot occupants (Payne, 1988).

Community organisation at the settlement level for lobbying for services, and political and social movements seem to be a prime factor in the context of Latin America (Gilbert and Ward, 1985; Thirkell, 1995:207). This increases the security of informal settlements through collective action against potential evictors, and creates a strong force for lobbying for services and infrastructure and increased self-reliance through participation in community projects (Thirkell, 1995:207).

Durand-Lasserve (1990), Thirkell (1995) and Jerry (1991) have observed that the practice of payment of property tax for informal land in the name of fresh farming land or rural use fetches a certificate of proof of occupation of informal land and provides confidence of informal residence in many places.

A large amount of discussion exist about the unexpected growth of population in Delhi. Researchers estimate about 85,000 to 200,000 migrants from many sources migrating every year to Delhi (Misra and Gupta, 1981; Parashar, 1994:36). They argue that squatter settlements are the by-product of government programmes and urban plan administration because: (1) on one hand, a large sum of money spent for rehabilitating these migrants helps a lot in catching the attention of the poor people living in other parts of India to migrate to Delhi which in turn results in increasing the number of its population; (2) on the other hand, the public housing programmes have lagged behind to provide shelter to these people (Parashar, 1994:36; Suri, 1991; Misra and Gupta, 1981). But the experience of Delhi is yet to be explored empirically. The following Section (6.4) analyses unauthorised developments in Delhi with the support of field data.

6.4. INFORMAL LAND DEVELOPMENTS IN DELHI

Unlike the planned mass invasion in Lima (Lloyd, 1980), ejido land conversions in Mexico or pirate subdivisions in Latin America, the informal settlements of Delhi developed in the form of either encroachment of government and private land or subdivision of fresh farm land (acquired, notified for purchase or likely to be notified) in and around the city limits or unauthorised constructions against building bye-laws applicable at the time of construction. These encroachments and subdivisions are not legally accepted because the

large-scale public land policy of Delhi regulates land planning through public land supply, land use planning and zoning and building bye-laws. Only the operators of large-scale land policies are allowed to subdivide, develop and allocate land for any purpose in Delhi. Every development is supposed to be undertaken only with the permission of the local government bodies concerned (i.e. Delhi Development Authority, Municipal Corporation of Delhi, New Delhi Municipal Committee, and Delhi Cantonment Board. However, in regard to formal new development, only the Delhi Development Authority has the power to grant permission. Therefore, any land development undertaken without the permission of local governments are called encroachments or unauthorised depending upon their nature and standards of development.

6.4.1. Types Of Informal Land Developments In Delhi²

Similar to more than one informal settlements in Mexico such as illegal subdivisions, illegal transfer sale of ejido land, and squatter invasions (Payne, 1988), many types of informal settlements exist in Delhi. These informal settlements are divided into three categories:

- squatter settlements (Juggi Jhonpris' clusters);
- unauthorised building constructions on formal leasehold and freehold land; and
- unauthorised colonies (unauthorised land subdivisions/developments).

6.4.2. Squatter Settlements

Squatter settlements are substandard housing land with poor environmental conditions. Squatting is mostly believed to be encroachment of government land. Squatters are viewed as families unable to afford housing through rent or ownership in the private formal housing market or through the housing agency as per their preferred location (Sundaram and Gambhir, 1991), and who can usually only afford to rent rooms and shacks (Angel et al., 1983:4). The total estimated population of these squatters were about 566,930 persons in 1983 (DDA, 1983) and about 1.3 million persons living in these 929 Jhuggie clusters alone (School of Planning and Architecture (SPA), 1994). In 1994, SPA (1994) also estimated about 0.27 million families living in informal squatter settlements. These squatter

clusters have grown from 928 clusters in 1991 to 1276 clusters in 1994 and an average squatter settlement size is 280 living units in (ibid).

Table 6.1. Spatial distribution of squatter settlements (clusters) in Delhi

<i>Zone</i>	<i>Number of clusters in 1990-1991</i>	<i>Number of clusters in 1994</i>	<i>Number of Jhuggies in 1990-91</i>	<i>Squatter Population in 1990-91</i>
East Zone	123	190	41958	209790
Central Zone	92	127	21877	109385
North Zone	227	300	65901	329505
West Zone	204	270	42573	212865
South Zone	282	389	87035	435175
Total	928	1276	259344	1296720

Source: Slum Wing of Delhi Development Authority, and SPA (1994).

6.4.2.1. Location And Typology Of Squatter Settlements

Unlike the usual location of squatter settlements (such as hillsides around Rio de Janeiro and Lima; marshy and malarial valleys around Bahia; and canals, lagoons and rivers in Saigon, Hong Kong, the Philippines, Bangkok, etc.), most squatter clusters in Delhi are located on plain areas owned by the government, and some occupy vacant private lands (Basu, 1988:28). They are “*spread over the length and breadth of the city staring the conscientious urban planners in the face*” (Ali, 1990:15). Large concentration of squatters are seen in Trans Yamuna (Planning Division E) and South Delhi (Planning Division F). Figure 6.1 shows the location and distribution of squatter clusters in 1990-91.

Squatters’ areas are found located on public lands (Sundaram and Gambhir, 1991; Benjamin, 1991:3); gardens, open spaces near railway tracks, beneath bridges and planned public housing sites (Benjamin, 1991:3), amidst surrounding residential areas (Misra and Gupta, 1981), near old and new industrial and commercial complexes, fruit and vegetable markets, within unauthorised colonies, and resettlement colonies (DDA, 1983); open spaces left out in resettlement colonies where previous squatter households had been rehabilitated and who even complain that the basic services made available to them are inadequate (Ali, 1990).

Table 6.2 Growth of squatter settlements in Delhi

Period	Number Squatter Units	Number Squatter Families	Total Squatters	Colonies Resettled	Families Resettled	Number Plots
Upto 1951	-	12,749	12,749	-	-	-
Upto 1956	-	22,415	22,415	-	-	-
Upto 1958	-	40,000	-	-	-	-
Upto 1961	-	42,815	42,815	-	-	-
Upto 19622	-	66,000	-	-	-	-
Upto 1966	73,693	42,668	77,693	10	34,925	-
Upto 1971	115,961	62,594	62,594	8	-	-
Upto 1973	141,755	98,438	151,302	18	32,864	-
Upto 1975	-	150,000	-	34	57,368	52,864
1976-77	-	20,000	214,684	1	194,684	148,262
Upto 1978	-	70,000	267,684	-	197,684	
Upto 1980	-	98,709	-	-	-	-
1981-1983	-	113,386	-	-	-	-
Upto 1985	-	171,000	-	-	-	-
Upto 1988	-	190,000	-	-	-	-
Upto 1990	-	230,000	-	-	-	-
Upto 1992	-	260,000	-	45	-	-

Source: Compiled from Gupta (1994:17), Suri (1991:25), and SPA (1994).

Blank cells indicate the non-availability of reliable data.

DDA (1983) has sub-categorised them into (i) regular squatters and (ii) temporary squatters (labour camps). Regular squatters are camps having ration cards (entitlement to subsidised food items supplied by the government fair price shops) facilities and residents' names appear in the census lists of the concerned area. Some of these squatter settlements have brick paved streets. Temporary squatter settlements do not avail of ration card facilities and mostly inhabited by construction labour. They seem to be purely temporary

and mobile depending upon construction work, and normally located around construction sites.

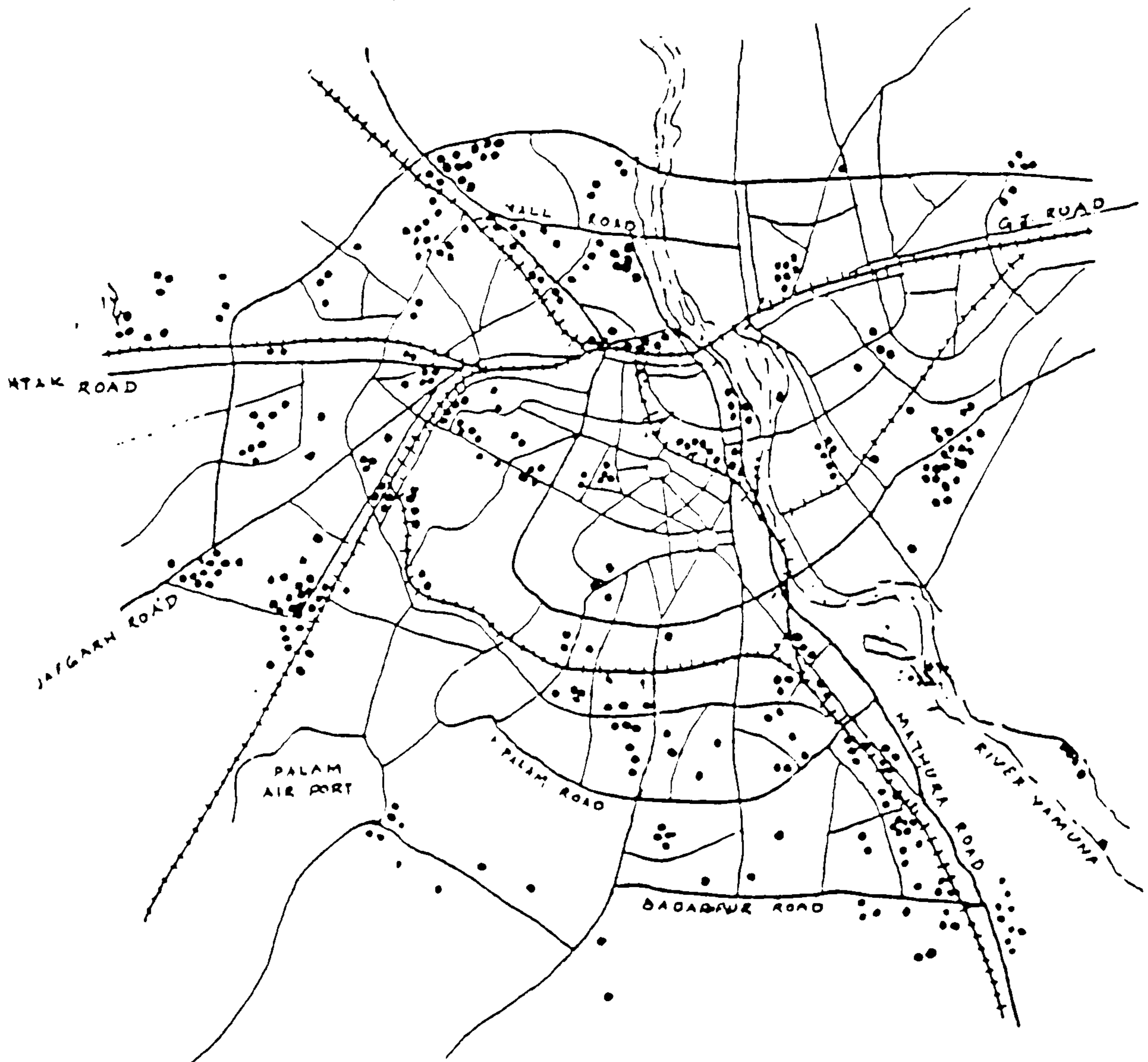
Squatter settlements consist mostly of huts constructed out of mud, brick, straw, bamboo, wood and such other sundry materials (Misra and Gupta, 1981). Well established squatter units are made out of improvised materials without any infrastructure provisions (Sundaram and Gambhir, 1991). About 95% are occupied on an individual ownership basis. About 80% contain 10-15 square metre area, and 88% are single room units (Basu, 1988:138).

Squatters are engaged in manual labour in the industrial areas, in domestic work and in construction, and factors such as distance of workplace and transportation costs encourage them to stay in these settlements (DDA, 1983). Most squatters are recognised as rural migrants of utter poor and poverty-stricken labour class households who move to the city in search of better wages (DDA, 1983; Basu, 1988:138). Their household income is low and they do not manage to save anything (SPA, 1994).

6.4.2.2. Reasons For Squatter Settlements

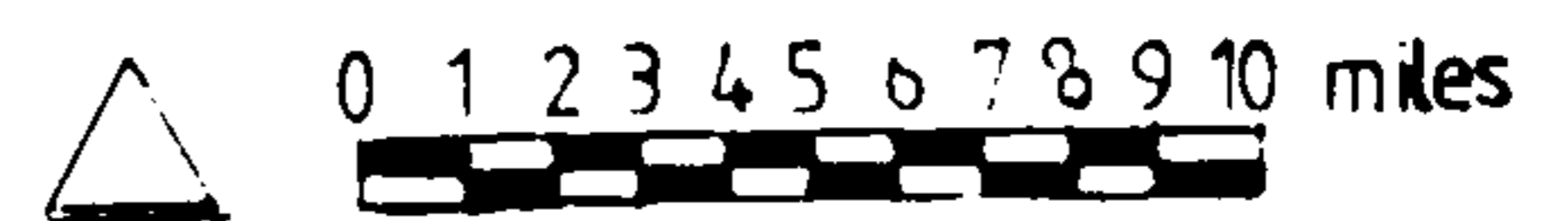
Many reasons have been suggested as having encouraged squatter settlements during the operation of large-scale public policy in Delhi: (1) unaffordable standards of government built legal housing motivated the poor to squat vacant land (Basu, 1988:242; Sundaram and Gambhir, 1991); (2) acute housing shortage for low income groups (mostly in-migrants who find it difficult to afford the costs of public housing) lead to squatting on public places (Basu, 1988; Parashar, 1994:36); (3) inability of government land management and controls of resale of resettlement plots encouraged squatting on government land (Suri, 1991); (4) resettlement of squatter families on legal plots located on peripheral locations attracted them to illegally sell their land and move nearer to their places of employment (Payne, 1977; DDA, 1983); (5) possibility of building home progressively according to their own values of space and amenity, and regulate the expenditure within their limit (Basu, 1988: 242); (6) political patronage motivated large number of squatters (Ali, 1990:26; SPA, 1994).

Figure 6.1 Location of Squatter Settlements in Delhi, 1990



Legend

● Squatter Settlements



Source: Slum and JJ Wing, DDA. First used in Sundaram and Gambhir (1991:19).

Note: This map shows approximate scale

6.4.3. Unauthorised Building Constructions

Unauthorised constructions are violation of planning and building standards. They are prominent on formal leasehold, freehold land and regularised informal land. Substandard areas such as slums are often included in this category. The Hindustan Times (28.12.92) and Indian Express Metro News (1.1.93) reported that there were about 6000 properties all over the city that had deviated from the approved building plans in 1992 (Table 6.3). These include 1000 places of worship. But action seems to be taken only against a few hundred unauthorised constructions due to political pressure to spare the main encroachers.

Corruption in the plan approval system is noted as one of the prominent reasons wide-spread in Delhi (Hindustan Times, 1992). But the planners blame political patronage for these illegal activities. It is believed that initial hesitation on the part of the authorities, omnibus stay orders, lack of action and monitoring encourage unauthorised constructions.

Table 6.3 Unauthorised constructions in Delhi, 1992.

Zones (MCD)	Unauthorised Buildings	Buildings Sealed	Court Stays	Buildings Demolished
City	265	26	49	12
Civil lines	312	17	13	13
Shahdara (South)	374	12	5	Nil
Shahdara (North)	396	14	Nil	12
Sadar-Paharganj	263	27	9	6
Karolbagh	864	4	Nil	5
West Zone	751	34	4	28
New Delhi	-	48	11	3
South Zone	509	95	23	7
Najafgarh	234	1	5	14
Narela	145	4	Nil	51
Rohini	392	21	22	53
Total	5714	303	141	204

Source: Indian Express, Metro News, 1.1.1993

6.4.4. Unauthorised Land Developments

The literature states that unauthorised land developments/colonies³ have been growing steadily (Mitra, 1987; Basu, 1988; Payne, 1988; Hardoy and Satterthwaite, 1989; Ali, 1990, 1995). They grew from 110 in 1961 (before the enforcement of large-scale land policy) to 471 in 1975, to 750 in 1983 and about 900 in 1994. The Tables 6.4 and 6.5 show spatial and time series growth of unauthorised colonies. Prior to the enforcement of large-scale land policy, unauthorised colonies were present in East Delhi (Shahadra), West Delhi and North Delhi. They continued in the same way after the enforcement of policy. Recent field work conducted for this study has observed the existence of large number colonies all over Delhi (see Figure 6.2).

An attempt was made during the field work to list and estimate the actual number of unauthorised units existing in Delhi. But the attempt has only helped a little due to the lack of authentic sources of data and time constraints. It was found that there is no government department which has taken up the tremendous task of counting this ever-growing new colonies and subdivision of existing plots in old colonies. However, the secondary information compiled from MCD and DDA records shows that more than 900 unauthorised colonies exist as on March 1994. Chart 6.1 shows the growth of these colonies since 1961.

Chart 6.1 Growth of unauthorised colonies in Delhi

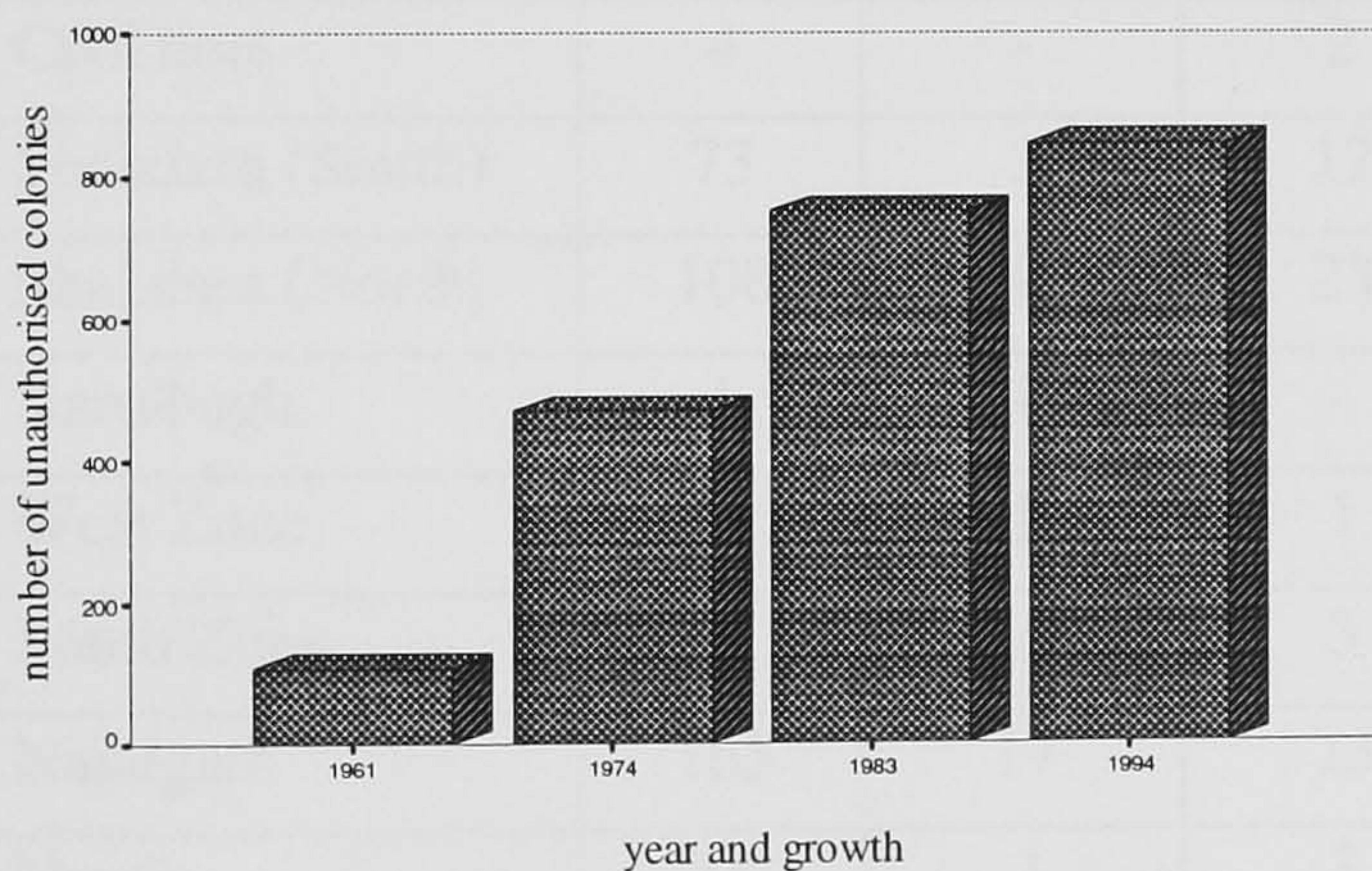


Table 6.5 shows that these colonies are located all over Delhi except in the New Delhi Municipal Committee zone, Delhi Cantonment and Sardhar Pharganj zone. Most colonies are concentrated in the Najafgarh zone located in the western part, Shadhra North

and South zones located in the eastern part, followed by South Zone of South Delhi and Narela Zone in the rural part of Delhi.

Table 6.4 Growth of unauthorised colonies in Delhi

Year/ period	Number Colonies	Number Units	Families (Million)	Population (Million)	Prime Locations	Area (acres)
1961(Prior to large-scale land policy)	110	-	-	0.2	Shahadra, West Delhi, North Delhi	
1974-75 (after large-scale land policy)	471	142,000	0.15	0.8	Shahadra, West Delhi	7,413
1978	-	-	-	0.6	-	7,500
1983	750	-	-	1.2	-	11,120
1994	847	-	-	1.4	-	-

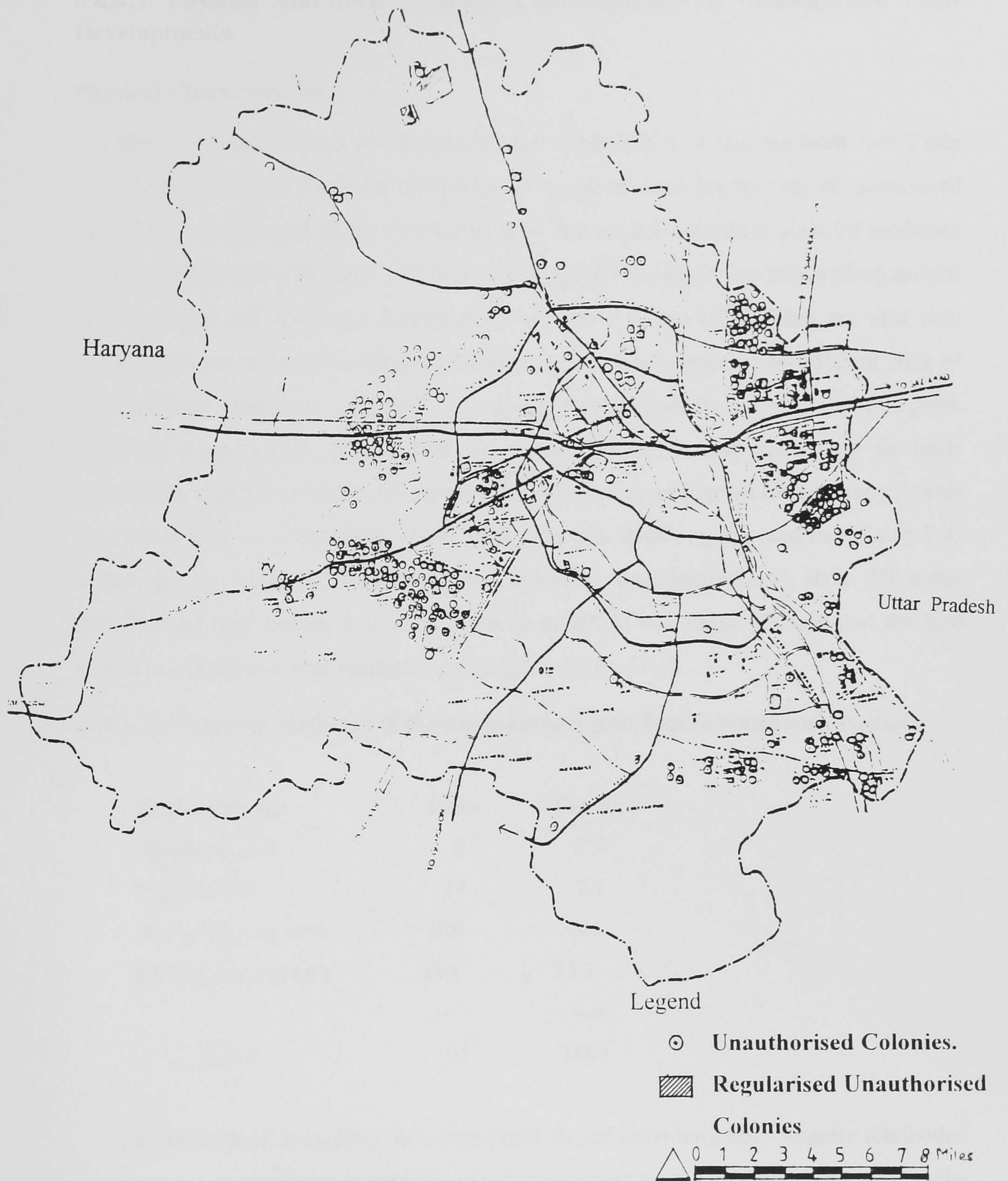
Source: Compiled from Gupta (1985), Basu (1988:103), DDA (1984) and Jerry (1991). Blank cells indicate the non-availability of reliable data.

Table 6.5 Distribution of unauthorised colonies over municipal zones as per their status of grant of No Objection Certificate (NOC) for electrification.

Zones (MCD)	NOC Given	NOC Pending	NOC Rejected	New Registration	Newlist Supplied by MPs & MLAs	Total
Civil lines	4	-	2	2	5	13
Shahdara (South)	73	3	12	7	2	97
Shahdara (North)	108	9	23	9	26	175
Karolbagh	1	1	-	-	11	13
West Zone	19	1	1	3	6	30
South Zone	1	10	3	19	6	39
Najafgarh	165	17	23	39	156	400
Narela	18	2	3	7	38	68
Rohini	4	-	-	1	7	12
Total*	393	43	67	87	257	847

Note: * MCD total is 402 NOC Given, 88 new registration and grand total of 857. Source: Compiled from information collected from the Municipal Corporation of Delhi (MCD).

Figure 6.2 Location of Unauthorised Land Developments in Delhi



Source: Adopted from the location plan of unauthorised colonies in existence prior to January 1981, MCD Town Planning Office, Delhi.

Note: This map shows approximate scale

6.4.4.1. Physical And Socio-economic Characteristics Of Unauthorised Land Developments

Physical Characteristics

In Delhi most unauthorised developments have mushroomed on farming lands (see Table 6.6). They are similar to illegal subdivision of marginal lands for the sale of un-serviced plots (Payne, 1984) and pirate subdivision of environmentally sensitive areas for moderate incomes families (World Bank, 1980). These illegal developments are taking place around urban villages and new legal developments promoted by the DDA. They are also seen along major access roads to the city. Farming land was demarcated into different sizes of plots without servicing and sold to approaching individuals approaching for plots. Although Gupta (1985) argued that the colonies have generally sprung up on lands notified for acquisition by the government, the field survey conducted for this study reveals that about 90% new subdivision have taken place in fresh farming land (see Table 7.4) located all over Delhi. Of the interviewees residing on unauthorised land, about 2% stated that the land they occupy was once acquired by DDA, and about 4% said that the land they are residing now was notified for acquisition by the DDA.

Table 6.6 Physical condition of the unauthorised plots before house construction

Physiography	Plots	Percent
Floodable area	8	2.7
Steep slope	23	7.7
Water logging area	108	36.4
Plain (farming) area	158	53.2
	-----	-----
Total	297	100.0

In Delhi there is evidence that even court-stayed lands have been illegally subdivided contravening court orders and their land title documents were issued on a date prior to the date of issue of the stay order. For example, the illegal subdivision of Arjun Park (West Delhi) was stayed in the court by the Municipal Corporation of Delhi in 1971, but finally subdivided in 1983 before the completion of court proceedings. This process is similar to

the illegal sale of land awaiting legal development permission in *pirates* subdivisions noted by the World Bank (1980). But no incidences have been reported about acquisition of land by hired squats or physical threats. There is also no incidence that legally obtained tracts are sold illegally.

Socio-economic Characteristics

The literature states two major views about the economic characteristics of the users of informal land: (1) it is a major means to most poorer households who require residential land (Payne, 1988:6; UNCHS, undated); (2) it is an inexpensive land demand of low and middle income groups in Mexican and Latin American cities and in Cebu (Durand-Lasserve, 1990; Nientied and Linden, 1990; Thirkell, 1995). This research found that, in Delhi, there is a clear distinction between the poor (lowest income group) and low, middle and high income group. These colonies accommodate all categories of income groups but the proportion of middle and high income groups are considerable number (Table 6.7). However, there are exceptions like Sainik Farm that accommodates most higher income households.

Table 6.7 Average monthly household income of interviewed households

Value Label	Households	Valid Percent	Cumulative Percent
Less than Rs.1250 (EWS)	22	7.3	7.3
Rs. 1250-2650 (LIG)	122	40.7	48.0
Rs. 2650-4450 (MIG)	92	30.7	78.7
Above Rs. 4450 (HIG)	57	19.0	97.7
No income	1	0.3	98.0
No response	6	2.0	100.0
	-----	-----	-----
	Total	300	100.0

The response of the interviewees reveal that the majority of them are low income households (see Table 6.7) followed by middle and high income groups. It is also to be noticed that the proportion of the lowest income group (Economically Weaker Section) is

very low. Very little evidence has been obtained to support the belief that higher entry prices charged by informal subdividers exclude some of the lowest income groups causing a shift in the nature of social groups entering into such settlements (Durand-Lasserve, 1987; Thirkell, 1995:9). However, the presence of a large number of substandard squatter settlements suggests that most of the lowest income groups may have been accommodated in squatter areas (Basu, 1988; Ali, 1990; SPA, 1994).

This research finding agrees with prior research findings that the somewhat better-off amongst the poor (low income group) enter unauthorised subdivisions (Thirkell, 1995:9; Baken, 1990:15). This may be due to the peripheral location of their settlements which involve large transport and service costs (Baken, 1990:15). Nevertheless, property agents and presidents of unauthorised colonies feel that in the beginning most informal plots are bought by low income labourers, but later they are occupied by middle and high income groups due to increasing land prices in the informal market. This needs to be explored in a separate research.

Table 6.8 shows that the unauthorised colonies of Delhi accommodate people engaged in a wide variety of employment, including public and private sector workers and self-employed business people. Among them, self-employed business people form a large number (45%) due to the possibility of establishing their own business-cum-residence at cheaper prices. However, it is noticed in most of the unauthorised colonies that households group according to their place of origin. Colonies such as Budh Vihar and Soinia Vihar accommodate more people from Uttar Pradesh than other neighbouring states such as Haryana, Bihar and Rajasthan. It is also noticed that colonies such as Mitnagar accommodate more residents working for the Delhi Transport Corporation and the Delhi Police, and Punjabi Basti in central Delhi and Joshi colony in eastern Delhi accommodate most of the residents working in the neighbouring industrial areas such as Anand Parbat and NOIDA respectively. Therefore, unauthorised colonies in Delhi have established themselves into a status like any regular submarket which encourages socio-economic and cultural mixes. However, it is noticed that colonies such as Mustafabad accommodate more of Muslim households than others.

Table 6.8 Nature of employment of informal households

Employment category	Households	Percent	Cumulative Percent
Salaried person in government	67	22.4	22.4
Salaried person in public sector	14	4.7	27.1
Employee of private sector	70	23.4	50.5
Own private enterprises	134	44.8	95.3
Other	11	3.7	99.0
No employment	1	0.3	99.3
No response	2	0.7	100
Total	299	100	

6.4.4.2. Unauthorised Development Typologies⁴

Although it is difficult to categorise the typologies of unauthorised developments in Delhi, they can be grouped into four major types. They vary in terms of their legal status, prevalent plot sizes, income group and built up structures existing in the colony (see Table 6.9 and Figure 6.3). The major groups found in this study are:-

(1) **Substandard unauthorised subdivisions** consisting more of semi-pukka (semi-permanent) constructions, small plot sizes and accommodating economically weaker section and low income group households mostly. These markets include subdivisions on public acquired land or land earmarked for Master Plan roads and public services (example: Budh Vihar phase II, Ashok Nagar, Sangam Vihar). Colonies such as Jeevan Park and Punjabi Colony have similar characteristics but accommodate a large number of the low income group (43% and 70% respectively).

(2) **Standard unauthorised colonies** that are similar to the standard of formal housing and accommodate most of the middle and high income groups. Most of the unauthorised colonies (about 75%) accommodate only permanent structures and 90% of the surveyed plots consist of permanent constructions. Although all colonies accommodate all income groups, some of the colonies such as Sainik Nagar, Patel Garden and Vikas Nagar accommodate more people from the middle and high income groups.

(3) **Farms** of huge plot sizes, occupied by mostly the rich industrial and political elites. Almost 100% of them are high income and the majority of them belong to the highest income group. The Times of India (4.11.90) states that the Sainik farms, in a supposedly rural part of the Union Territory of Delhi, have become country retreats of the rich. Land there currently fetches an incredible Rs.100 Lakh (10 Million) per acre. It is observed that, as stated by The Sunday Times of India (21.2.93), most farm houses in the area fail to meet the stipulated minimum size for farm land mandated in the city's Master Plan (see Figure 6.3). The Hindustan Times (21.3.94) states that some of the unauthorised farm houses were owned by a senior union minister (4 bungalows) and one mango grove by former secretary to the President) and the top industrialists of Delhi have their farm houses in the colony. A large number of multinational company chief executive officers and important functionaries have rented bungalows in this colony.

(4) **Regularised previously unauthorised colonies.** These colonies accommodate a substantial number (see Table 6.9) of middle and high income households rather than low and lowest income households.

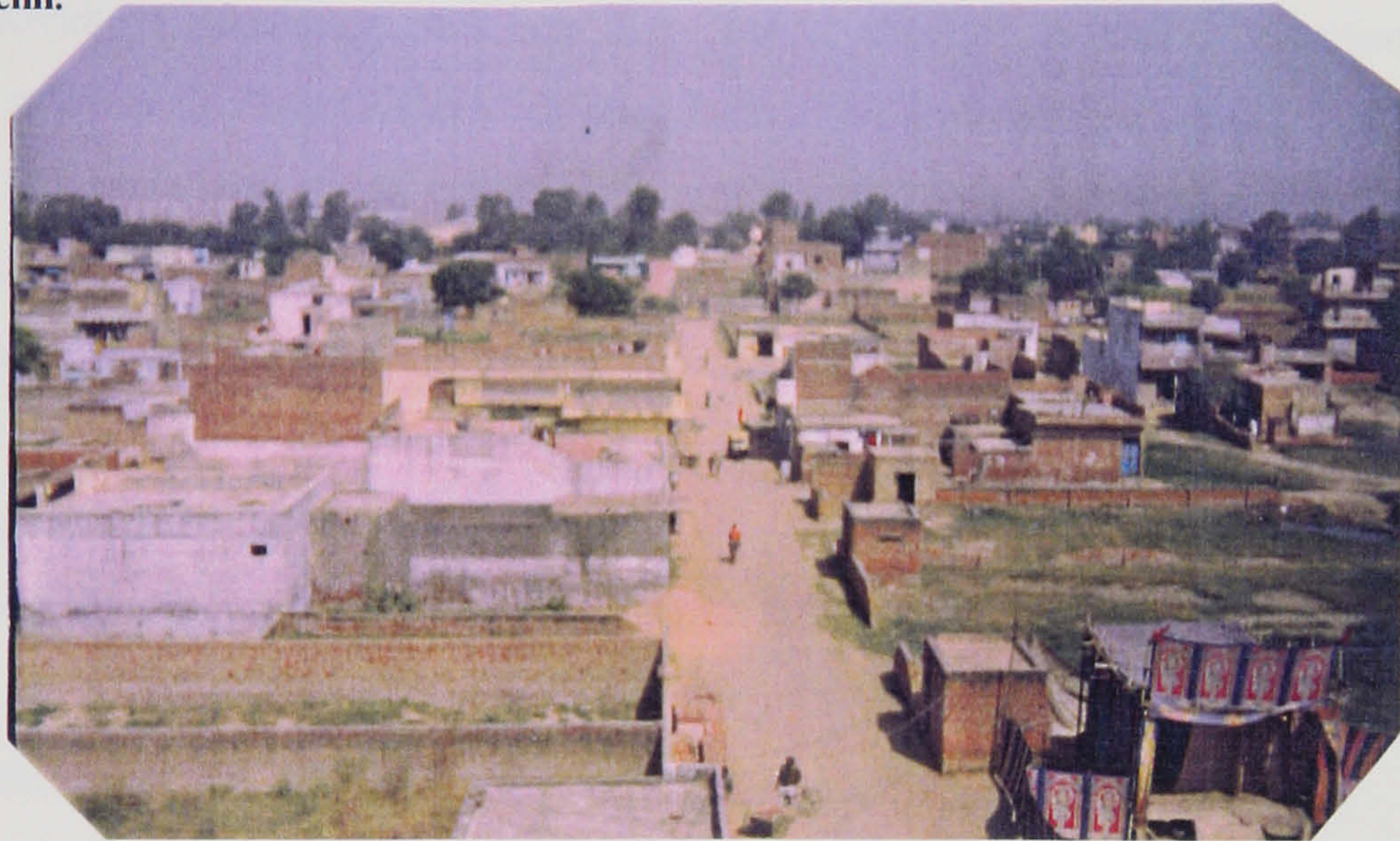
Table 6.9 Categorisation of unauthorised subdivisions in terms of representative household income group (approximate % worked out from field data)

Income Group	Substandard	Standard	Previously Regularised	Farm-houses
EWS	30%	10%	6%	-
LIG	50%	30%	36%	-
MIG	10%	40%	24%	-
HIG	10%	20%	30%	100%

Figure 6.3. House structures and plot sizes in unauthorised developments in Delhi



Picture above shows substandard type of unauthorised developments adjacent to Sonia Vihar, East Delhi.



Picture above shows standard type of unauthorised developments at Yadav Nagar, North Delhi.



Picture above shows high standard unauthorised developments at Sainik Farm, South Delhi

6.4.5. Methods And Process Of Unauthorised Land Developments And Causes Of Their Existence

Although the unauthorised developments of Delhi are dissimilar to the planned mass invasions of Lima, they are to some extent similar to the pirate subdivisions of Bogota where large tracts of inexpensive periphery land have been legally purchased, subdivided with few public utilities (bulldozed streets and a few water standpipes and sold by entrepreneurs (UNCHS, undated) and *eijdo* land transfers of Mexico City where informal transfers are taking place since 1940 in the form of purchase of community lands (Ward, 1985).

This research observed that private colonisers are subdividing and selling farmland without providing community facilities. The current situation is similar to what was happening prior to implementation of large-scale land policy but there are cases in which colonisers allocated space for essential community facilities and master plan roads. Although unauthorised subdivisions in a large number of colonies commenced in as early as 1970, the intensive subdivision and resale of plots started in the early 1980's coinciding with three successive announcements made in 1977, 1978 and 1982, regularising all unauthorised colonies in Delhi (Gupta, 1985:108; DDA, 1984). Colonies such as Sangam Vihar (South Delhi) notified in 1984 were subdivided soon after in 1986 due to expected regularisation. They also came up around urban villages (within municipal limits) and villages in the rural Delhi (outside municipal limits).

6.4.5.1. Methods And Processes Of Unauthorised Land Developments

Informal Land Acquisitions In Delhi

The informal land acquisition in Delhi is similar to a few other methods as observed by Gilbert and Ward (1985) in Valencia, Mexico City and Bogota where most of the land is purchased beyond the limits of conventional, legalised housing areas. In fact, in Delhi, there are three patterns of land acquisitions observed:-

In the first pattern land is not at all acquired, instead farmers themselves or in association with colonisers demarcate it into different sizes of plots, which are sold and sell them to potential customers who are known to them or introduced by other plot owners.

In this pattern a subdivider first constructs his little office, and if required employs few socially influential staff to look after the sales. This office is later converted into property agents office which deals with second hand sales as well as new subdivisions around that area. In this pattern, a power of attorney signed by the land owner is supplied as land title. This pattern is noticed in the Budh Vihar (North West Delhi) and Uttam Nagar (West Delhi) area.

The second pattern is informal land acquisition made by a coloniser, who is a politically or socially influential person, or financier in that locality and has sufficient sources of funds to acquire land. Then the coloniser buys land from farmers with or without paying land acquisition cost but a contract is signed between land owner and coloniser. Later, the coloniser subdivides the land into different sizes of plots, and sells them to customers who are known to him or introduced by his friends, plot owners and relatives.

In the third pattern, property agents/dealers/brokers buy plots from coloniser and/or land owning farmer and then sell them to customers who visit their office, or arrange meeting between buyers and sellers. In this pattern, it is also noticed that some of the private individual buy large plots when there are cheap and then subdivide them into smaller plots when the price increases.

Patterns two and three are similar to Bogota's case where the poor purchase lots lacking planning permission from subdividers (land which normally belong to or is in the process of being purchased by the subdivider) and the tenure offered to the purchaser is not secure (Doebele (1975) in Payne, 1988). However, in Delhi, the power of attorney supplied by subdividers entitles them to register their purchase and sell in land registry court as transfer of power of attorney of property and this is a valid document in the absence of a sale deed.⁵

Plot Size And Standards Of Unauthorised Land In Delhi

Payne (1988) noted that pirates in Bogota comprise small plots (local standards). But, in Mexico, ejido settlers are able to obtain adequate sized plots with acceptable levels of security and expectation of infrastructure provision in the reasonable future (Payne, 1988). In Delhi, on the other hand, unauthorised plot sizes vary between 8 and 836 square metres.

The most prevalent plot sizes (see Chart 7.1) are 42 square metres constituting 15% of plots, 84 square metres constituting about 23% of plots and 167 square metres that constituting about 11%. It is observed that the smallest plots (10-20 square metres) are exclusive commercial shops (such as paramedical and drug stores) run by self-employed entrepreneurs who live in another plot in the same colony or in a nearby colony.

The predominant categories of plot sizes varied from colony to colony depending upon the majority income of the colony and age of the colony. The colonies such as part of Punjabi Basti and part of Mit Nagar constitute residential plots of a minimum of 21 square metres to a maximum of 167 square metres. There are many large plots reported to be owned by financiers and speculators, still lying vacant in many new colonies surveyed.

The interesting feature noticed in unauthorised plot sizes is the large size of plots obtained at cheaper prices. As shown in Table 6.10 about 40% of households obtained larger sizes of plots equivalent to formal plots that were not allocated to low and middle income groups. Rather formal plots of these sizes were auctioned to high income category and/or allocated to landowners whose land was acquired for public land supply. Unauthorised land developments have provided wide options in regard to plot sizes and provided flexibility to obtain the size of plot that suits family structure rather than trying to accommodate families with the formal plot sizes provided by the DDA.

Table 6.10 Category of unauthorised plot sizes equivalent to recent formal categories promoted by the DDA

Plot Category (Square metres)	Equivalent Formal	Plots	Percent	Cumulative
				Percent
8-27	EWS	15	5.0	5.0
28-33	LIG I	4	1.3	6.4
34-48	LIG II	52	17.4	23.7
49-60	MIG I	18	6.0	29.8
61-90	MIG II	89	29.8	59.5
91-125	-	30	10.0	69.6
126-151	HIG	8	2.7	72.2
Above 152	Alternative	83	27.8	100.0
		-----	-----	-----
Total		299	100.0	100.0

Essential Services And Infrastructure

The major source of water supply in unauthorised plots is the occupiers' own private hand pump installed in their plot. As shown in the Table 6.11, 53% of households depend upon this source, followed by about 14% who rely on public municipal supply (either common municipal water points or municipal mobile water tankers, individual municipal supply (13%) and public hand (deep bore well) pumps (8%). However, about 14% in the past and 5% presently depend upon neighbours and purchase water from other sources. The situation was almost similar at the time of buying the plot. There are some households who have access to both public municipal supply and own private hand pumps. This condition is somewhat different in new subdivisions in which most of them have to depend upon their own private shallow hand pumps or near by public hand pumps or public municipal supply.

Table 6.11. Sources of water supply to unauthorised plots

Source of water supply	Responses
Individual Municipal Supply	38 (12.6)
Public Municipal Supply	42 (14.0)
Bore well	2 (0.6)
Public hand pump	21 (7.0)
Own hand pump	159 (53.0)
Mobile Tanks	0 (0)
Individual municipal & own hand pump	1 (0.3)
Public Municipal & Own hand pump	22 (7.3)
Public and Own hand pumps	1 (0.3)
None	14 (4.6)

Note: Figures in parenthesis shows percentage to total number of responses of sources reported by households.

The response of interviewees shows that about 49% of households use illegally-tapped electricity from overhead lines of Delhi Electricity Supply Undertaking. About 24% admitted that they are surviving without electricity (Table 6.12).

Table 6.12 Sources of electricity for unauthorised plots

Type of source	Plots	Percentage
DESU supply	61	20.3
Illegal arrangements	148	49.3
Generator	18	6.0
No electricity	73	24.3
	-----	-----
Total	300	100.0

Most households of unauthorised plots (81%) use their own septic tank toilets and the rest use open space or vacant plots for defecation. No sewer and drainage exist in the surveyed unauthorised plots except a negligible number of open municipal sewer (0.7%) and make shift drains (1%) and most of them drain their waste water into the streets. Figure 6.4 shows the physical condition of some of the unauthorised colonies.

It was observed that plots are mostly demarcated in the form of straight lines and some form of uniform space is left for main streets and service lanes. In some colonies roads are levelled through their residential welfare association/group action but in many colonies properly built roads do not exist. In most colonies, main roads/streets (in some colonies wide streets in the inner area) are converted into commercial streets all along the colony and accommodate commercial shops and commercial-cum-residential houses.

The DDA (1979) is right in describing them as mere conglomeration of houses built by individual plot holders at different sites. Gupta (1985) notes that most of these unauthorised colonies are constructed on undeveloped or semi-developed land with hardly any provision for roads, drains, and other civic and community facilities. Because most of these colonies are located around formal developments and urban limits, they do not have proper transport, health, educational facilities.

Figure 6.4. Physical and aesthetic condition of unauthorised housing land developments in Delhi



Picture above shows poor condition of drainage and water logging in a new unauthorised colony



Picture above shows poor condition, water logging and uncleanliness in a regularised colony

Unauthorised developments depend mostly upon neighbouring formal and/or regularised colonies for social infrastructure and community services. Some residents have complained that government schools located in nearby formal colonies refused to provide admission to children living in unauthorised colonies. However, it was noticed during field work that there are some private schools; and some doctors running private medical practices. It is observed that the majority of households feel that essential services such as shopping complex, bus stop and school are close enough to their residence (Table 6.13). Therefore, the non-availability of services and community facilities did not discourage households in preferring unauthorised plot sold by colonisers.

Table 6.13 Residents' attitude on availability of communal facilities

Facilities	Very near	Near	Little away	Far way
Shopping	14%	30%	32%	24%
Bus stop	17%	33%	33%	17%
School	12%	18%	22%	48%

The most prevalent Latin American feature of common electioneering technique such as an assurance of provision of infrastructure for informal settlements (Collier, 1976; Gilbert and Gugler, 1981; Thirkell, 1995) has been observed in Delhi as well. Delhi, being the capital and centre of political attraction, all political parties (ruling parties and opposition) are active in visiting unauthorised as well as squatter colonies. The issue of regularisation and provision of infrastructure to unauthorised colonies and squatters is a most powerful debating issue since the introduction of large-scale land policy in Delhi.

Consequently, it is found that about 96% households living in unauthorised plots have not been provided with essential infrastructure by colonisers. Only few households reported that there were some instances in which colonisers arranged for essential services (less than 2% of households each reported that colonisers arranged water and electricity individually, both water and electricity, and water, electricity and road). Responses of interviewees indicate that very few (10%) colonisers promised to deliver essential services such as water, electricity, road, sewer and government approval, individually and/or with other services soon after they moved in to the colony (Table 6.14). Only 2% (0.3%, 0.7%,

1% for water, water and electricity, and water, electricity and sewer respectively) reported that they were promised delivery of some essential services in due course of time in the future.

Table 6.14 Number of services promised to be delivered by colonisers

Services	Plots	Percentage
Water	1	0.3
Electricity	4	1.3
Water & electricity	12	4.0
Water, electricity & sewer	4	1.3
Water, electricity, road and Government approval	1	0.3
Water, sewer & roads	1	0.3
Water, electricity, sewer and roads	8	2.7
None	269	89.7
	-----	-----
Total	300	100.0

The situation in Delhi is to some extent similar to Karachi where informal subdividers have not provided any facilities except layout demarcation (Nientied and Linden, 1990:233-34); the majority of colonisers of Delhi have not promised to deliver services to users. One of the colonisers' statement indicates that they are proud of what they did: "*We had power to do it and we did it*", that they took advantage of the circumstances of insufficient formal land supply, large number demand for cheap land (a large part of it for cheap land without building regulations) and other favourable factors such as political patronage and misuse of law and order, etc.

6.4.5.2. Relationship Among Subdividers, Government Agencies And Agents

Prior studies conducted in other countries show that informal developments occur due to informal subdividers collaboration with government agencies and agents. Researchers noted that such things were happening in Nairobi where local administrators controlled the allocation of building rights in informal areas (Payne, 1988). In Karachi government

officials received a percentage of the sums agreed as compensation and officials and police employed regular agents to collect money on their behalf (ibid).

In Delhi too, a relationship exists between the police and informal subdividers. Colonisers admitted that they had to respond to the desires of the police officials in all stages whether beginning of subdivision or consolidation of vacant plots. However, after a series of regularisations, processes of corruption have gradually decreased and evidently only 14% of those interviewed reported that they were harassed by police and/or officials of the MCD and the DDA.

In Delhi, local government officials have no relationship with colonisers. It has been observed that some local government staff are living in unauthorised subdivisions as well but they had no connections with the colonisers. Their presence might have provided confidence to the colonisers because they would be able to watch the decisions taken by local government regarding the fate of unauthorised colonies and communicate the news to colonisers and fellow residents. This would help them to take prior action, to avoid demolitions and, if required they could seek local political leaders' help in time. There is some evidence provided by the presidents of informal residential welfare associations that bribes were paid to government officials in the form of plots. This was done in order to speed up the process of regularisation and in some cases the applications were processed only after bribes had been paid.

Researchers noted a firm understanding among political and administrative personnel, informal developers and users (Nientied and Linden in Payne (1988). Baross and Linden (1990:2) observed in Karachi commercial informal subdivision of government-owned land and informal developers identifying vacant public lands and then seeking informal government protection to subdivide them. This practice was not observed in Delhi. Rather, Delhi's experience is similar to pirates where informal agents are key to the political system (Gilbert and Gugler, 1981:112; Gilbert, 1981; Thirkell, 1995). The politicians represent a source of patronage and they negotiate with bureaucracy for planning permission and provision of services for informal developments.

In fact, the situation of Delhi is similar to the observation Payne (1988) that illegal developments are initiated by the land owner, farmer or coloniser, and later sustained by the residents through gaining political support for the provision of essential services such

as electricity, water and sewer. In this process, informal development decisions are governed by an inner network of informal connections and sources of information operating in parallel with official rules and written requirements (Benjamin, 1991:18; Jerry, 1991). It is reported by the interviewees that some of the colonisers have well connected political links and are supported by local political leaders and vice-versa. Households of Sonia Vihar, a new colony located in the East Delhi along the Yamuna river, narrate the history of that colony: land allocated to landless labourers of socially disadvantaged community was subdivided by colonisers with the support of local political leaders in that locality.

The recent situation of informal subdivisions is similar to what the Hindustan Times stated (20.2.94): “*political parties in Delhi have been patronising their vote banks in slums, squatter areas and unauthorised residential colonies only with the hope that during elections, they could get political dividends*”. As the population increases in unauthorised colonies, they become potential vote bank for the local politicians. It is because of mutual interaction emerging in the form of “*reciprocal advantage*” between unauthorised households and political leaders. The advantage is “*reciprocal*”; I mean reciprocal advantage because politicians look on the informal households as their potential voters and informal residents consider the politicians as their supporters who would be able to stop legal demolition of their residences.

This “*reciprocal advantage*” benefits informal households mostly, and, on their behalf, colonisers, property dealers/agents and land owning farmers. So far not many demolitions have taken place in unauthorised colonies due to what Misra (1991:38) describes as the effect of political clout and the non-coordination among various government agencies involved in development and administration of Delhi. In fact, this advantage exists without intimate links between the actors of unauthorised subdivisions and political leaders. Most of the households (Table 6.15) and land owners interviewed reported that they had not received any help or support from others.

Researchers (among them Serageldin, 1990:2; Doebele, 1994:48) noted that the phenomenon of illegal subdivisions developed into a pre-planned and a highly lucrative business of specialised agents, bringing together other kin's groups (lawyers, brokers, land officials, court clerks, local civic and political leaders). This research observed that the

increased commercialisation of informal developments and their enhanced opportunities of profit making caused by series of regularisations have encouraged large-scale illegal activity. Lack of significant changes in the rules of formal property business sector and the government's negligence to recognise the crucial role played by property agents/brokers have widened the scope for illegal sales. Ultimately, this resale market of a large number of agents operating illegally in the land market and this market have fallen under the control of informal agents who operate for profit but are not subjected to the constraints of the formal sector. Similar circumstances were observed by Durand-Lasserve (1987:332) and Thirkell (1995:7).

Table 6.15. Sources of help to unauthorised households

Sources of help	Responses	Percentage
		Response
Property dealer	87	28.6
Government staff	3	1.0
Coloniser	8	2.6
Politicians	4	1.3
Local leaders	3	1.0
NGO's	2	0.7
Neighbours and relatives	5	1.6
None	192	63.2
	-----	-----
Total	304	100.0

6.4.5.3. Migration And Increased Subdivisions

Studies noted that a large demand for land is generated by a steady growth of population caused by unexpected migration (Srinivas, 1995:66; Jerry, 1991:4). Unexpected additional in-migration contributed by political rallies that invite people from the country side and urban employment opportunities that attract a large number of unskilled and/or semi-skilled labours believed to have exasperated the situation. The government's inability to meet this unprecedented demand by formal sector land and housing programmes is a reason for the creation of informal settlements (ibid). Illegal developments began in Karachi soon after partition in 1947 as a result of the influx of refugees from India (Schoorl, Linden and Yap in Payne (1988). It is argued that in Delhi too a massive

population influx resulted from the partition generating a big demand for both land and housing (Jerry, 1991). This seems to have led to the growth of unauthorised colonies and squatter areas on a large scale in Delhi (Basu, 1988:103; Ali, 1995:73).

Among the interviewed residing on unauthorised land, about 77% stated that they arrived from neighbouring states including Pakistan (Table 6.16). A majority migrated from Uttar Pradesh followed by Haryana, Punjab and other states. Most acquired unauthorised plots after a considerable period of stay (more than 5 years) in Delhi (see Table 7.1) and were eligible to obtain housing land allocated by the DDA. A majority of them are employed in the public and private sectors and not many are working outside Delhi. Exceptionally, few interviewees reported to be working in neighbouring cities located in Haryana and Uttar Pradesh (New Okhala Industrial Development Authority).

This implies that the process of regularisation of unauthorised colonies and resettlement of informal squatters could have attracted these households. Table 6.17 shows that a majority stated to have arrived after the second phase of regularisation in 1969. A substantial number (about 50%) stated that they arrived after the third phase of regularisation in 1977. This indicates the possibility of large-scale land development and regularisation of unauthorised colonies creating employment opportunities in public and private, and/or self-employed sectors and in turn encouraging additional migration. This needs further research and empirical testing.

Table 6.16 State of origin of households residing on unauthorised plots

State born	Households	Percent
Delhi	69	23.0
Bihar	7	2.3
Haryana	53	17.7
Himachal Pradesh	7	2.3
Madhya Pradesh	1	0.3
Punjab	19	6.3
Kerala	1	0.3
Rajasthan	13	4.3
Uttar Pradesh	125	41.7
West Bengal	1	0.3
Pakistan	4	1.3
	-----	-----
Total	300	100.0

Table 6.17 Period of arrival of unauthorised households

Period of arrival	Households	Percent	Cumulative
			Percent
Arrived before 1962 Master Plan	30	13.0	13.0
Arrived after 1st regularisation, 1962	16	7.0	20.0
Arrived after 2nd regularisation, 1969	46	20.0	40.0
Arrived after 3rd regularisation, 1977	51	22.2	62.2
Arrived after 4th regularisation, 1982	87	37.8	100.0
	-----	-----	-----
Total	230	100.0	100.0

Researchers believed that factors such as insecurity in squatter settlements, and their susceptibility to demolition encourage the growth of illegal subdivisions (Basu, 1988; Blaesser, 1981). This displaced and/or affordable squatters try to squat elsewhere, or shift to unauthorised colonies or even start constructing some sort of shelter in the development areas against the Master Plan regulations. The response of those interviewed indicates that a negligible number of households (1% squatter areas and 4% unauthorised colonies) moved from unauthorised or squatter evicted sites to unauthorised plots in Delhi. This has also been contributed by a limited number of demolition drives undertaken by the government, and the users' stiff resistance to demolitions.

6.4.5.4. Actors And Agents Of Unauthorised Land Subdivisions

It is argued that although environmental conditions, land tenure and settlement formation status of informal land developments vary from city to city, the powerful land dealers take advantage of households' lack of knowledge on formal legislation and finance. Baken (1990:16) quotes from Linden that in Karachi the processes of illegal subdivision are an uneasy co-operation of various actors who transform public means into private value and each actor needs other actors to achieve this and each one of them charge a price for enabling others to benefit. Among them, politicians and high level administrators represent the state by protecting or sanctioning illegal subdivision, and the police as well as the Karachi Metropolitan Corporation personnel use their public power to receive their share. As a result, residents are exploited to transform a tract of desert land into an urban area. In

this process, governments treat the users as prime offenders rather than the subdividers who act against law (Hardoy and Satterthwaite, 1989).

Researchers suggested that more than one set of actors were involved at one or more stages in the transformation of agricultural land into urban informal residential land (Payne, 1988:58). Younder (in Payne, 1988) observed four major actor groups in Turkey: (1) land owners (who avoid responsibility for the development of their land once it is sold to the developer who is protected by his political connections); (2) land dealers; (3) single or multi-unit owners; and (4) renters. Similarly, Varley (in Payne, 1988) noted many actors in *ejido* developments in Mexico City: (1) land owners; (2) developers (speculators, initial developer or subsequent consolidator); and (3) finally the residents themselves as prime actors. In Cebu, Thirkell (1995) identified three kinds of agents: (1) farmer/caretaker; (2) organised commercial subdividers; and (3) renters of public lands.

This research observed many actors individually or in collaboration with others involved in the conversion and subdivision of acquired, notified for acquisition and fresh farming rural land into informal residential colonies. The prime actors reported to be involved in the initial subdivision of the informal land in surveyed colonies were (Table 6.18) colonisers⁶, followed by land owning farmers (who subdivide themselves alone or with coloniser, or sell their farm land to colonisers rather than to the state), property dealers, religious-based societies. Besides, some informal plot owners seem to have themselves become unregulated suppliers and property dealers (Mitra, 1987).

Table 6.18 Agents involved in unauthorised land development in Delhi

Agents	Colonies	Percent
Coloniser(developer/ financier)	26	57.8
Land owning farmer	12	26.7
Property Dealer/Agent	3	6.7
Land owning farmer and Coloniser	3	6.7
Coloniser, Property Dealer and Society	1	2.2
	-----	-----
Total	45	100.0

The informal land subdivisions and land sales have taken a different shape recently. About 36% of interviewees residing on illegal land stated that they acquired their plots from property dealers. About 34% bought from previous plot owners and the rest obtained their plots from colonisers (25%). The interesting feature of Delhi is that most 'property dealers' work on the basis of commission from both sellers and buyers and their presence is very common in DDA-developed colonies due primarily to illegal transfers. We observed during the field work that some of the colonisers have continued their job as property agents after completion of subdivision of plots in the colonies of their illegal development (also see Mitra, 1987), and in some colonies property dealers together subdivided and sold the illegal land. (also see Jerry, 1991). A large number of property dealers are involved in full time property business in Delhi. There are also some storekeepers and vendors who are involved with this informal property dealings using their personal sources within the unauthorised colonies.

The informal land development process and plot sales consist of four distinct stages and involve more than one actor at each stage. Chart 6.2 shows the different stages of informal land subdivision, development process and mode of interaction observed in Delhi. An increasing demand for informal land has created a new land market that is operated by commercial agents such as property dealers (Angel et al., 1983; Baross and Linden, 1990; Thirkell, 1995). Figure 6.4 reveals that the number of informal transactions has gradually increased over the years and most of the informal transactions have been handled by property dealers followed by informal plot owners and colonisers.

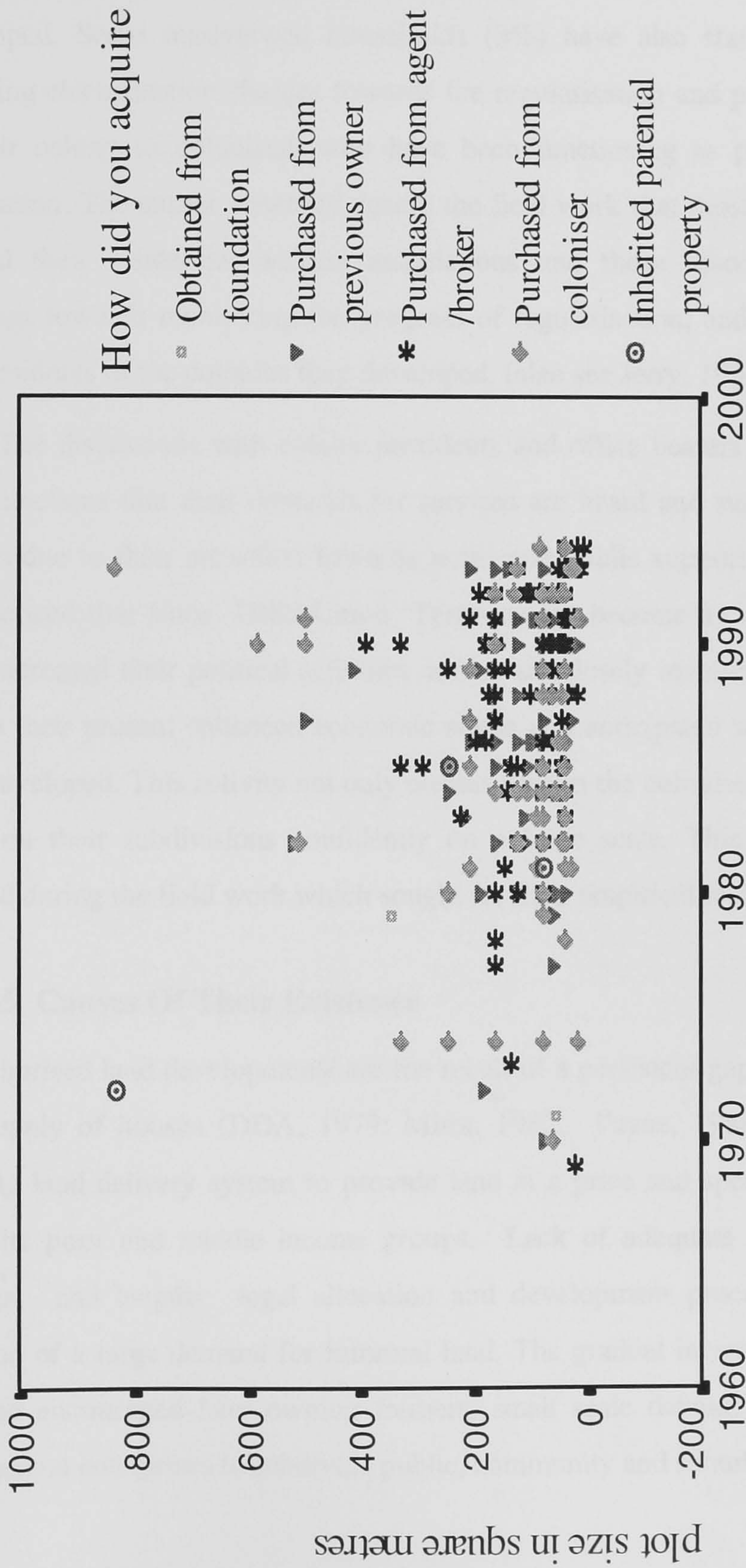
It has been argued that informal subdividers of Delhi have succeeded in reaching the down market to gain profits of 100-150%, by reducing plot sizes and land development works to a level which people could afford, by selecting sites in unobtrusive locations that reduces risks of inciting official hostility (Mitra, 1987), and by concentrating on sites not approved or zoned for urban residential development (Payne, 1988:40). Field data shows that plot sizes have not changed much; rather the number of large plots have increased during recent years (Chart 6.4). Land prices increased frequently from 1980, rising from less than Rs. 500 per square metre to above Rs. 4000 per square metre in 1994 in actual unadjusted prices (Chart 6.5). This is in spite of the colonisers' inability to provide any service.

Chart 6.2 Four stages of informal subdivision process in Delhi

Stages	Process	Actors involved	Mode of interaction
Stage I	Initial subdivisions of farmland	Land owning farmers, colonisers, property dealers and religious societies	Personal contact
Stage II	Sale of fresh informal plots and vacant plots	Land owning farmer, Coloniser and Property dealer	Personal contact, through friends and relatives and plot owners
Stage III	Construction and sale of further subdivided informal plots	Informal plot owning households	Personal contact, through friends, relatives and property dealers
Stage IV	Resales & renting	Informal households and Property dealers	Personal contact and through property dealers

Chart 6.3 Types of property dealer/agents operating land transactions in Delhi

Type of Actor	Operational Area	Type Property	Interests	Mode of Interaction	Roles	Major Occupation	Commission
Dealer	One/more colonies	Informal or formal and informal	Profit and own business	Private consultancy through own office	Dealer/broker	Initially part-time later full time depending upon demand	Up to 2% from both seller and buyer
Dealer cum Coloniser	One/more colonies	Informal and formal dealing	Profit and own business	Personal contact & own office	Developer and dealer through own staff	Full-time property dealing and financing	2% and more
Financier cum Coloniser	Part of City	Formal and informal	Profit and business	Personal contact and financing network	Developer and financier	Full time	2% and more



Year of acquiring the plot

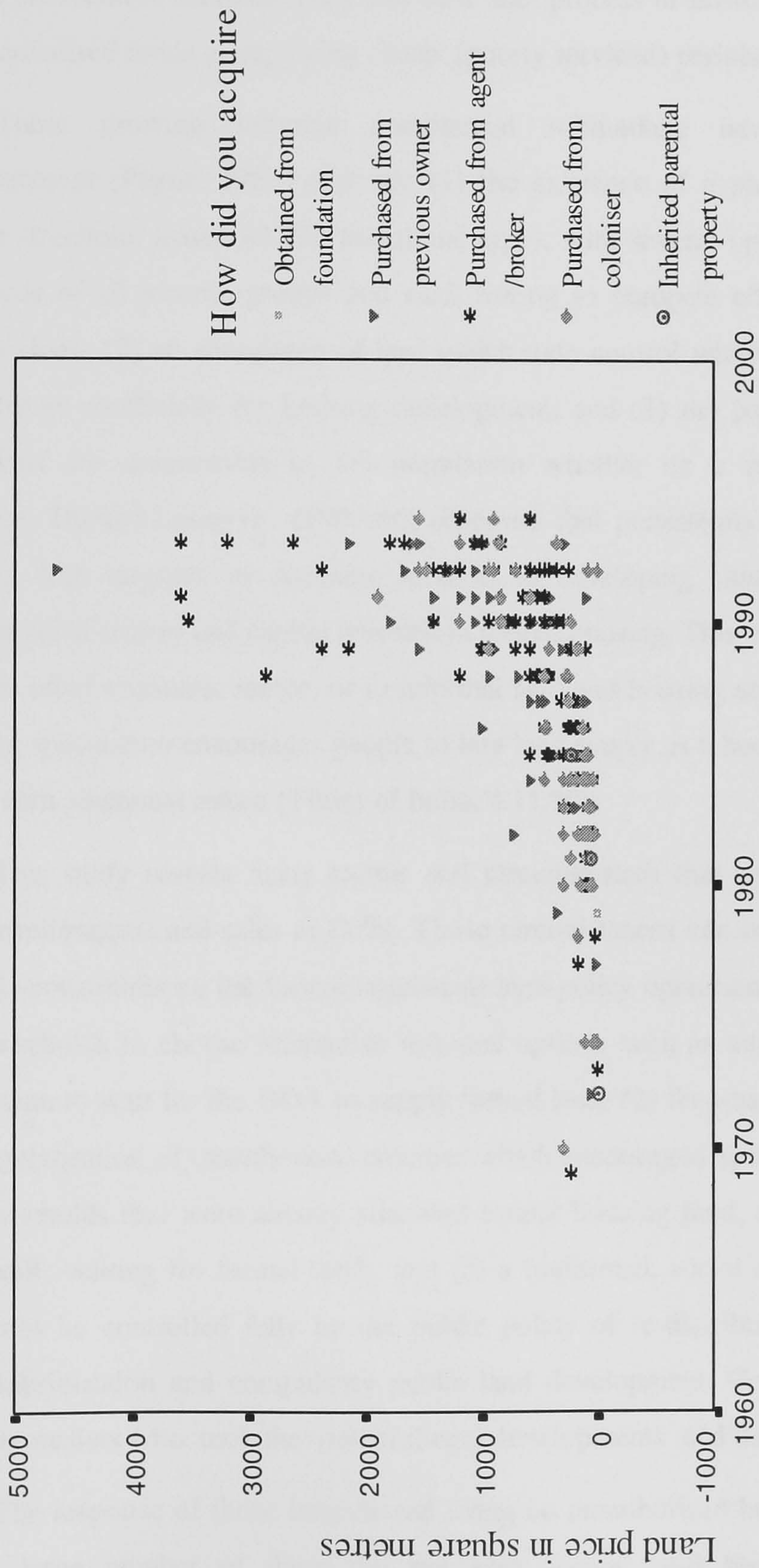
Chart 6.4 Growth pattern of year of acquisition by plot size and ways of acquisition of unauthorised land

It is believed that one of the reasons for peoples' attraction to informal plots is the confidence created by the colonisers. Some property dealers (colonisers) said that they were trying to persuade government officials and political parties to consider the provision of essential infrastructure and community facilities in the vicinity of settlements they developed. Some interviewed households (3%) have also stated that they have been remitting electrification charges towards the regularisation and provision of infrastructure in their colony to colonisers who have been functioning as president of their colony association. The author observed during the field work that most of the plot owners have formed their residential welfare associations and these associations conduct regular meetings towards monitoring the progress of regularisation, and some of the colonisers are presidents of the colonies they developed. (also see Jerry, 1991).

The discussions with colony presidents and office bearers of the associations yield new directions that their demands for services are heard and supported by local political leaders due to their attraction towards votes and public support in future elections. It is also noticed that since Delhi Union Territory has become a city state, some colonisers have increased their political activities and/or are closely involved with political activities due to their present enhanced economic status and anticipated support from the colonies they developed. This activity not only creates trust in the colonisers, but also helps them to carry on their subdivisions confidently on a large scale. This new direction has been noticed during the field work which sought for their empirical reality.

6.4.5.5. Causes Of Their Existence

Unauthorised land developments are the result of a persistent gap between formal demand and supply of houses (DDA, 1979; Mitra, 1987; Payne, 1988). Failure of the formal housing land delivery system to provide land at a price and speed to meet the needs of both the poor and middle income groups. Lack of adequate legal housing, locational choices, and lengthy legal allocation and development procedures contribute to the creation of a large demand for informal land. The gradual increase of unsatisfied housing demand encouraged land owning farmers, small scale developers and large, organised commercial enterprises to subdivide public, community and suburban private lands and sell



Year of acquiring the plot

Chart 6.5 Growth pattern of plot price by year and ways of acquisition of unauthorised land

them to those who have some savings but were not wealthy enough to invest in the formal housing land market (Thirkell, 1995). A large number of these low income households exist who in due course valorise informal land by turning them into urban use and fighting for the provision of services. They also turn the process of invasion of formal land into a commercialised mode of supplying cheap (poorly serviced) peripheral land (Baken, 1990).

These growing informal commercial submarkets have utilised favourable circumstances (Payne, 1988) such as: (1) the existence of a pluralistic housing supply market (freehold, leasehold and traditional type), with several options available to serve the needs of all income groups and each having to compete efficiently to maintain its market share; (2) an abundance of land under state control which can be made available officially or unofficially for housing development; and (3) the political context in which politicians are accountable to the population whether on a regular basis or during elections. Durand-Lasserve (1990:46) observed that persistently high levels of inflation coupled with stagnant or declining incomes in developing cities have accelerated the withdrawal of money and capital invested in formal housing. This money is then channelled towards other economic sector, or to informal land and housing sector, because prevailing rampant speculation encourages people to buy land simply as a hedge against inflation and not to earn an annual return (Times of India, 4.11.90).

This study reveals many causes and circumstances that encouraged unauthorised land developments and sales in Delhi. Those circumstances can be categorised into three sets: (1) constraints on the formal large-scale land policy operation that motivated most of the households to choose alternative informal options such as unauthorised subdivisions, rather than to wait for the DDA to supply formal land; (2) feed-back effect of the survival and regularisation of unauthorised colonies which encouraged speculative motives among the households that were already allocated formal housing land, and/or had applied, and those still waiting for formal land; and (3) a traditional, social and political set-up that could not be controlled fully by the public policy of re-distribution of wealth through cross-subsidisation and compulsory public land development. Groups of colonisers and property dealers who took the risk of illegal developments and their sales.

The response of those interviewed living on unauthorised land reveals (Table 6.19) that a large number of them did not seek formal land because of the expected

unaffordability of formal land prices (40%). Their response also indicates that inadequate quantities of formal land deliveries (27%), the unavailability of alternative formal options and choices within formal delivery (15%), and the impact of formal lease conditions of public delivery (9%) have discouraged them from applying for formal land.

Table 6.19 Reasons for not applying for formal land allotment of DDA

Reasons	Households	% Responses
Affordability and formal land prices		40.1
Inadequate income of the household	58	18.6
Expansiveness of formal land	67	21.5
Formal supply/delivery based		27.5
Illiteracy and no awareness of DDA schemes	31	9.9
Lengthy and complicated procedures	12	3.8
No DDA schemes while purchasing this plot	8	2.6
Couldn't wait longer for formal land	2	0.6
Delay in formal allotment	22	7.1
Paying bribes for formal delivery	10	3.2
Formal lease conditions (planning/building controls)		9.3
Restriction of commercial use in the premises	5	1.6
Restriction on design, expansion & construction	8	2.6
Wanted freehold land	5	1.6
Insufficient formal space standards	11	3.5
Alternative formal options and choices		14.7
Prefer low rise instead multistoried flat	6	1.9
Wanted quick accommodation on arriving in Delhi	6	1.9
Unexpected to live in Delhi	9	2.9
Not satisfied with DDA's development	15	4.8
Poor quality of construction	10	3.2
Others		8.7
Have own property	14	4.5
Awaiting staff rented flat	5	1.6
Prefer relatives and friends around	3	1.0
No faith and ignorance of DDA	5	1.6
Total	312	100

84 missing cases; 216 valid cases

The second most important circumstance emerging out of households' motivation is the continued existence of large scale unauthorised colonies and their periodical regularisation. Table 6.20 shows that about 58% of interviewees who moved from formal plots to informal plots have reported factors such as the possibility of commercial and industrial use of their informal plots, anticipated regularisation, price rise after regularisation, cheaper land prices and investment on land property as prime reasons for their informal plot purchases. However, some of these households (see Table 6.20) reported they were dissatisfied with formal plot/flat in terms of quality, planning/building controls, residential space available, and the opportunities to purchase plots close to their residences.

Household data collected from users of unauthorised land shows that about 8% were already allocated formal land by the DDA. Their response indicates the following reasons for their attraction to illegal land: restrictions for commercial use in residential land (70%); high resale market prices of formal plots (65%); small size of formal plots allotted (57%); lack of space for expansion (44%); and inadequate space for further subdivision (35%). Their presence at unauthorised colonies provides evidence for the regularisations effect on the motivations of households who are not satisfied with and/or find inaccessible public land delivery. This group includes some of the households who were already allotted formal land, households who had registered for formal land, and who later withdrew or were still waiting in the queue.

The third circumstance that motivated unauthorised subdivisions is the traditional, social and political set-up that constrained the achievement of re-distribution of wealth among the masses. This determined the active role played by informal developers and property dealers in the resale of illegal plots and the sale of fresh urban land. Although, not many households reported that they purchased the informal plots as investment against inflation (Times of India, 4.11.90) or as alternative economic investments (Durand-Lasserve, 1990:46), the field survey observed a large number of plots lying vacant in the newly developed colonies. Households and property dealers reported that most vacant plots belong to financiers who due to increasing prices of regularised plots have recently started investing in informal plots.

Table 6.20 Reasons for moving from formal registration to informal plots

Reasons	% Applied & withdrew	% Applied & still waiting	% Formal plot/flat allotted	% Total
Avenues for investment & extra income earning	60.0	49.5	67.5	58.4
Anticipated price rise	10.0	2.6	12.5	7.4
Anticipated regularisation	30.0	15.3	10.0	13.8
Commercial and industrial use	10.0	13.2	25.0	18.1
Investment in land property	-	-	2.5	2.1
Cheaper land prices	10.0	18.4	17.5	17.0
Formal lease conditions	-	-	2.5	1.1
Lease expired	-	-	2.5	1.1
Formal quality and standards	10.0	2.6	25.0	13.8
Not satisfied with formal plot/flat	-	2.6	22.5	11.7
Insufficient space in formal plots	10.0	-	2.5	2.1
Formal supply/delivery based	30.0	31.6	2.5	19.2
Urgently needed a plot	-	2.6	-	1.1
Late allocation of formal plot	10.0	5.3	-	3.2
Formal plot/flat was not provided	10.0	15.8	-	8.5
No other option available	-	2.6	-	2.1
Corruption in formal land delivery	10.0	5.3	2.5	4.3
Others	-	15.8	2.5	7.5
Close to work place	-	15.8	-	6.4
Health problems	-	-	2.5	1.1
Valid cases and (% to total surveyed)	10 (3.7)	16 (5.9)	22 (8.1)	50 (17.7)

It was also observed during the field survey that property dealers and colonisers were taking advantage of the large number of in-migrant households arriving in Delhi from the neighbourhood. They increase the demand for land and their presence in the settlement

attract political lobbying that increases the security of informal plots. However, the unauthorised developments of Delhi are unlike Karachi's where residents are exploited to transform a tract of desert land into an urban area by some of them being given plots free of cost (Nientied and Linden, 1990:234). What is happening in Delhi is the existence of informal developments that attract people to own a large size of unplanned and un-serviced plot, instead of a small planned and serviced plot. This phenomenon has encouraged colonisers to carry on their business confidently. These agents have utilised the opportunities of inadequate delivery of formal land supply, the abundance of agricultural land within the Delhi area, and a political context in which politicians are accountable to the population.

6.4.5.6 Effects Of The Sustained Existence And Regularisation Of Unauthorised Land Developments

Regularisation of unauthorised subdivisions in Delhi is not a unique phenomenon. In Bogota, a three stage programme has apparently been undertaken that consists of upgrading settlements with basic services, legalising and granting titles and finally providing full infrastructure (Gilbert and Ward, 1985). The DDA (1984:131) defined regularisation in Delhi as preparation, finalisation and approval of layout plan. Land acquired according to that plan required facilities and the development included the laying of infrastructure, the construction of roads, community facilities, the conversion from freehold to leasehold system, the collection of development charges, the sanction of building plans and finally the protection of land from further encroachments.

However, it is argued that the flexibility of the informal market coupled with widespread availability of other options (Thirkell, 1995:9) and periodical regularisation and provision of services in informal settlements have accelerated the growth of unauthorised settlements (Mitra, 1987). They encouraged better-off families to opt for informal means (Thirkell, 1995:9). This study observed that the existence and regularisation increased the growth of new unauthorised subdivisions and promoted haphazard plot occupation of land without essential services (Chart 6.6).

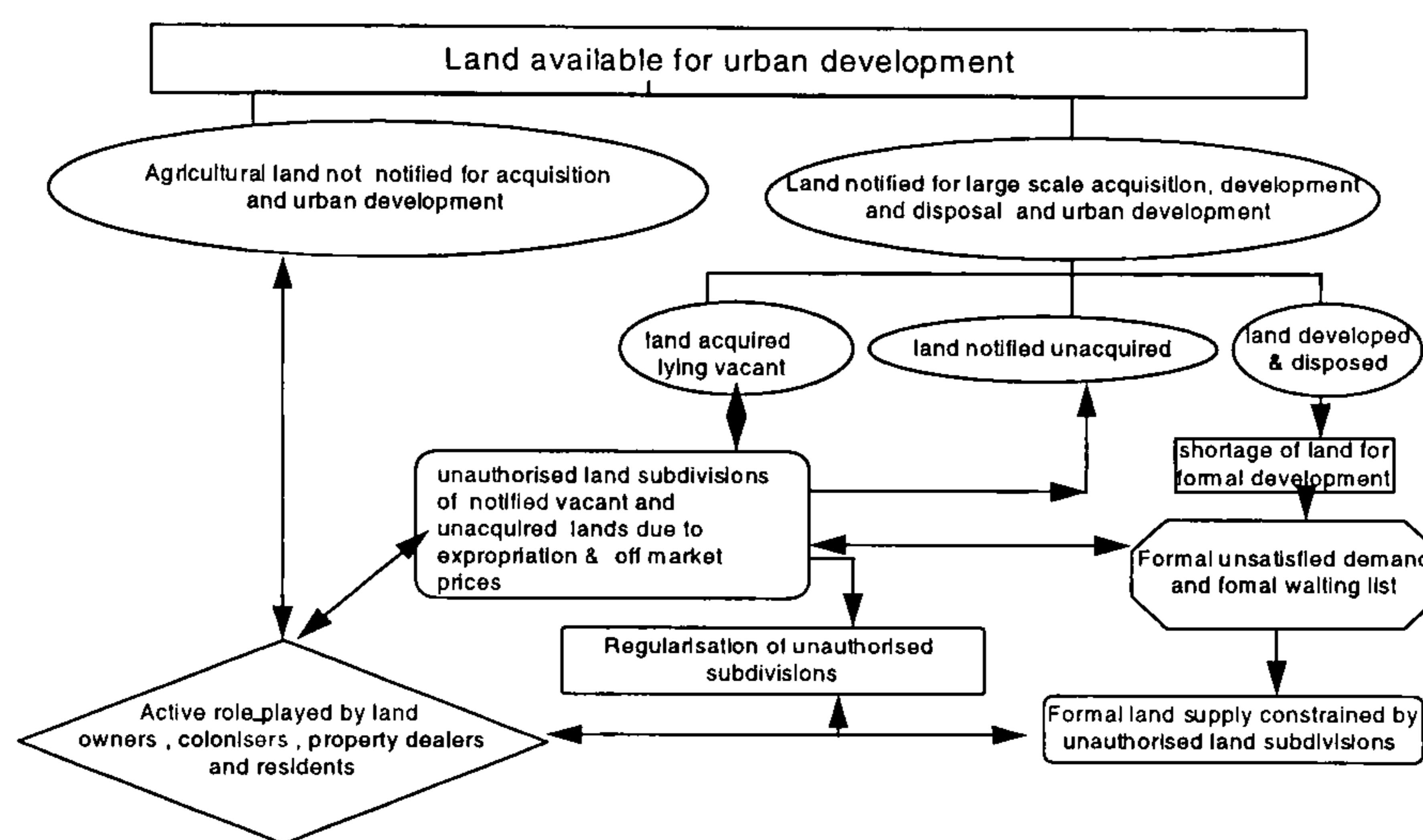
The logic leading to the conclusion that regularisation increased the growth of new developments is as follows:

1. The nucleus of unauthorised developments in Delhi had already formed before the first Master Plan in 1962 which earmarked large area to be acquired by the large-scale public policy (Jerry, 1991).
2. Low rates of compensation awards, and the prolonged delay in declaring the awards of compensation created resistance against the public expropriation of land, and motivated the landowners to subdivide their land illegally, and/or sell it for higher prices to colonisers before notification.
3. Regularised unauthorised colonies and fresh developments emerged against the expropriation policy constraining the acquisition of sufficient amount of land notified for formal development. It, in retrospect, created scarcity of land for proposed large-scale formal developments and disposal of land for planned uses.
4. In turn, the scarcity of land for formal proposed planned development reduced the amount of formal supply and created unsatisfied demand by delaying the supply to a large number of registered household demand.
5. Prolonged waiting for formal registered land, and an already existing sustained unauthorised land market attracted formally registered as well as unregistered household demand to unauthorised submarket. They were further encouraged by additional advantages from inapplicable planning, building controls, and accessibility to large plot sizes at cheaper prices. Opportunities for self-employment and extra-income earning through commercial cum residential use of premises, subdivision of plots during price rise, and other flexibilities have provided with resistance against government action.
6. The demand for informal land increased due to inadequate quantities of formal land supply at a quick phase, and the unavailability of formal modes of land supply attracted a large number of informal agents (such as farmers, colonisers, property dealers). This informal demand resulted from the inadequate formal supply and sympathetically gained informal support from local leaders, political parties and local administrative personnel.
7. The policy of regularisation of unauthorised units and the provision of essential infrastructure on them encouraged higher income demand for commercial use and investment on informal land.

8. The commencement of regularisation further restricted the formal supply by reducing the available land for formal land developments and consequently an unauthorised land market became well established.

Chart 6.6 Feed back effect created by the regularisation of unauthorised land developments

Feed back effect of regularisation of unauthorised land subdivisions



Although logically, most unauthorised land supply went to the unsatisfied formal supply, it did not ensure proper density standards, prescribed plot size and appropriate land use in accordance with policy. The actual informal supply is composed largely of low density, single owner occupied spacious plots without proper avenues for the provision of infrastructure (see Figures 6.3 and 6.4). Had it obtained this land, the DDA could have developed it with plots or flats at higher densities with proper services and it would have met the needs of a larger number of households than the present situation. The supporting researchers' belief is that regularisation of illegal development has functioned as a green light for large-scale informal developments in Delhi. This has expanded the potential for the commercialisation of informal developments on a massive scale, causing a great difficulty to the DDA in carrying out its public policy of large-scale planned development.

6.5. CONCLUSION

It is observed in this Chapter that informal settlements exist in substantial numbers in Delhi. Three types of informal settlements can be distinguished: squatter settlements, unauthorised or illegal developments, and unauthorised building constructions that emerged under the operation of the large-scale public land policy.

Squatter areas contain substandard living units occupied mostly by the economically weaker section of the population. These people are very poor and cannot afford to invest in land and standard housing unit due to their lack of earning capacity and savings. Therefore, they encroach on government and empty or private land. It is observed that the number of these squatters is increasing in spite of the formal relocation of a large number of them by the local governments and the efforts taken by the Slum Clearance Wing and Delhi Development Authority to include this group in the formal land allotment schemes. The reason for their increase in number is observed to be the constant growth of the economically weaker sections and low income households caused by in-migration of the rural mass from mostly neighbouring states besides natural growth. Definitely, an empirical investigation about their existence and the large-scale public land policy's contribution towards their increase in large number would have been interesting. But a detailed empirical field work could not be undertaken because of time constraints.

Unauthorised constructions are violations carried out against the building permits, most often for commercial reasons or adding extra space to existing approved residential units. It is observed that under the operation of large-scale built-flat allotment schemes of government, a large number of flats or rooms in the flats are converted into commercial units. The phenomenon of conversion of serviced formal plots (partly or fully) into commercial buildings and the selling of the ground floor space (without roof) for commercial shops along main roads was observed in the Rohini formal plotted scheme. A similar phenomenon is seen on a large-scale in previously unauthorised colonies which have been regularised. The reasons for their existence and growth seem to be the lack of political and bureaucratic commitment that relaxes the enforcement of laws to promote planned development, and the prevailing corruption of the plan approval process that gives rise to a lack of monitoring and enforcement. This condition is almost the same in

all segments of the formal housing land market: freehold, leasehold, regularised unauthorised and demarcated urban area of villages.

The third and largest type of informal settlement in Delhi is the unauthorised land developments. It is observed that unauthorised developments commenced before the operation of the large-scale public land policy, which was designed to curb these unauthorised settlements. Interestingly, these unauthorised developments accommodate a larger number of low (41%), middle (31%) and high income (19%) groups than economically weaker sections (7%) and most of these households are engaged in their own self-employed private enterprises (45%). Most of these settlements are located on former agricultural land and/or have sprung up on lands notified for acquisition or already acquired vacant lands with the support of a variety of actors. Furthermore, after three regularisation drives, they grow by the active commercial roles played by landowners, colonisers and property dealers.

The analysis concludes that insufficient quantities of supply of formal affordable housing land compared to its demand have encouraged the housing aspirants to opt for unauthorised and/or illegally transferred land. The responses of the interviewed indicate that the ineffective expropriation law has attracted landowners' stiff resistance. Landowners took advantage of the ineffective compulsory acquisition policy to enhance their profits by illegal subdivision of transfers to informal developers and/or individuals. This process affected the acquisition and assembly of adequate land for public development and constrained the public allocation. As a result, public land delivery accumulated a large unsatisfied registered as well as unregistered demands. The unsatisfied demand later exploited by the active role played by informal developers to promote the un-serviced illegal subdivisions quickly with varying standards and flexible norms, conditions and payments.

A large number of households liked to take the risk of buying these illegal plots because they were affordable according to their earning capacity, quicker than formal deliveries, cheaper and they imposed no regulation, norms, condition and procedures. This illegal land also provided extra income to some households and especially to self-employed business aspirants who felt that the DDA prices were higher than what they could afford. Furthermore, the cheaply-priced large plots are equivalent to the standards of higher

income group formal auctioned plots; unenforced planning and building controls attracted different fractions of households. Confidence gained from the initial regularisation of previously unauthorised areas, and the possibilities of obtaining infrastructure to them have also attracted households who were already allocated, had applied, and were waiting for formal land. The feeling that little attention is being paid by all political parties and the opportunity of owning a home within the city limits have attracted a large number of households to opt for illegal land supplied with the owner initiated minimal essential services. Their responses indicate that most depended upon the community services available in the neighbouring formal and/or regularised settlements.

It is observed in this Chapter that some characteristics of Delhi's informal settlements and their development processes are similar to the experiences of other informal settlements world wide. However, the unique condition that is peculiar to Delhi is the operation of the large-scale public land acquisition, development and disposal policy that gave the DDA a monopoly hold on the formal land supply. Some of the other conditions that contributed to illegal developments are the slow action of the government to effectuate land laws, the lack of adequate institutional capacity for independent policy implementation. The availability of large amounts of agricultural land within the city-state territory, and the constant migration that adds large numbers to household demand have contributed positively to illegal developments. The active role played by land owners, colonisers, property dealers and informal households themselves, and the socio-economic set up of the households make the situation in Delhi different from that of other developing cities.

Endnotes of Chapter 6

¹ They are called Jhuggi-Jhonpri clusters in Delhi.

² DDA (1984:11) categorised four types of unauthorised constructions: (1) squatter clusters; substandard initially temporary and later established as permanent shelters that accommodate migrant labours; (2) unauthorised and informal markets - unauthorised construction of shops, building materials and eatables areas around the vicinity of new colonies turned to established market; (3) small additions in built-up structures; additions in the shape of one room on the terrace (*barsati*) covering of court-yard and minor alterations in set backs; and (4) unauthorised colonies (subdivisions).

³ This type informal developments are called unauthorised colonies in Delhi: a settlement consisting many houses or plots.

⁴ DDA (1984:13-14) subcategorises unauthorised colonies into ten:- (1) good colonies: those are good in terms of road width, available quantity and quality of infrastructure and services ex. Sant Nagar, Hari Nagar, Shiv Nagar and Virender Nagar; (2) poor colonies: those have inadequate width of roads and do not have infrastructure and community facilities ex. Gobindpuri, Gondha and parts of trans-yamuna area; (3) poorest colonies: those have plots sizes less than 21 Sqm, 3 metre roads and designated as slums, ex. Bapa Nagar, Amrit Kaur Puri, Gobind Garh, Khalsa Nagar, Khazan Basti, etc.; (4) colonies in slum designated areas: those are better than category three; (5) colonies on public land: mostly on trans-yamuna area; (6) large colonies in agricultural green belt and look like medium towns ex. palam complex, nangloi jat extension; (7) very small colonies with less than 30% built up structures in agricultural green belt; (8) colonies existing since 1977 but has less than 40% built structures, ex. Chajjupur, Kabir Nagar, Sanjay Nagar, Mohinder Park, etc.; (9) independent names or extension of old colonies ex. Harijan Basti, Ashok Nagar, Ganesh Nagar south, Pandev Nagar block, Joshi Mohalla, Mandavalli Block-c, Vinod Nagar Block- a,d &e, New Ashok Nagar and Farooqi enclave; and (10) colonies came up on land allocated for cooperative housebuilding societies, ex. Krishan Kunj, East Guru Angad Nagar and Part of gagan Vihar in trans-yamuna area. Mishra(1991) Classifies land transactions in Delhi in to four broad Categories: (1) public land; (2) private lands; and (3) speculators and land grabbers and further sub classified them in to formal and informal of commercial and non commercial nature.

⁵ DDA (1984:3), In June 1972, the government enforced the Delhi Lands (restrictions on transfer) Act to ban sale of land notified for acquisition as unauthorised builders advanced the plea that they were duped by the colonisers to get their sale deeds registered. Since then, under the provision of the aforesaid act, the notified land continued to change hands through 'Power of Attorney' which helped unauthorised builders to prevent speedy action being taken against them by resorting to the civil and obtaining stay orders. 'Power Of Attorney' has right to use tenure status done through the official legal provision and the transaction under this remains valid until either party revokes it, and in case of sale of formal leased land, seller has to surrender 50% of the unearned increased price to the government (Misra, 1991:21).

⁶ Coloniser is a developer and/or financier who subdivide plots and develop a settlement in the form of a colony.

Chapter 7

EFFECTS OF LARGE-SCALE PUBLIC LAND ACQUISITION, DEVELOPMENT AND DISPOSAL POLICIES AND THEIR IMPACT ON CREATION OF UNAUTHORISED LAND DEVELOPMENTS

7.1. PREAMBLE

This Chapter examines the effects of policies of large-scale land acquisition, development and disposal scheme in Delhi (DDA) on the creation of unauthorised housing land developments. The prime reasons for unauthorised settlement, and the ways in which the large-scale public policy affects settlers are analysed from field data yielded by households and property agents.

This Chapter uses three sources of data: primary data from the informants themselves; office records; and secondary sources. The data was collected from office records (such as registers) and structured interviews of households living on unauthorised land and formal plotted developments promoted by the Delhi Development Authority at Rohini (see Section 3.4). This research required special effort, interviews being sought with original allottees of Rohini plots who had sold off their plots illegally: 28 were interviewed. Another group of DDA land allottees (22 households) was found living on surveyed unauthorised plots. These two groups of 50 households in total were taken to represent genuine allottees under the formal housing land allocation implemented by the large-scale public land policy in Delhi.

The post-facto theory of this research (see Chapter 3) observed that the relationship between public land policies and unauthorised developments is a complex one involving the inter-relationship of many elements (see Chapter 2). Some of these finer links are analysed here. The impacts of land policies on creation of illegal developments are accordingly studied under the following sub-headings: public land acquisition; housing land supply and regulated delivery; land planning controls; land price controls; investment and speculation controls; and institutional and administrative mechanisms.

7.2. PUBLIC LAND ACQUISITION, HOUSING LAND DEMAND AND SUPPLY

The literature suggests that the informal/illegal land developments emerge in circumstances where the demand for residential land exceeds the supply through formal channels (Ferreira et al., 1985; Soares and Stussi, 1990; Kombe, 1993). Specifically, the UNCHS (1983) argues that the phenomenon of squatting and illegal sub-divisions of urban land in developing countries is mainly the result of the insufficient quantities of affordable land that are made available through the formal process. Specific to South Asia, Mitra and Nientied (1989) argue that metropolitan governments do not supply the number of plots required for settling the growing numbers of low income groups. This means that when the formal supply is limited under conditions of increasing demand, there is a possibility of informal channels of supply meeting the demand. The explanations therefore emphasise one or the other aspect of the same phenomenon: unmet formal demand (Ferreira et al., 1985), insufficient quantities of affordable formal land supplied (presumably most of it going to middle and high income groups) (UNCHS, 1983), and inadequate supply of cheap formal land to growing number of low income households (Mitra and Nientied, 1989).

It may be worth noting here that the large-scale land policy of Delhi sought to reconcile affordability for middle and low income groups with the supply of land for lowest income group (Economically Weaker Sections) by a cross subsidy formula. Interestingly, the DDA records show that subsidy was provided to selected income groups, and as an alternative allotment to landowners whose land was acquired by the large scale land policy. In this way, housing land in the form of plots or flats has been supplied for about 40 years¹. Government allocation has replaced the land market in Delhi and supplied land on a large scale. The evidence suggests that informal developments occur because land is delivered wrongly in quantity and/or quality. The amount may fall short of demand, or be supplied too late. More than one parcel may be given to a household, or a plot provided which is inappropriate in size, location, cost, prescribed use, etc.

The land market will be 'clear' only as supply keeps up with increasing demand in any market. The peculiarities of the urban land market in practice make it difficult to ever

reach such equilibrium. Unlike other markets, urban land markets are characterised by a heterogeneity of product, a limited number of sellers, varying access according to location and physical attributes, and a very limited and frequently highly distorted view of market conditions. In the case of Delhi, supply was regulated by the large-scale land policy, and land was allocated according to policies that aimed to prevent speculation in land and control land price inflation.

An autonomous city development authority (namely the Delhi Development Authority) was entrusted with exclusive operation of the land policy with some financial and administrative support from central and state governments². Moreover, the Delhi Development Authority was assigned the responsibilities of Master Plan preparation and implementation, land development, and land disposal. It was given all the powers, authority and policy instruments necessary to keep supply in excess of demand (Sarin, 1983; Pugh, 1991). Therefore, it should have been able to quickly develop the land needed for residential use. Formal land in sufficient quantities should have been made available, if the government was determined to supply enough land to the increasing demand and curb unauthorised developments.

However, this calculation is not as simple and straightforward as it appears to be, because the actual demand is not easily predictable, and, equally, the demand may not be as genuine and non-speculative or profiteering as hoped by the public land policy (DA, 1961:1). In a situation like Delhi, a wide unequal distribution of land existed even as the city's public land policy was being formulated (Howland, 1977). Genuine demand means the need for residential land of its users, rather than for investment and/or speculation. Carr and Smith (1977:131) argue that even non-speculator participants who primarily need land for their own use, in a broad sense have some speculative motive because of the unexpected price rise of their land must have affected timing of their purchase or sale decision. However, Delhi's non-speculators are not expected to sell their land in view of the lack of formal alternatives, and the imposition of lease conditions such as rationing (delivering only one plot per household) and a 10-year ban on resale. Thus, households receiving land are discouraged from reselling it.

There could be other reasons for the creation of unauthorised developments where government allocation has replaced the land market, as in Delhi. Actual demand may be

incorrectly predicted (consequently wrong and/or insufficient delivery to the target group), or adequate land may not be acquired and/or developed at the appropriate time for development and disposal. Or, as argued by Howland (1977:69), the authority mandated for the operation of the large-scale land acquisition and allocation policy (in this case, the DDA), may have undertaken its role as a speculator much more zealously than its role of releasing land in adequate quantities and controlling the price at which it was supplied. It thereby becomes necessary to examine the overall demand and supply of land for all purposes resulting from the operation of large-scale land acquisition and allocation policy, and the ways in which the resulting demand and supply of residential land could have in turn helped to create unauthorised land developments. Chart 7.1 presents a formulation of the ways in which unmet general demand and unsatisfied formal demand may have encouraged unauthorised land developments in Delhi.

In theory, it is argued that there are many ways through which excess, un-estimated demand could emerge, and unmet demand accumulates, in a land market. In fact, in simple terms, the land demand can be categorised into two categories such as household (non-speculative) and speculative demand. Ratcliff (1949) argues that shelter is one of the necessities of life: we may assume that there exists an aggregate potential demand for a quantity of housing sufficient to accommodate the entire population. The demand may also rise occasionally due to increasing number of families entering the market to improve their current housing status (*ibid*). It is argued that the total demand in a particular time might increase or decrease depending upon on factors, such as changes in household composition: new families created by marriages as an important source of increase in the demand for dwellings (*ibid*), and due to increase of need for single family dwellings (Acosta and Renard, 1993).

The bulk of the new demand arises from net in-migration pressures but is augmented by sociological changes within the existing population (Smith and Walker, 1977; Ratcliff, 1949) and the ‘undoubling’ (where two or more families share a dwelling) of families (Ratcliff, 1949). Ratcliff (1949) also argues that the elasticity of actual household demand at a particular time could vary depending upon the number of households interested to buy land for owner occupied housing and their preference in terms of type, size, style, location, price range, services availability and desired use.

In regard to Delhi, it is argued that the continued process of urbanisation and the quest for stable jobs and higher earnings economically lift the low income group (who otherwise may not be able to own a house) to a level where they can enter the housing market at the stage of un-serviced suburban plots on the basis of their own financial resources (Baross and Linden, 1990). The encouragement of home ownership by way of subsidies to low and middle income groups, and their ability to pay higher rents and prices have affected the expectation of households for new homes and increased the demand with households who otherwise may not try to enter into home ownership (Walters et al., 1974). Howland (1977) and UNCHS(1984) also argue that the influx of various groups and classes of migrants (i.e., post-partition migration and un-predicted migrants from neighboring areas, and the more affluent non-resident Indians, and foreign officials and staff) have increased the demand beyond all expectation. In the case of Delhi, it was hypothesised that the public land policy failed to allocate adequate plots at reasonable prices, when and where needed (Howland, 1977). Thus, a large unsatisfied demand accumulated and a fierce competition was created for affordable formal plots offered by the Government, which created pressure on those in low income groups to sell their plots or their plot allocation papers before occupation of their lands (Mitra and Nientied, 1989). Therefore, the unsatisfied demand along with the unpredicted household demand encouraged these low income households to look for informal channels of land supply.

The second kind of demand is the speculative demand arising from the desire for investment and profit making. Although, Delhi's public land policy specifically aimed to eliminate the speculation and profiteering from land, Howland (1977) argues that the success of this policy was frustrated by new demand factors. In addition to excess household demand, new speculative demand was created by general economic insecurity on the one hand, and, on the other, remittance of foreign earnings from the Gulf states. All these unforeseen sources of demand swelled the informal sector in land and housing (Steinberg, 1990).

In regard to formal land supply, it is argued by the DDA that the large-scale public land policy has supplied a large amount of housing land that would not have been supplied by the open market in its absence. In fact, an undated DDA report claims that,

“a glorious record of achievements replete with hard-won laurels and even a few brickbats... DDA has had to work hard to keep pace with the needs of its fast growing population and the migratory population that comes every year. And since it was virtually the first development authority in India, DDA has had to shoulder responsibilities much beyond its set objectives” (added emphasis).

Furthermore, it appears from the DDA records that the large-scale public land policy has achieved the best that any public land allocations can ever achieve. The DDA has supplied housing land in the form of different schemes designed for specific target income groups (see Chapter 5). However, it is observed from the records that DDA has not supplied plots/flats in terms of customer preference (in terms of type, size, style, location, price, services etc.) except for a few schemes in which tentative locations were announced. Consequently, a large unsatisfied demand was created even among those households allocated formal land. Furthermore, researchers argue that the DDA did not supply what it could have really supplied through the large-scale public land policy. Willcox (1983) suggest that actual supply in Delhi's land market was constrained by DDA procedures in the following ways.

First, supply was constrained by land acquisition procedures of large-scale land policy. The policy of expropriation - compulsory acquisition of all land and its corollary, the freezing of price despite delays in payment - has led to prolonged court battles with landowners claiming market prices, leading to serious delays in acquisition. This stringency in acquisition procedure helped to curtail the extent of fresh land that could have been acquired. It not only delayed the supply of land as proposed, but also motivated landowners to subdivide their already disputed land, or farm it and thereby render it rural, or sell it outright to colonisers for higher prices (contravening the terms of agreement with the DDA).

Second, the policy of acquiring land cheap (often below market value) and later auctioning the developed plots to the highest bidder among high income groups or among commercial and industrial consumers in order to subsidise low and middle income groups, had unfortunate effects. It encouraged speculation among private landowners (farmers) and put upward pressure on unacquired fresh agricultural land, and made landowners acutely conscious of the development value 'floating' over their land.

Third, as McAuslan (1985) also argues, there will be always temptation as in Delhi to finance urban development by selling land to highest bidder. But this gives neither

seller nor buyer any incentive to allocate resources for housing the poor. Therefore, the DDA's action of auctioning plots to the higher income group, commercial and industrial use in order to raise financial resources ended up biasing the system towards higher income groups, and diluted its commitment to low income housing (UNCHS, 1984). As a result, the government's control over the supply of land for urban development (with its subsidised housing and bidding of commercial and industrial land) introduces the possibility of the undersupplying of housing. Yet, this method of allocation all has the capacity to allow development projects to finance infrastructure investment through income of land sold to developers, to pay the subsidies to low income rental housing in development projects and to make government profit from urban development (Hannah, Kim and Mills, 1993).

Fourth, it is also argued by UNCHS (1984) that the delay in supplying land in Delhi has in effect been institutionally based, because of the land banking policy that results in a quasi monopoly of raw land supply. Due to their legal powers, public authorities have been found to act like private land lords, protecting their interest in the land and refusing to use the acquired land for housing, and consequently adequate land is not supplied for low income housing.

Fifth, interestingly, Buch (1984) argues that the DDA have been forced into a 'spiral' of huge profitmaking which is then channelised into high visibility ventures such as parks and other schemes of city beautification, city highways which bear little traffic, and expensive commercial complexes and stadia, etc. However, he argues that the time lag between acquisition, development, sale/allotment and returns is so unpredictable that the DDA has found itself in grave cash flow difficulties from investing in projects like the Asian Games village, because it could get no returns from these for quite some time. This in turn affected the gross supply of formal land for housing despite DDA's financial capacity and institutional autonomy.

Therefore, it becomes necessary to analyse the kinds of demand and supply which emerged in the informal as well as formal segments of the land distribution system under the operation of large-scale public land policy. The next Section (7.2.1) analyses the demand and supply process as observed in the operation of large-scale land policy of Delhi. The Section attempts to answer the following questions, and the answers will

partly test the working hypothesis discussed in Section 1.5. These questions have been raised by other authors previously, but their conclusions are not based on close empirical evidence from illegal settlers and illegal transactions.

1. Why do illegal settlements emerge in circumstances where the demand for residential land is much greater than formal channels of supply?
2. How did the procedures and operation of the large-scale public land policy constrain formal land supply, contributing to the emergence of illegal settlements?
3. Did the operational method of fixed long term leases, public land delivery and other lease conditions enforced as part of allocation contributed to the creation of informal land developments? That is, did the safeguards and protective mechanisms lay the ground for their own subversion?

7.2.1. Demand And Supply Of Housing Land In Unauthorised Land Developments

A detailed analysis of formal housing land demand and supply and its effect on Delhi's land market was described in Chapter 5. This Section examines the effect of this overall demand and supply on unauthorised land developments. In order to make the discussion simple and straightforward, the supply and demand factors are discussed with reference to distinct market situation (i.e. formal and informal markets). It must be borne in mind that they operate simultaneously.

With regard to its unpredicted excess demand, as argued by many researchers Delhi has witnessed large in-migration from neighbouring states (Ratcliff, 1949; Smith and Walker, 1977; Howland, 1977; UNCHS, 1984; Basu, 1988; Suri, 1991; Srinivas, 1995). The field survey conducted in 300 unauthorised plots reveals that 77% of the heads of the households have moved from neighbouring states. In fact, it is a commonly accepted fact that a national capital city like Delhi, with ample business, employment and other opportunities, offers a powerful pull factor to migrants. Also, a large number of households in-migrated during Partition in 1947. Delhi, as capital, has offered a refuge over the decades from communal, ethnic and terrorist violence. In addition to seasonal migration, there is, for example, evidence of longer migration by households from the Punjab during terrorist operations in that state in the 1980s.

There are many reasons to think that an open private market would have provided sufficient land to these migrants. Though land prices could have been highly inflated, supply would not have been denied. Allocation policies which give only one plot to a household, ask for evidence of residence in Delhi for a minimum length of time and forbid the resale of formal land allotted by DDA, may make sense when looked at from the angle of regulating in-migration and speculative private investment in housing land, but it does not stop households from migrating to Delhi.

In the absence of a legal supply of housing land, it is realistic to expect that the in-migrant households will look for another channel that provides them appropriate land. Of interest here are the migration status and duration of residence of surveyed households in Delhi before acquiring their unauthorised plots. Table 7.1 shows that about 65% of surveyed households bought their unauthorised plots less than 10 years after arriving in Delhi. The rest had lived between 11 and 21 years in the city before acquiring their plot. This suggests that not many in-migrant households bought their unauthorised land for the purpose of speculation, and a substantial number of them preferred unauthorised land to formal land allocated by DDA, with all the waiting implied by the latter. The data also supports the understanding among analysts that, in the absence of alternative channels of authorised land, migrants who failed to meet the official criterion of a long stay in Delhi choose unauthorised settlements. Other reasons for their choice to opt for informal land is analysed in other sections.

Table 7.1. Duration of residence of surveyed households prior to acquisition of their unauthorised land.

Duration of stay in Delhi	Number of Households	Percent	Cumulative Percent
Acquired before moving to Delhi	10	4.4	4.4
Up to five years	84	36.7	41.0
Six to ten years	53	23.1	64.2
Eleven to twenty years	47	20.5	84.7
More than twenty one years	35	15.3	100.0
	-----	-----	
Total	229	100.0	

Number of counted cases: 229; missing cases: 71.

Regarding the argument that informal developments are encouraged by the inadequacy of the formal supply, the survey conducted in unauthorised plots indicated that illegal land caters to two types of households (Table 7.2). The first type is those households dissatisfied with the formal land supplied to them and, the second, those not in receipt of any formal land whatever. Eight per cent participated in the processes of formal land supply and later moved to informal land developments.

Table 7.2. Formal land allocation status of households living on unauthorised land

Categories	Households	Percent	Cumulative Percent
Applied but withdrew later	10	3.7	3.7
Applied and still waiting	16	5.9	9.6
Plot/flat was allotted	22	8.1	17.8
Plot/flat was refused	2	0.7	18.5
Never applied for formal land	218	80.7	99.3
No response	2	0.7	100.0
	-----	-----	-----
Missing cases 30	Total	270	100.0
		100.0	100.0

The second type of households, who have never participated in DDA processes of formal land supply, accounted for 81% of the sample. This category also includes households who have applied for formal land and later withdrew their applications, households who applied for formal land and are still waiting for allocations, and households who were refused formal land for some reason.

The question arising here is, could the demand met by unauthorised land have been met by DDA? Table 7.3 shows that about 80% of surveyed households stated that they own only one plot. This would seem to rule out acquisition for investment or speculative purposes. However, it cannot be denied that a considerable number of households (21%) did take advantage of the development potential of their correctly allotted land, choosing to move afterward to unauthorised land. They cited commercial use of residential space as the prime reason for their moving. About half of all households said they are self-employed private entrepreneurs on unauthorised land; this indicates their demand for commercial land.

Table 7.3. Formal land allocation status and investment/speculation motive

Ownership Status	Applied and Withdrew	Applied and Waiting	Plot/ Flat Allotted	Plot Refused	Never Applied	No Response	Total
Own more than one plot	2 (3.6) [20.0]	-	14 (25.5) [63.6]	-	37 (67.3) [17.2]	2 (3.6) [100]	55 (20.8)
Own one plot	8 (3.8) [80.0]	14 (6.7) [100]	8 (3.8) [36.4]	2 (1.0) [100]	178 (84.8) [82.8]	-	210 (79.2)
Total	10 (3.8)	14 (5.3)	22 (8.3)	2 (0.8)	215 (81.1)	2 (0.8)	265 (100)

Note: Figures in brackets shows row percentages and figures in parenthesis shows column percentages

Number of Missing Observations: 35

A majority (80%) of surveyed households residing on unauthorised plots stated that they obtained their land within reasonable time, and when they had sufficient finance and willingness to invest in housing. About 42% of households also declared that they could indeed afford to buy formal DDA land at the time they obtained their unauthorised plot. Nevertheless, it is also observed from field results that 40% households who never applied for formal land found their incomes were inadequate for acquiring formal land and regarded formal plots as too expensive.

It can be inferred, therefore, from survey results that the majority of the informal households' needs were genuine, although they have not applied for land allocation from DDA. The need is genuine in that it was restricted to owner occupied housing. As discussed in previous Chapters, a long queue of households waiting for formal land existed for long periods, varying between two and fourteen years, and it was not possible for the DDA to eliminate the backlog of housing land demand accumulated over the years (see Table 7.7). Therefore, in the case of Delhi, unauthorised land developments can be seen to be a channel of housing land supply that filled the gap raised by the inadequate and slow supply of formal land.

However, the majority of households surveyed were high and middle income groups most of whom stated that they could afford to buy a formal plot at the time they had acquired an informal plot. One may well argue that this casts doubt upon the

genuineness of their demand. The DDA for its part could have auctioned plots to these higher income households and used the revenue for more land development and subsidised housing. But DDA land and housing allocations were slowed not only by the ever increasing demand (attraction of large number of middle and higher income households) but also by the prior delay in large-scale land acquisition and development caused by unauthorised land subdivisions (see Chapter 5). In contrast to the formal allocation process, the survey also showed that as many as 75% of surveyed households faced little difficulty taking possession of unauthorised plots. That is, the procedure is less cumbersome. The majority of them stated they are satisfied with informal plots. The actual unauthorised land delivery performance is discussed in Section 7.2.3.

Therefore, the household interviews reveal that it is not the unpredicted excess new demand caused by in-migration that encourages unauthorised land developments. Rather, the failure of regulated public land deliveries to provide adequate access to land for housing, commercial and investment purposes, has encouraged households to obtain such lands through illegal channels.

7.2.2. Demand And Supply Of Land In Formal Developments

Earlier Sections of this Chapter argued that inadequate formal supply does contribute to unauthorised land development. This Section examines the institutional procedures by which supply was forthcoming. Devoy and Rodrungruang (1983) argued that an essential requirement of land banking is that the agency responsible for land acquisition be staffed by qualified professionals who give all their time to land banking responsibilities. The agency must also have the right tools and proper legal authority to act quickly, flexibly and decisively; the domain or expropriation power is essential. This section accordingly focuses also on the DDA's internal characteristics in these respects.

In order to ensure proper operation, the land planning, acquisition, development and disposal powers along with the autonomy of semi-public status were assigned to the DDA. Land acquisition was assisted by the Delhi Administration (city administrative body) and financial assistance provided by the Central Ministry of Urban Development. In order to ensure equitable distribution and curb speculation, the following major conditions were observed: (1) the land to be supplied only on leasehold basis; (2) no plot

to be allotted to a person who or whose dependents already owned one in Delhi; (3) construction on allotted land to be monitored to detect idle (speculative) land; and (4) no transfer of vacant plots to be permitted, although built-up plots could be transferred after payment of 50% of the unearned increase in value (DDA, undated). However, after about 35 years of operation, in which about a million residential plots have been supplied in Delhi, the DDA is criticised for its persistent inability to satisfy demand. This makes it necessary to analyse both the sources of this demand and the restrictions on supply.

As discussed earlier, it is argued by many researchers (Baken and Linden, 1992; Acharya, 1988; Misra, 1986; Sarin, 1983) that the compulsory acquisition procedures used in Delhi did not ensure the complete possession of all the land notified and proposed to be acquired, and, in consequence, land that slipped this official net was illegally developed. Table 7.4. shows that, despite attempts by the Delhi Administration and DDA to acquire all the land notified, 6% of the survey land which was already acquired or notified for public acquisition had been illegally developed.

About 90% of informally developed land was agricultural land illegally subdivided before its notification for public acquisition (Table 7.4). Although the percentage of acquired land illegally subdivided seems to be low, the inaction by government on this category, and the further inability of the DDA to notify and purchase the vast farmland, all add up to suggest a marked weakness of enforcement. This has affected fresh land acquisition and encouraged yet more illegal developments (see Section 6.4.4). This confirms the ineffectiveness of policy in conditions of sluggish acquisition.

Table 7.4. Tenure status of the unauthorised plots surveyed

Category	Households	Percent	Valid Percent	Cumulative Percent
Subdivided from farmland	243	81.0	85.9	85.9
Subdivided notified area	12	4.0	4.2	90.1
Subdivided acquired area	6	2.0	2.1	92.2
Declared area of urban village	6	2.0	2.1	94.3
Hill area subdivided	11	3.7	3.9	98.2
No response	5	1.7	1.8	100.0
Total	300	100.0	100.0	

Valid cases: 283; Missing cases: 17

To investigate the reasons for delay in compulsory and off market price acquisition, and their contribution in turn to motivating landowners and households into illegal land developments, this research interviewed nine landowners who subdivided their land instead of selling to DDA. These formerly legal owners of land now retain illegal possession in violation of DDA acquisition. These once-and-current landowners who have developed their farmland on their own and/or in association with colonisers represent the consensus of landowners. Their responses are grouped in Table 7.5.

Sixty percent of responses of the original landowners indicate that the prices offered by government were too low and that the potential profit from alternative, unauthorised land development and sale was more attractive. The long process of public land acquisition and the resulting corruption and prolonged court cases have also encouraged the landowners to develop their land illegally.

Table 7.5. Reasons for the illegal subdivision of land by landowners

Reasons	Responses	%
Problems involved with public land acquisition		38.9
Corruption/bribes	3	16.7
Long process of acquisition/harassment	2	11.1
Prolonged court cases	2	11.1
Profit motives of landowners		61.2
Cheaper land rates of public land acquisition	6	33.3
Realisation of DDA making profit	1	5.6
Commercial reasons	1	5.6
Developed before notification for public acquisition	3	16.7
	-----	-----
Total	18	100.0

Number of cases: 9

It is clear from the field data (see Section 6.4.5.4) that, of 45 responses recorded from 40 unauthorised colonies surveyed, as many as 60% of plots were subdivided by colonisers, who bought or contracted the land from landowners and developed them for profit. There were many agents: the landowners themselves, colonisers, property agents and religious-based societies were all engaged in the supply of informal plots. The inability of the public land policy to capture increased land values through expropriation has encouraged various agents to extract profit out of the demand for land.

The profit motive of landowners and informal agents, which was a primary reason for large-scale unauthorised land developments, was stimulated by inefficient land acquisition and inadequate land supply of the public land policy. It not only encouraged

unauthorised subdivisions of farmland by colonisers and agents, but also attracted the households to choose these illegal lands over officially-disbursed land. Due to slow provision of formal land by DDA, an effective legal action could not be enforced. This prolonged the uncertainty for households who were not resettled or whose land was not regularised.

Therefore, the data suggest that, although the large-scale public land policy did indeed supply a considerable quantity of land for housing in Delhi, the institutional weaknesses relating to land acquisition and delivery have contributed to a shortfall of supply relative to demand which promote illegal land transactions.

7.2.3. Land Allocation Systems And Their Delivery Procedures, Rules And Conditions

Many researchers, referring to prior studies and experiences, argue that informal land delivery is quicker and more efficient, and that such delivery ensures that basic requirements and interests of people are met (Payne, 1988; Vernez, 1973; Soares and Stussi, 1990; Yonder, 1987; Pezzoli, 1987). The literature also argues that informally delivered land has locational advantages over formal land, and provides adequate documents of land title as well as flexible conditions for payments and construction of houses (Siembieda, 1994; Baross and Linden, 1990; Basu, 1988; Benninger, 1986; UNCHS, 1983; Ward, 1978).

7.2.3.1. Land Delivery In Unauthorised Land Developments In Delhi.

In regard to speed of land delivery, it is observed in Delhi that unauthorised land developments promoted by private developers perform better than formal land developments. The responses of households living on unauthorised land support this.

Speed of land Delivery

This research found that unauthorised land developments promoted by private developers perform better than formal land developments. The field data from 300 households living on unauthorised land bears this out. An overwhelming 98% of surveyed households stated that they had obtained their land in an unauthorised colony within a year (Table

7.6). By contrast, the formal land supplied by the Delhi Development Authority at the Rohini plotted scheme proposed to supply plots 'as quickly as possible'. The application brochure promised that *"the allotment of plots will be made in phases spread over a period of five years by draw of lots among the eligible applicants and different draws will be held for different categories"*.

Table 7.6. Time taken to process the delivery of land in unauthorised settlements.

Time took	Households	Percent	Cumulative Percent
Less than 31 days	132	46.8	46.8
31 - 60 days	56	19.9	66.7
61 - 90 days	33	11.7	78.4
91 - 120 days	9	3.2	81.6
121- 150 days	2	0.7	82.3
151- 180 days	25	8.9	91.1
181- 385 days	19	6.7	97.9
More than one year	6	2.1	100.0
Total	282	100.0	100.0

Missing cases: 18

Information collected from DDA records in 1994 (Table 7.7) reveals that 49% of the 80,855 households registered in 1981 were still waiting for allotment. In the case of public housing, it takes more than a decade for the allotment of formal flats as seen in the Table 7.7. Sundaram and Gambhir (1991) have also observed that the release of houses and plots by the DDA is slow and that no new applicants from the target group have been registered in the last few years.

The data pertaining to formal land delivery shown in Table 7.7 was obtained from the DDA office and cross-checked with other secondary sources. This data compiled from all formal land delivery schemes represents the formal market situation in Delhi and shows the exact number of registrants awaiting land allocation from DDA, the only formal land supplier in Delhi.

The large number of households already in the queue (Table 7.7) and lack of new schemes support the conclusion that formal supply of housing land done through the large-scale public land ownership policy is slow.

Table 7.7. Backlog of housing registrants waiting for allotment as on 15.9.1993.

Name of Scheme	Year Registered	Number Registered	Number of Registrants Waiting for Housing Land Allotment					Percentage Registrants Waiting	Time Waiting (years)
			SFS	MIG	LIG	EWS	Total		
Self Financing - Special Retired Persons scheme V	August 1982	34631	2128	-	-	-	2128	16	11
Self Financing Retired Persons Scheme VI	August 1985	17805	7274	-	-	-	7274	41	8
New Pattern Registered Scheme	Sept. 1979	171272	-	20910	24002	-	44912	26	14
Ambedkarawas Yojna	Dec. 1989	20000	-	7000	9556	2133	18689	93	4
Rohini Plotted Scheme phase I&II	February 1981	80855	-	14431	20583	4665	39679	49	12

Source: compiled from DDA records.

In fact, unauthorised colonies are a quick source of plots because land owners alone or in partnership with colonisers can subdivide the undeveloped land into different sizes for sale to households without obtaining development permission, satisfying checks of building bye-laws, or laying roads and providing services. It was observed during the field survey that only in few colonies' colonisers had provided vacant plots for the purpose of parks and community services, but these had been later encroached on by neighbouring land users. Yet, 90% of households greatly valued their house as a permanent structure offering a secure home, and as many as 79% expressed satisfaction with their plots. Only 10% of households are dissatisfied with as colonisers' failure to fulfil their promise of providing services in due course.

Acceptable Land Title

A majority (88%) of interviewees had obtained the power of attorney from the landowner, allowing them legal right of resale of leasehold property. This is to be seen against the introduction of leasehold tenure system and abolition of freehold registration in Delhi. About 11% of households registered their land in an authorised land registry under the

head of farming land transactions, and 1% have got a lease from a foundation. Although these are not valid ownership documents and they cannot provide ownership title on the lines of the lease deeds provided by DDA, they are accepted within the State of Delhi as a use tenure title (see Section 6.4). These documents do, therefore, protect ownership rights to some degree, giving households some security and permitting resale of land occupation.

Simple Administrative Formalities

Unauthorised land developments do not require application forms or advance payments, nor do colonisers follow other discouraging procedures such as requiring specific uses of the land or limiting the range of plot sizes as is done by the DDA.³ These households had many opportunities to choose the appropriate size of the plot they required and could afford. A negligible number of interviewees stated that they had difficulties such as obtaining possession of the land, being charged double the going rate, being sold a plot already sold to another, or being provided faulty documents.

Nearly a fifth of households said they did not apply for land from the DDA for fear of administrative difficulties given their own illiteracy and unawareness of DDA's legal land deliveries (10%), bribes involved in formal land allocation (3%), complicated procedures (4%) and no faith in DDA operations (2%). In addition, 40% of households who felt their incomes to be inadequate for expensive DDA plots could comfortably buy land in unauthorised colonies. As many as 55% of interviewees were able to buy their land when they had money and willingness to invest for housing. As many as 74% did not face any difficulty (administrative and allocation) in buying land, and in all about 68% had made their purchase without having to seek financial assistance.

Flexibility in Payments and Construction of Houses

The responses indicate that unauthorised land delivery provides flexibility in payment. About 35% of LIG and MIG and 50% of Economically Weaker Section households said that they paid their land costs in instalments. Such an opportunity is almost unavailable in formal developments promoted by DDA because the successful applicant must pay the total cost within a specified time limit. A punitive interest is charged at 12%-18% per annum if the applicant fails to pay, and the allotment cancelled if the entire payment is not

made in six months (DDA, 1981). However, in the case of public housing, DDA executed hire purchase schemes in which the cost of the flat was paid in instalments. Inefficient cost recovery and lack of replicability led to some schemes being made self-financing and taking the form of plot allocations. However, DDA records report that there had once been provisions to pay land price in installments at the rate of 25% on allotment, 50% after handing over possession of plot and 25% at the end of the year or on completion of services, but this scheme does not appear to have operated for very long.

In regard to house construction, 59% of the informants (composed of 77% of EWS, 60% of LIG, 58% of MIG and 52% of HIG) had built their houses in phases. This opportunity too is unavailable under the DDA. In fact, as part of formal allotment procedure and lease conditions (see Chapter 4), the lessee is required to erect the residential structure within two years of taking possession of the plot. The building must conform to an approved building plan and be completed at one stretch rather than piecemeal before the final lease deed of ownership title is issued.

In fact, the formal restriction on building plans and construction is justified in view of long vacancy or attracting speculation and investment on land. Similarly, formal permission to built houses in phases may attract illegal commercial uses and sale of floor space for non-residential uses. However, it is found in this research that such formal restrictions have not stopped misuse of residential space for commercial use and conversion of parts of buildings into commercial shops, and sales of ground floor space (without roof) for commercial use after obtaining planning permission for bonofide residential use.

Locational Advantage

A majority of interviewees residing on unauthorised land reported having the choice of their plots close to work and urban services (36% very near, 10% near and 13% a little away). Table 7.8 shows that a majority of respondents (about 68% of EWS, 58% of LIG, 62% of MIG and 50% HIG) were able to choose their workplace within little away distance from their unauthorised residence.

Table 7.8. Households views on distance to workplace from residences on unauthorised land

Monthly Income	Distance to Workplace				
	Very Near	Near	Little Away	Far Away	Total
Less than Rs. 1250	10 (45.5)	3 (13.6)	2 (9.1)	7 (31.8)	22 (7.6)
Rs. 1251 - 2650	44 (38.6)	9 (7.9)	13 (11.4)	48 (42.1)	114 (39.4)
Rs. 1251 - 4450	36 (40.0)	4 (4.4)	16 (17.8)	34 (37.8)	90 (31.1)
Above Rs. 4451	12 (21.4)	11 (19.6)	5 (8.9)	28 (50.0)	56 (19.4)
No income	-	-	-	1 (100.0)	1 (0.3)
No response	1 (16.7)	1 (16.7)	1 (16.7)	3 (50.0)	6 (2.1)
Total	103 (35.6)	28 (9.7)	37 (12.8)	121 (41.9)	289 (100.0)

Note: Figures in the brackets shows percentage to their total.

Number of Missing Observations: 11.

The majority of those interviewed engaged in formal sector employment such as salaried persons in government offices (63%), public undertakings (50%) and private enterprises (53%) have stated that they live far away from their work places. Three quarters of self-employed private entrepreneurs (including shopkeepers, property dealers and other agents) said that they live close to their place of employment.

Yet, interestingly, a majority (83%) of households who had moved from DDA allotted plots/flats to unauthorised land denied that the workplace was a factor in the move. Nonetheless, 46% of households who gave up their formal plots at Rohini stated their workplace as a reason and 31% saying that workplace was the foremost reason for the illegal sale. Surprisingly, none of the 216 interviewees living on unauthorised land, who had never applied for formal land, mentioned workplace as a factor. This means that the possibility of living near work, not always possible under DDA allocation, encouraged a large number of households, especially those intending self-employment, to choose

unauthorised land. This may be partly fostered by the policy of auctioning plots to commercial, industrial and higher income residential use (see Section 7.4).

A number of studies hold that informal land follows formal land developments, indeed, depend on the latter's infrastructure. This seems to be the case in Delhi too; three quarters of unauthorised settlers interviewed reported shopping nearby, in a formal settlement (14% very near). As many as 84% reported a bus stop nearby (17% very near), and over half stated also that their children's school was close by (12% very near). Therefore, the household responses indicate that unauthorised land delivery organises itself around formal public infrastructure, consequently, most households on unauthorised land are able to satisfy their infrastructure needs with respect to household and community services, and transport. Of course, utilities such as water, electricity, sewerage, and rubbish disposal continue to pose severe problems. This clearly swells the business prospects of shopkeepers on formal settlements, but also adds to the strain on transport, schooling, and other services.

Irrespective of all these qualities of informal land delivery, it must be said the conditions of civic infrastructure and site developments in unauthorised colonies are pathetic. About 18% of interviewees reported nil access to any kind of water supply, and about 24% have no electricity at all, while about 49% steal it (see Section 6.4.5). Municipal sewerage is totally absent, but 81% of interviewed stated that they have their own septic tanks. Furthermore, features such as internal roads and green areas are absent in these unauthorised colonies. Their appearance is not very different from that of sub-standard squatter settlements in Delhi.

7.2.3.2. Methods Of Formal Land Delivery

The literature observes that the lease conditions exercised as part of land delivery to control speculation, prices and use have affected some of the above reasons that encourage informal developments. On the contrary, DDA records show speedy supply under the large-scale public land policy of Delhi with proper land registration titles, on easy payment terms (by instalment) (see Chapter 4). Furthermore, the housing land delivered by the DDA included proper planned infrastructure provisions for trunk services such as water, electricity and sewerage, and developed according to the Master Plan

standards. This basic infrastructure and planned environment were virtually lacking in informal developments. This has made it necessary to analyse how terms and conditions of housing land delivery in the public land policy of Delhi have contributed to the motivation of households to opt for unauthorised land and housing.

Earlier, it was established that unauthorised land developments in Delhi are quick, administratively simple and locationally advantaged. These characteristics explain the steady growth of unauthorised developments. Also, the private colonisers are observed to be better placed to supply land in a quick, efficient and flexible manner because of their disregard of equity, essential services and infrastructure, and ensuring planned development. In fact, the field survey shows that these colonisers have just subdivided the land for sale to households who approached them. Their costs, too, are often lower than formal costs because they do not contain a component for development and infrastructure (trunk services).

Furthermore, the colonisers' administrative procedures were simple because they did not have to follow a formal administrative requirement to curb speculation and investment on land. These informal land developers have incurred very little financial burden because they alone or in association with landowners subdivided land, and such 'development' did not involve substantial land acquisition and development costs. They cleverly offered land on instalments to acquaintances. It therefore becomes necessary to analyse how the formal land delivery procedures have discouraged the general public from partaking of formal land allocations.

Public Land Delivery Terms And Conditions

Official terms and conditions of land allocation can be categorised into three: (1) general terms and conditions, including selection of beneficiaries, residential ownership status in the city, space entitlement as per earning capacity, ability to make the advance deposit and pay the prescribed pre-determined or auctioned prices. (2) lease deed conditions include regulation of use, subdivision, timebound building permits and resale, utilising the allocated plot or building thereon only for the purpose of residential use; never to subdivide the plot or amalgamate it with any other; prohibited from transferring the plot before or after the erection of the building without the prior permission of the lessor and usually not before ten years from the commencement of the lease, compulsory remittance

to the lessor of 50% of the unearned increase in value at the time of transfer. (3) tenurial, financial and legal obligations, including allocation of land only on 99 years leasehold right, compulsory payment of ground rent as prescribed and additional sum if any decided by the lessor, and obligatory payment of taxes, charges and other assessments if any.

It is logically agreed by all researchers that a policy may not be able to operate without prescribed terms and conditions and legal obligations. Therefore, like any other land policy, Delhi's public land policy required considerable administrative formality, filling of forms, submission of proof, undertaking of legal bindings, and the deployment of full-time staff. In fact, these formalities aimed to regulate the number of households desiring more than one house and prevented speculations in land market. Supporting this, Sandercock (1979) notes with reference to the well known Municipal site leasehold programme of Sweden, that the conditions written in to leases allow planning authorities to exercise much more control over the timing of development, over what is built and what buildings are used with what kind of regulations.

But Howland (1977) argues that administrative formalities obstructed many low income people (illiterate and/or those who are not accustomed to dealing with bureaucracies) from benefiting from Delhi's formal land disbursement. The failure to allocate adequate quantity of plots at affordable prices, when and where needed (i.e. right land to the right party at the right time) precipitated heavy demand and fierce competition for the more affordable plots offered by government (ibid). Low income groups responded to this pressure by selling their plots or plot allocation papers before occupation (Mitra and Nientied, 1989).

Besides, the policy of provision of land and services almost free of charge under subsidised public housing schemes has attracted a large number of speculators and ineligible applicants who have enticed original allottees to move away from their plot into informal settlements (Misra, 1986). In this process the subsidy provided to low income groups mostly reached the middle and upper income households (Ratzka, 1981). And the lease condition of prevention of resale of formal plot/flat in the resale market has provided wide opportunity for property agents to strengthen their role of transaction of illegal sales in the illegal resale market. Mitra and Nientied (1989) argue that in Rohini,

about 80% of the DDA allocated plots were transferred by original allottees through power of attorney to property brokers who in turn transferred those plots to a third party.

Another side of the argument is the public authority's action of auctioning plots to HIG and general bias towards higher and middle income groups. Both in Delhi and Karachi, the actual practice of public owned land allocation tended to favour the middle class and plot speculators (Baross and Linden, 1990). In addition, the ever changing criterion of income which is the base for selection of beneficiaries has drawn increasing numbers of high income families into the middle and low income category, pushing the very poor further to the bottom. Taking advantage of the circumstances, and in defiance of policies against private subdivision, private developers with underground connections subdivide and sell public lands (Yonder, 1987) to people who can not compete in the formal land delivery. UNCHS (1984) also states that the subsidised public housing programmes directed towards low income groups are often appropriated by middle income groups through illegal transfers or bureaucratic favouritism. Therefore, the following sub-sections analyse the existing formal land disposal situation in Delhi.

Contribution Of Lease Terms And Conditions

The field survey reveals that not all terms and conditions followed in the large-scale public land delivery of Delhi have directly contributed to the creation of unauthorised developments. Only negligible number of interviewees living on unauthorised developments (who never applied for formal land) stated that the formal delivery based reasons such as leasehold land allocation, lengthy and complicated procedures, restrictions on commercial use, restriction on design, expansion and free construction have encouraged them to obtain illegal land.

However, it could be judged from the existing commercial nature of illegal settlements (39% of houses with commercial space built into their residence; 44% of households owning shops nearby) that restriction of commercial use in formal plots could be a strong reason for unauthorised land developments. The large-scale land disposal does not allocate land on predetermined (subsidised) rates for commercial and industrial uses (except for few categories) and rather commercial land is auctioned to the highest bidder.⁴ Moreover, residential land is allocated in the form of schemes, as and when they are ready for allocation. Therefore, a person interested in land (commercial or commercial cum

residential, or with commercial intent and inability to pay commercial rates) has no option but for formal land.

Nevertheless, the beginning of this Section discussed the fact that a majority of households on unauthorised plots are self-employed. This fact is now further supported by the statement of a majority of households (70%) who moved from DDA allotted plots to unauthorised colonies that restriction of commercial use in formal developments was the reason for their movement to unauthorised land developments. Their initial registration with DDA had been in the hope of obtaining any housing land at all.

Therefore, it is inferred that the lease deed condition of restriction of commercial use in formal plots, and the policy of auctioning land for commercial and industrial use, was a reason for unauthorised land developments in Delhi. In addition, this research provides confirmation of the view that public land delivery has not met its objectives of providing the right land to the right party in the appropriate time, resulting, therefore, in heavy illegal reselling. This then pushed up land prices beyond control.

Disposal Of Formal Land

The condition of prevention of resales of formal land for a period of ten years and compulsory remittance of 50% of the unearned increase in the value of land to the lessor in the event of resale, has encouraged the opposite: widespread illegal resales of formal land in the regulated formal market. Table 7.9 shows that at Rohini, where a large number of subsidised plots are allotted by DDA, more than 50% of EWS and LIG plots and about 33% of MIG plots were resold illegally against the formal condition.

Table 7.9. Illegal resells of formal plots at Rohini plotted scheme

Plot Category	Households Contacted	Number of Resells	Number of Originals Allotments	No response/ Unassertained
EWS	72	42 (58%)	21 (28%)	9 (13%)
LIG	116	71 (61%)	15 (13%)	30 (26%)
MIG	178	59 (33%)	53 (30%)	66 (37%)
Total	366	172(47%)	89 (24%)	105(29%)

These plots have been mostly sold to property agents who in turn sold and/or arranged sales to households who could afford higher prices. About 63% of those interviewed who sold off their formal land, and 83% of households who procured resale plots, reported having used a property agent. It is, in fact, quite difficult to trace the initial owners of the plots. Yet it is clear from the majority of responses (87%) that illegal and repetitive resells were common, and that property dealers played an active role in the illegal land market. After identifying a majority of low income households reselling their subsidised plots, the critical question arising here is: why do they resell their land?

The field results indicate that acquisition of land before and/or after the formal plot allocation against the condition of owning only one plot in the city was a reason for illegal sales. As seen in Table 7.10, 64% of households who sold off their Rohini formal land stated that they had already obtained a plot/flat before their Rohini land allotment. About 25% of interviewed stated that they had obtained another plot after their Rohini allotment, and about 10% of households had succeeded in obtaining more than one plot before as well as after their Rohini allotment. Most who bought other plots before and after were households allocated plots under the MIG category; 40% of households who had already obtained a plot before their Rohini allotment, were self-employed private entrepreneurs (40%) followed by salaried persons in Government offices and public undertakings.

Table 7.10. Households who obtained land before and after formal land allotment at Rohini.

Plot Category	Plot/flat Acquired Before Allocation	Plot/flat Acquired After Allocation	Plot/flat Acquired Before and After Allocation	Total
Economically Weaker Section (EWS)	7 (38.9)	2 (28.6)	1 (33.3)	9 (32.1)
Low Income Group (LIG)	7 (38.9)	2 (28.6)	-	13 (46.4)
Middle Income Group (MIG)	4 (22.2)	3 (42.9)	2 (66.6)	6 (21.4)
Total	18 (64.3)	7 (25.0)	3 (10.7)	28 (100.0)

Note: Figures given in the brackets shows the percentage to column total. Among interviewed, 2 households residing in staff houses and 4 living in rented accommodation have also sold-off their plots allotted at Rohini.

Table 7.11 shows that most of those interviewed (who sold off their Rohini plots) are now residing on formal land. This implies that either they managed to obtain more than one formal plot/flat under different categories, schemes and names of family members, or they are not interested in accepting the offer at Rohini for which they had earlier applied. It was also observed during the field survey that most of these households never moved from the residence they occupied before formal allotment at Rohini, and some bought resale plots close to these earlier residences.

Table 7.11. Present tenure status of households who illegally transferred their formal plots

Present Tenure	Plot/flat Acquired Before	Plot/flat Acquired After	Plot/flat Acquired Before and After	Plot/flat not Acquired but sold-off Rohini plot
Formal leased land				
DDA plot allotted	3 (20.0)	-	-	-
DDA plot auctioned	1 (6.6)	-	2 (66.6)	-
DDA flat allotted	1 (6.6)	1 (25.0)	-	-
Group housing society flat	-	1 (25.0)	-	-
MCD plot/flat	2 (13.3)	-	-	-
Freehold land				
Freehold land	4 (26.6)	1 (25.0)	1 (33.3)	-
Unauthorised regularised and fresh unauthorised land				
Regularised unauthorised plot	3 (20.0)	1 (25.0)	-	-
Unauthorised plot	1 (6.6)	-	-	-
Rented accommodation				
Staff house	-	-	-	2 (33.3)
Rented plot/flat	-	-	-	4 (66.6)
Total	15 (53.5)	4 (14.2)	3 (10.7)	6 (21.4)

Note: Figures in brackets shows the percentages to column total.

Table 7.11 also shows that a large number of those interviewed who sold off their formal Rohini plots have managed to get more than one formal plot from DDA/MCD. They cited distance from work as the most important reason for sale; second most important reasons were that their plots fetched a good price (36%), and having acquired

another plot (22%). Such resale seemed more frequent among higher income households (mostly self-employed private entrepreneurs). They too cited distance from work and small size and high price of the Rohini plots as the reason for sale; some also managed to obtain formal flats supplied by DDA and group housing societies after allocation at Rohini.

Income criteria followed in public land allocation have not ensured that only one plot is allocated per household. Table 7.12 shows that the household income at the time of survey is different from that of the income category on which they were allocated subsidised plots at Rohini. Except for 23% of the low income group, all the households belong to new income groups. This implies that either upper income households are misappropriating subsidised plots in the name of lower income households, or that the income earning capacities of the former have fallen drastically.

Table 7.12. Current monthly income of households who were allocated subsidised formal plots at Rohini

Plot Category	Monthly Income of Interviewed Households			
	Rs. 1250-2650 (LIG)	Rs. 2651-4450 (MIG)	Above Rs. 4451 (HIG)	Total
EWS	-	2 (22.2)	7 (77.8)	9 (32.1)
LIG	3 (23.1)	4 (30.8)	6 (46.2)	13 (46.4)
MIG	-	1 (16.7)	5 (83.3)	6 (21.4)
Total	3 (10.7)	7 (25.0)	18 (64.3)	28 (100.0)

Note: Figures in the brackets indicate percentage to row total.

A large number of interviewees who had sold off their Rohini plots in the illegal resale market, reported obtaining more than one formal plot/flat in the name of their spouses and family members: Table 7.13 shows this was true of as many as 50% of interviewed households. This was typical of extended families, where couples lived under the same roof as their parents; land would then be sold if it fetched a higher price in the

illegal resale market. A large number (44%) of self-employed entrepreneurs used this means to obtain more than one subsidised plot allocated by DDA.

Table 7.13. Social relation of allottee to households who obtained more than one plot

Relation	Obtained plot before allocation	Obtained plot after allocation	Total
Head	8 (44.4)	3 (42.9)	12 (48.0)
Wife	3 (16.7)	2 (28.6)	5 (20.0)
Father	1 (5.6)	-	1 (4.0)
Mother	1 (5.6)	-	1 (4.0)
Son	4 (22.2)	1 (14.3)	4 (16.0)
Sister	1 (5.6)	1 (14.3)	2 (8.0)
Total	18 (64.3)	7 (25.0)	25 (89.3)

Note: Figures in the brackets indicate percentage to column total.

The data indicates that the formal housing land allotted in the form of plot/flat by DDA and MCD did not reach the right person, resulting in accumulated unsatisfied demand in the formal market. To make matters worse, the duplication of allocation exacerbated the growth of the informal market by expanding its supply side: households allocated land twice resold a plot at a profit.

This research had also assumed (see Section 1.5) that the delivery of formal land to households who have already found land in unauthorised settlements would encourage them to sell their formally obtained land in the resale market. This has been found true of 22% of households who had already acquired unauthorised regularised or fresh unauthorised land. But eight percent of households on unauthorised land reported moving from formal plots, while most own more than one plot. This indicates that a minority of households have obtained formal land after buying unauthorised land, but some prefer unauthorised land for reasons of price, amenability to commercial use, and size.

7.2.3.3. Effect Of Formal Land Delivery In Promoting Downward Mobility

The household survey conducted at Rohini shows that a majority of low income groups and a large number of middle income households (see Table 7.9) allocated formal land decided to sell their land to upper income groups (Table 7.14), who prefer formal land.

Table 7.14 Allocated plot categories and income group of present occupiers of formal land at Rohini

Plot Category	Monthly Income of Resale Purchasers			
	Rs. 1250-2650 (LIG)	Rs. 2650-4450 (MIG)	Above Rs. 4450 (HIG)	Total
EWS	5 (15.6)	17 (53.1)	10 (31.3)	32 (30.2)
LIG	5 (10.9)	16 (34.8)	25 (54.3)	46 (43.4)
MIG	-	3 (10.7)	25 (89.3)	28 (26.4)
Total	10 (9.4)	36 (34.0)	60 (56.6)	106 (100.0)

Note: Figures in the brackets shows the percentage to row total.

The important reasons for resales to high income groups are the immediate availability of another plot, work place being far away from home, and inconvenient size of formal plots. On the other hand, the provision for complete infrastructure, the possibility of commercial use through high rise, comparatively low price of legal land, and better environment of formal land along with the need for good accommodation have encouraged most of the middle and high income households to buy these plots illegally. This implies that these resales were not accessible to income groups actually eligible for these plot sizes due to overbidding by upper income groups despite the size being below that for which they are eligible.

7.3. PLANNING CONTROLS: LAND USE REGULATION, BUILDING BYE-LAWS, DEVELOPMENT STANDARDS AND PLOT SIZES

The theory recognises that planning controls such as land use and building regulation, and various development standards promoted by land policies can encourage unauthorised land developments (see Chapter 2). These regulations are believed to restrict housing land supply by introducing high standards of plot sizes, developments and infrastructure provisions (Dowall, 1992:19; Baken and Linden, 1992:75; Zetter, 1984). In the absence of

maintaining the required standards and other requirements, people have no option than to behave in illegal ways if they are to survive (Mattingly, 1993; Baken and Linden, 1992; Dowall, 1992; UNCHS, 1984; Okpala, 1980). There is another view that illegal developments often constitute the required plot size standards and even larger sizes but they are illegal because they have not obtained planning and building permissions (Haaarhoff, 1983; McAuslan, 1985). These developments have outbreak due to dominant use of foreign earnings (Steinberg, 1984) and preference for informal as alternative investment for wealthy families (Mitra, 1990). In Delhi, these standards are also said to have encouraged illegal transfers of subsidised land to higher income groups (Mitra, 1990:216; Baken and Linden, 1992:64).

The foregoing effects of policy are seen in the usual characteristics of informal developments: absence of a pre-determined plot size, flexible provision of services, and standards (Vernez, 1973; Payne, 1989). In due course, this has facilitated spontaneous settlements, side-stepping the need for planning permission for conformity to standards, land servicing, and land use locations (Baken and Linden, 1992:54).

In order to systematically examine these theoretical explanations, the following questions have been addressed by the present research:

1. Did planning controls practised as part of Delhi's public land policy encourage unauthorised land developments? and
2. Do the high legal standards become so unaffordable as to promote unauthorised land developments?

Of the informants who had moved from formal to unauthorised colonies, about 30% said that the building bye-laws applied to formal developments were a reason; 57% of these are self-employed private entrepreneurs. About 70% expressed specific concerns over the restriction on commercial use of formal housing land.

The negative impact of land use regulation in Delhi can also be measured in terms of frequency of land use violation, and general misuse of residential space for commercial and non-residential uses. About 39% of interviewees' residences include commercial space in the form of a shop or workshop. Further, 23% of households living on formal resold plots misuse their residential plots similarly. In both, the informal and formal

segments of the land market, the majority (59% in unauthorised land and 87% in Rohini) violators are self-employed private entrepreneurs/shopkeepers. This is empirical confirmation that public land use regulation frightens households. The data also indicate that households who were unable to afford commercial prices of formal allocated or auctioned land have found cheap land that also allows them the option of commercial, especially retailing, activity in the suburban unauthorised land market.

Land Development Standards And Plot Sizes

Table 7.15 shows that the plot sizes provided under Delhi's large-scale public land policy were not uniform. Prior to the inception of large scale land policy, the Delhi Land and Finance (DLF) private agency which started operating in 1947 (before DDA) supplied plots ranging between 167 and 836 square metres (Sqm) with spacious houses and wide lawns (Maitra, 1991). Later, when DDA took up large-scale public land delivery, it promoted plots ranging between 67 and 334 square metres (21 square metre plots provided for squatter relocations) until 1982. Since 1982, the plot sizes were reduced to 26 square metre (Sqm) for EWS, 32-48 Sqm for LIG, 60-48 Sqm for MIG and 120-150 Sqm for HIG. This radical downward revision of minimum plot sizes, researchers had suggested, could be a means of catering to more families (Howland, 1977).

Table 7.15. Housing land standards of large-scale public land policy

Year	Plot Size in Square Metres				
	EWS	LIG	MIG	Auction	Alternative Allotment
1966	67	Upto 105	106-167	167-334	105-669
1970	21-67*	Upto 105	106-167	167-334	105-669**
1980	21-67	Upto 105	106-167	167-334	105-334
1982	21-67	Upto 105	106-167	167-334	105-334
1982 revised (Rohini)	26	32-48	60-90	120-150	33-334

Note:* Plots allotted on rent for squatter dwellers to resettle them.

** 40% of area acquired from person concerned.

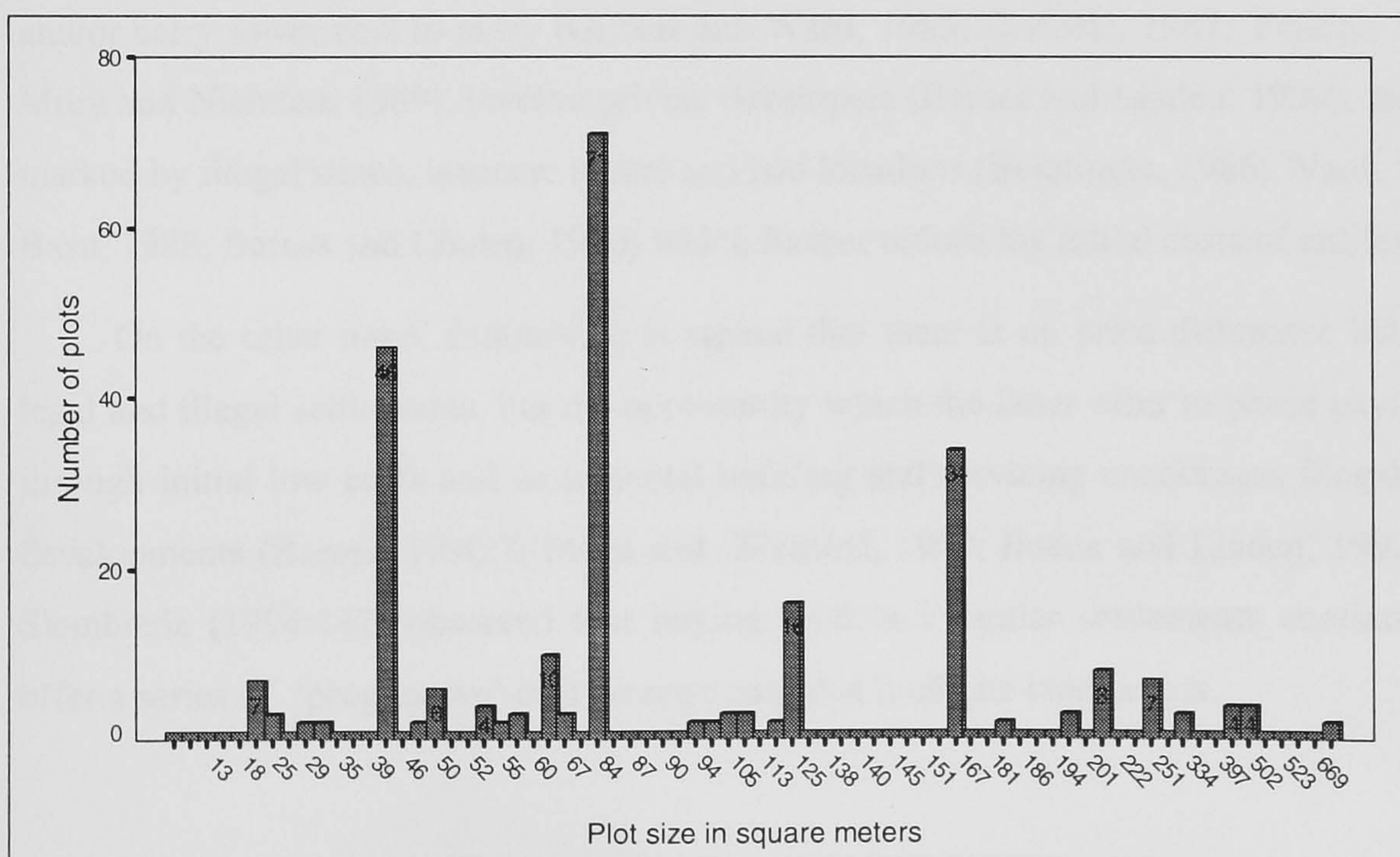
Note: DDA (disposal of nazul land) rules prescribes maximum size of plot allotted to individual for residential purpose shall be (I) 104 square metres in the case of an individual belonging to LIG (ii) 167 square metres (but not less than 165 square metres) in the case of individual belonging to MIG and 500 square metres in any other case.

Source: Compiled from records and annual administrative reports of DDA

Fifty-seven percent of households who moved from formal to informal plots cited smallness of plot size as a reason. A small number of households (less than 5%) who moved from formal plots stated that large size of the plot allotted by DDA was a reason for their movement. Therefore, it is not the unaffordability of larger plots but the smallness of plots allocated under the public land delivery which attracted households to opt for unauthorised land in Delhi. On the contrary, it is observed from Rohini formal area that resale plots are mostly bought by higher income groups who are entitled for large size of plots due to unavailable provision for formal allocation of larger plots (see Table 7.14).

The field survey results reveal that the plot sizes in unauthorised colonies vary between 8 and 836 square metres with a mean of 123 square metres (median and mode is 84 sqm). Although there is no uniformity in plot sizes, Chart 7.2 shows that the plot sizes such as 42 sqm, 63 sqm, 84 sqm, 125 sqm and 167 sqm are among the most prevalent in the unauthorised colonies surveyed. This is because of the absence of regulated plot sizes, method of subdivision of colonisers, and further subdivision of plots by plot owners themselves. Neither is there evidence of any fixed relationship between income and plot size owned, unlike the clear standards in formal land development schemes. This suggests that the flexibility afforded by illegal land attracts a large number of households.

Chart 7.2 Plot sizes existing in surveyed unauthorised land developments



7.4. LAND VALUES AND PRICE CONTROLS

Unauthorised developments are said to be an outcome of steadily increasing land prices in various segments of land (see Chapter 2). The higher costs of formal land are said to be caused by: supply constraints created by land planning regulations (Hannah, Kim and Mills, 1993; Parsons, 1992; Dowall, 1992; Monk, Pearce and Whitehead, 1991; Misra, 1986; Dowall, 1981; Geisse & Sabatini, 1980; Cullen and Woolery, 1982); unforeseen demand for single family dwellings (Acosta and Renard, 1993) due to migration, motivations to investments on land, and speculation (Howland, 1977); high standards of development and provision of complete infrastructure (Mohan and Villamizar, 1982); and higher land rates charged by the public authorities (UNCHS, 1984) and competition created by land allocations carried out on the basis of lottery and auction.

Specifically in regard to Delhi's public policies, researchers found that the wide gap between public allocation prices and 'market' (resale and auction) price attracted illegal resales of formal land, in turn attracting investment which then further in turn encouraged households to sell off their formal land and move to illegal developments (Mitra, 1990; Baken and Linden, 1992:67). Besides, the attempt to convert informal land to formal by providing infrastructure has raised land prices (Mitra, 1990).

It is argued that informal developments are 'no-cost' land options (Baken, 1990:4), and/or carry lower cost to entry (Gilbert and Ward, 1985; Doebele, 1987; Yonder, 1987; Mitra and Nientied, 1989), involve private developers (Baross and Linden, 1990), and are marked by illegal status, insecure tenure and bad locations (Benninger, 1986; Ward, 1984; Basu, 1988; Baross and Linden, 1990) which further reduce the initial costs of entries.

On the other hand, contrary, it is argued that there is no price difference between legal and illegal settlements, but the opportunity which the latter offer to phase payments through initial low costs and incremental building and servicing encourages illegal land developments (Baross, 1990:7; Mitra and Nientied, 1989; Baken and Linden, 1992:77). Siembieda (1994:147) observed that buying land in irregular settlements continues to offer a series of 'progressive' cost arrangement that facilitate land access.

Therefore, it becomes necessary to examine the effect of large-scale land policy on land value and its contribution to the creation of informal land developments. This section aims to answer the following questions:

1. Is the initial cost of entry in unauthorised land lower than formal land?
2. Has land regulation contributed to the increase of land prices?
3. Has the regularisation of previously unauthorised colonies and provision of infrastructure on them raised land prices? and
4. Has the high cost of available land resulting from the above factors encouraged households to use alternative strategies for obtaining land which were illegal?

7.4.1. Land Values In Formal Segments Of Land Market In Delhi

It is observed in this study that under the operation of large-scale public land policy there are about five kinds of major land rates prevailing in Delhi: (1) pre-determined rate's (PDR) fixed by DDA for subsidised land allocations to low and middle income groups, alternative allotment to landowners whose land was acquired, co-operative societies and government institutions; (2) the auctioned rates on which land is sold to a higher income group for residential use, and plots (shops/estates) for commercial and industrial use; (3) the market rate fixed by the Ministry of Urban Development in regard to freehold land, and by the Delhi Administration in respect of resold leasehold land for the purpose of calculating unearned increase to be charged from resold formal land, mis-use and conversion charges; (4) the leasehold resale market rate on which formal land is sold illegally; and (5) the freehold market rate prevailing in freehold and unauthorised (regularised/fresh) segments of land market.

Table 7.16 details the different kinds of rate in existence in 1980-81 in different sub-markets, and a range of rates within the leasehold submarket promoted by the public land delivery policy. In addition, land price of individual land parcels varies by prime attribute such as use, location (roads and distance from CBD), plot size, services available in and around the plot, and the duration of transaction. It became very difficult to figure out the detailed picture of land prices in all sub-markets existing in Delhi due to inadequacy of reliable data from secondary sources. Given this existing complexity of the land market,

the cost of entry could not be estimated for all submarkets. However, the following sections analyse the comprehensive difference in land prices that motivated the residents to choose illegal land in unauthorised colonies. Chart 7.3 shows the different forms of demand moving to illegal land due to land prices.

Table 7.16. Residential land rates (Rs. per square metre) prevailing in 1980-81

Location/ Name of the Colony	PDR Rate	Auctioned Rate	Market Rates Fixed	Leasehold Resale Rate	Freehold Market Rate	Informal Market Rate
North Delhi						
Shalimar bagh	155-358	474-1262	392-600*	-	1100-1500	-
Azadpur	-	-	400**	-	NA	-
Budh Vihar	-	-	-	-	-	48-72
South Delhi						
East of Kailash	179-269	615-1885	627*	NA	-	-
Greater Kailash 1	-	-	-	-	1500	-
Kalkaji	-	-	400**	-	-	-
Sangam Vihar	-	-	-	-	-	299
West Delhi						
Vikasपुरी	144-191	198-710	202*	NA	-	-
Tilak Nagar	-	-	200**	-	NA	-
Uttam Nagar	-	-	-	-	-	74- 155

* Market rates fixed by the Delhi Administration for purpose of calculating unearned increase, mis-use charges, conversion charges etc., in DDA allocated leasehold land.** Market rates fixed by the Ministry of Urban Development for purpose of calculating unearned increase, mis-use charges, conversion charges etc., in freehold land not allocated by DDA.

Source: Compiled from authors field survey data, DDA records and unpublished dissertations.

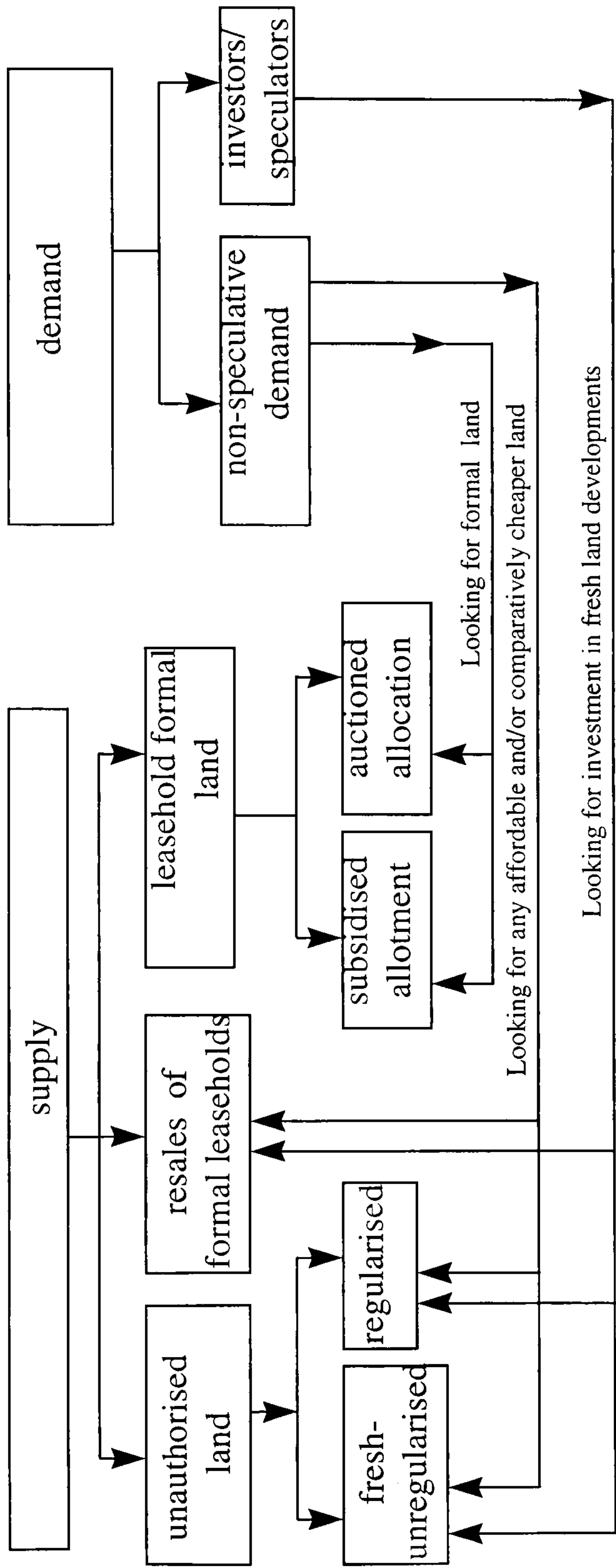


Chart 7.3 Demands attraction to land values and available land supplies in Delhi

It may be worthwhile noting here that there are many sub-markets in land, such as freehold market (formally approved freehold, approved parts of urban and rural villages), leasehold market (formal land and resale market), informal market (fresh and regularised), emerging under the operation of large-scale public land delivery policy in Delhi (see Chart 5.7). The ranges of land prices are not similar in these submarkets due to their varying legal status as well as other attributes that determine land prices. However, it is observed that there are not many resales taking place in the freehold market, and builders mostly operate in this market. Therefore, the sub-markets that are easily accessible for fresh land and comparatively cheaper prices are leasehold market (formally allocated and resale market) regulated by the public land delivery policy, and informal market (regularised and fresh) operated by colonisers, land and plot owners.

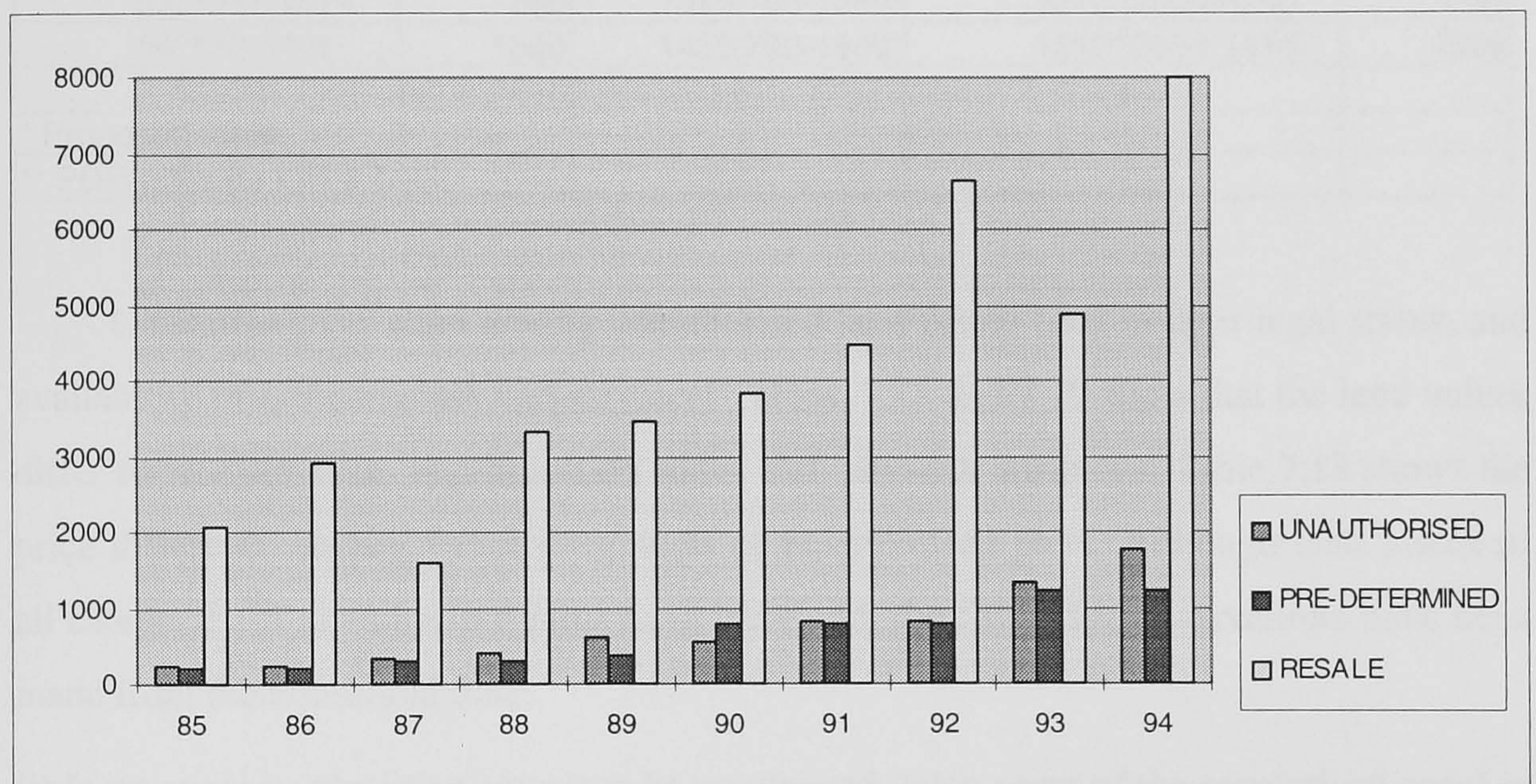
7.4.2. Initial Cost Of Entry In Formal And Informal Sub Markets

Mitra and Nientied (1989) worked out a logical cost of entry for formal and informal plots for twenty years and concluded that the informal are cheaper than formal land supplied by public land deliveries. An attempt has been made to work out the cost of entry in formal and informal plots with the empirical data gathered from different sources. But, the attempt did not prove reliable as the regularisation and infrastructure costs recorded from households do not match, and the concerned government departments could not supply the required information. However, the general response of the informants suggests that the initial land prices paid at the time of purchase mattered more to them than an 'entry cost' derived over a period of ten/twenty years. About 59% of interviewees residing on informal land built their houses in phases, and about 33% had paid their land prices in instalments. Thus, affordability and choice of tenure of a large number of households are determined by their ability to pay initial costs than entry costs averaged out over a period.

Chart 7.4 shows that the informal land prices (average prices) mostly match only the subsidised pre-determined land rates on which land is allocated to low and middle income groups. The household land prices (average and median) compiled for the northern part of Delhi (Table 7.17) shows that the minimum range of the formal land prices is the pre-determined prices on which land was allocated (subsidised) to low and

middle income groups. The maximum range of formal land prices is the resale market prices prevailing at Rohini plotted development scheme promoted by the DDA under the large-scale public land policy. The minimum range of informal land prices was always lower than both, pre-determined land rates as well as resale market prices. The maximum range of informal prices, on the other hand, was always higher than the pre-determined rates but lower than resale market prices.

Chart 7.4 Unadjusted sub-market average land prices as reported by interviewed households in Delhi



These prices indicate that initial cost of entry is lower in informal settlements for (i) those who could not pay formal pre-determined rates (low and middle income group who have not been allocated land in time and who could not apply due to the high cost of land), and/or (ii) those who wanted to pay lowest prices (higher income group and self-employed private entrepreneurs who could not and/or did not bid in the commercial auctions).

Table 7.17. Unadjusted land prices (household sell-prices) in formal and informal plots in northern part of Delhi, 1985-94.

Household Land prices (Rs per square meter) in informal and formal plots							
	Informal		Pre-determined rates**			Formal	
	Price					resale price	
Year	Range(North)	Average	Median	Range	(PDR)average	Range(Rohini)	Average
85	84-389	173	120	125-250	190	1146-2967	2057
86	108-1017	405	450	125-250	190	2917	2917
87	120-598	366	329	205-410	314	1538-1667	1603
88	275-2870	901	508	205-410	314	2308-4688	3324
89	108-2392	771	598	248-496	380	1250-5208	3451
90	574-1196	921	957	498-996	763	1269-6667	3838
91	598-1076	753	748	498-996	763	2083-8654	4476
92	84-1674	844	718	498-996	763	1538-14844	6643
93	1017-1674	1256	1076	790-1580*	1210*	2500-8750	4898
94	120-5681	1560	1435	790-1580*	1210*	2604-14167	7999
* Proposed rates.							
** PDR rates for LIG & MIG.							

Concerning variation among unauthorised land prices (due to their legal status, and availability of infrastructure and services) Tables 7.18 and 7.19 show that the land values differ depending upon regularisation status and physical attributes. Table 7.18 shows the price difference among various segments of unauthorised plots. Although land prices of all categories of unauthorised plots have increased, the following observations have been made from the household data:

(i) In an average, plots that are yet to be regularised (also some of the regularised ones) in the regularised colonies were obtained paying prices lower than the others. This is due to their uncertainty in obtaining both regularisation orders and required services to plots (that were not regularised during their turn).

(2) Plots located in newly subdivisions and colonies where regularisation is in progress demand prices higher than others. This is because of their locational advantages for commercial and non-residential uses.

(3) Plots that are yet to be regularised but have some sort of access to some services have also demanded comparatively higher prices than those located in regularised colonies. This indicates their advantage towards future resale and possibility of their regularisation.

However, considering the limitations in sample size that constrained the number of transactions obtained from households, we suggest that this phenomenon needs a detailed analysis of both primary and available secondary data.

Table 7.18. Unadjusted land prices of different categories of unauthorised plots

Land price range(Rs per square meter) in different categories of unauthorised plots						
Year	Regulised Range	Not Regulised	Unregularised in regularised	Regualisation Progress	Not regularised with services	Overall Price range
72				72	10	10.0-72
73		14				14
74	31	48-114		14	17-42	14-114
75						
76						
77	30				179	30-179
78	36-179					36-179
80	48-120	72-299		74-155	90-120	48-299
81	66	78-84		120-239	239	78-239
82	36-120	60-299		72-179	71-730	36-299
83	90-311	48-299		71-96		48-299
84	478	60-239		120-239	48-598	48-598
85	120-598	84-448		108-419	120-299	84-598
86		108-478	478	126-1017	120-269	108-1017
87		120-598		120-478	179-239	120-598
88	957	269-538		419-2870	478-598	269-2870
89	179	108-2392		431-1017	329-2153	108-2392
90	1435-1794	239-957		718-3528	598-1435	239-3528
91	837-1196	419-1435		538-1914	115-3588	115-3588
92		263-1671	957	84-4664	419-2392	84-4664
93	1555	299-3190	1017	837	1076-3588	299-3588
94	1316-5681	120-9568	957-1196	538-5980	598-7176	120-9568

Note: Blank cells indicate unavailability of household data

Regarding variation of land prices affected by availability of services, Table 7.19 shows that the values of informal land vary depending upon their location, physical condition and accessibility to services. Although, it is difficult to segregate the picture of land price variation by location of surveyed colonies due to the limited data obtained from household land transaction, overall price range indicates the following:

1. Plots subdivided from plain terrain obtained higher price than those located in water logged area, steep slopes and flood prone areas.
2. Plots that avail generator facilities and legal electricity connections priced higher than those having illegal connections or none.

3. Plots having individual sewer connections or septic tanks priced higher than others.
4. Plots having individual municipal water connections and public water supply commanded higher minimum prices than others; and
5. Plots that avail advantage for commercial use (along major roads) command higher range of prices than plots put to residential use.

7.5 INVESTMENT, INCOME EARNING, BUSINESS AND SPECULATION

The literature observes that illegal developments are encouraged by various reasons to do with investment and speculation in land (see Chapter 2). The prominent reasons suggested in the literature are: (i) dominant use of foreign earnings against lack of investment opportunities created by the public land deliveries (Steinberg, 1990; Baross and Linden, 1990); (ii) alternative investment to affordable households (Mitra, 1990); (iii) opportunities of extra-revenue and income earning through informal economic activities such as workshop or shop, renting, sub-letting or sale (Silas, 1988; UNCHS, 1984); and (iv) a risk that a landowning elite accepts in order to maintain ownership and capitalise the surplus values (Zetter, 1984). Similarly, the literature also states that the speculation promoted by rising land prices (Baross and Linden, 1990), and subsidised public land deliveries attract a large number of ineligible people to speculate on land (Misra, 1986). It is also believed that the institutional speculation promoted by the DDA by auctioning land to higher income residential, commercial and industrial use has attracted private speculation (Howland, 1977).

The field survey conducted in unauthorised colonies reveals that a negligible number of households (1%) had sources of foreign funds (i.e., remittances) to invest on their illegal land. Also, investment is not the primary reason for the creation of unauthorised land in Delhi: only two per cent of interviewees who had moved from formally allocated plots gave investment as a reason.

However, Table 7.20 shows that 64% of interviewed who moved from formal plots, who applied for formal plot but withdrew their application later (20%), and 17% who never applied for formal land, own more than one plot. A large number of these households belong to high income (39%) and middle income (23%) groups. Therefore,

though a majority of households who prefer informal settlements are not investors on the land, the data shows that a considerable number of high and middle income households who were already allocated land and still awaiting formal land took advantage of the emerging informal land market and sales, and turned it into their capital market. The land itself was their investment or they were small speculators. These households opted for unauthorised land for various reasons such as opportunity of obtaining large size of plots, inapplicability of land use and subdivision regulation, and possibility of commercial use, plot subdivision in a later stage and also possible vertical expansions (see Chapter 6).

Table 7.20. Formal land allocation status and ownership of more than one plot

Applied DDA	Own other plot		
	Yes	No	Total
Applied and withdrew	2 (20.0)	8 (80.0)	10 (3.8)
Still Waiting	-	14 (100.0)	14 (5.3)
Land allocated	14 (63.6)	8 (36.4)	22 (8.3)
Land denied	-	2 (100.0)	2 (0.8)
Never applied	37 (17.2)	178 (82.8)	215 (81.1)
No response	2 (100.0)	-	2 (0.8)
Total	55 (20.8)	210 (79.2)	265 (100.0)

Missing cases: 35

Besides, a considerable number of landowners, colonisers and property dealers, are taking advantage of the lack of formal land supply, and undertake the risk of subdividing their land in the name of households in order to capitalise the surplus land values associated with rising prices (see Chapter 6).

7.6. INSTITUTIONAL AND ADMINISTRATIVE MECHANISMS

Literature state that malpractice such as corruption, bribes, nepotism and favouritism in land allocations, and institutional deficiencies resulting from administration of public land deliveries, encourage illegal land developments (see Chapter 2). Furthermore, the involvement of many politically motivated actors and sponsors against the public land policy operations encourages the growth of large-scale informal land allocation practices (Kombe, 1993; Mitra and Nientied, 1989; UNCHS, 1984; Amis, 1984; Payne, 1984).

The responses of surveyed households indicate that the existence of malpractice (corruption, bribes and favouritism) has not played a crucial role in encouraging unauthorised land developments in Delhi. A negligible number of interviewees (5%) stated that the malpractice was a reason for their choosing unauthorised land. However, about 17% of interviewees among landowners stated that bribes in land compensation attracted them to illegally subdivide their land, and some of the households and agents interviewed voiced their concern over corruption.

Similarly, a large number of interviewees (63%) stated that they were are not assisted by any actor or sponsor (see Table 6.15). However, 29% of interviewees stated that they were helped by property dealers and about 3% sated that they received some assistance from colonisers. This indicates that unauthorised land developments in Delhi are mostly assisted by informal developers than by any politically motivated actors and sponsors.

It is observed that there are a number of small private developers and property dealers operating in formal and informal segments of land market in Delhi. The policy of preventing private developers in formal developments is probably a reason for this increasing number of landowners, colonisers and property agents who turn into small scale land developers and builders.

7.7. APPLICATION OF MULTIVARIATE ANALYSIS TO ASCERTAIN THE SIGNIFICANT CONTRIBUTORY VARIABLES OF PUBLIC LAND POLICY

Multivariate analysis to ascertain the significant contributory variable and to identify relationships or associations among variables could not be extended to this study.

Because, the analysis for this study was carried out in different levels (see Chart 3.1) in order to answer the research questions, and the study emerged as exploratory research (than hypothesis testing) due its synthetic/holistic perspective and necessity of analysing four data sets that were inconsistent. The situation of inconsistency arose due to a high element of illegality in all sets of data that were required for this study and lack of prior research that could yield reliable variables to be tested for their significance of contribution in this study. Consequently, this research found difficulty in isolating the dependent and independent variables among numerous variables that are assumed to be correlated among themselves. This study by careful exploration of inconsistent data sets by exploratory analysis yields some new findings that were unanticipated and can also lead into a position to generate testable hypotheses for future researches.

Although multivariate regression/ correlation (simple linear or stepwise regression) analysis could have helped to understand the significant contribution and interrelationships among variables (Chatterjee and Price, 1977) for which data was collected, this study found following difficulties in using this technique:

1. the data sets were inconsistent in terms of their number of cases and variables due to the element of illegality of land that were occupied by respondents of attitudinal survey;
2. this study being pioneer on investigating the public land policy factors (so called “independent” variables) contributing to illegal land developments and sales (so called “dependent” variable), it could not identify all relevant variables (due to reliability and accuracy of attitudinal data supplied on illegal issues, unavailable reliable prior researches, and lack of secondary data that constrained the accuracy of sample frame for probabilistic random sample) whose inclusion or exclusion could cause serious residual error and can produce undesirable effects on the results (Schroeder, Sjoquist and Stephan, 1986:66; Chatterjee and Price, 1977);
3. most of the potential independent variables (such as land prices and land use regulation) whose value depend on many other factors (example physical attributes) for which we have no access to the reliable data, as a result, their accurate values could not be realised in the study leading to incompleteness of the data;

4. the study on composite effect of land policy factors demanded more of analysis of cause and effect that are not indicated by the complex regression and correlation techniques, because association and relationship does not prove causal relationship between two variables (Hannagan, 1986:214);
5. as this research primarily analyses the determinants of illegal land development and sales on the policy-effect angle both formal and informal land deliveries had to be analysed for which comparable variables of data could not be collected due their differential market statuses; and
6. there were no complete theories or models to guide this typical research to formulate specific hypotheses prior to this research.

Therefore, as implied in the choice of research methodology, the approach of 'heuristic' or hypothesis generating research with exploratory data analysis enabled this research to answer research questions and find aspects of the data that were not expected. Further, this study could identify certain new contexts which are very important for the policy formulation (such as the ways in which land policies contribute to illegal land developments) which are not amenable to statistical testing. Therefore, restricting the study to statistical testing would lead to discarding of a set of data that is important from this research perspectives. Nevertheless, by this approach, the researcher could observe and record some new contexts that were unknown and the study could attempt to include as much of the contextual information as possible. Furthermore, the descriptive or exploratory data analysis applied in this study allowed so much as different ways of manipulating data in different configurations or combinations to answer research questions.

Inter-related analysis of the different causes identified as major reasons that are influential in the formation of unauthorised settlements

In this study different sets of inconsistent data collected from three different investigation methods were used: (1) attitudinal data provided by households of formal and unauthorised land; (2) opinions of concerned groups; and (3) data collected from secondary sources. The data has been analysed in the form of four perspectives: (1) individual analysis of current contextual situation; (2) comparative analysis of formal and informal situations; (3) in-depth analysis of specific indicators derived from de-facto

theory (literature review in this case); and (4) analysis of secondary data. With this multistage exploratory analysis, this study could identify major causes/primary reasons that influenced the formation of unauthorised settlements in Delhi.

Since the aim of this research design was to enlist the effects of public land policy on formation of informal settlements and the ways in which the policy of large-scale public land delivery contributed to their formation, the quantitative testing of causes and reasons could not be performed. However, a simple qualitative assessment is carried out on the basis of survey data. The policy related reasons that are found to be substantial causes that influenced the formations of unauthorised settlements have been categorised into three major groups to represent the prime elements of land policy. They are: (1) public land delivery terms and conditions; (2) planning controls; and (3) land values/price controls. The survey data indicate that the reasons concerning public land delivery have been most influential for the formation of unauthorised settlements in Delhi. This fact is supported by the social survey data as well as secondary data analysed for this study. Their group wise and individual assessment is explained below.

Group 1: Public land delivery terms and conditions:

The analysis for this study indicates that the public land delivery encouraged the formation of unauthorised settlements due to four major reasons shown by data: (1) the public land policy's inability to allocate formal land within a reasonable time; (2) cumbersome land delivery procedures; (3) its failure to provide adequate land for commercial use and investment purposes; and (4) rigid conditions on construction of houses on formally allocated land. Among this, the first reason is more influential than others as the study found that 80% of surveyed households living on unauthorised plots obtained their land within a reasonable time provided they had sufficient finance and willingness to invest in housing.

Similarly, the second reason is next influential as 75% of respondents have stated that they had faced little difficulty in obtaining unauthorised land. The conditions of land allocation (i.e., only one plot to be allocated and that too be allocated to those households who were already living in Delhi for a considerable time) have also considerably influenced the formation of unauthorised settlements. This reason attracted about 65% of migrant households to buy unauthorised land. Although the failure of public land delivery

to provide adequate affordable land for commercial and investment purposes were not a the major cause that attracted respondents to choose illegal land, its influence is traced from illegal resales and movement of large number of households motivated by self-employment/ shopkeeping to unauthorised colonies.

The data also indicate that the DDA's lease conditions (such as rationing of allocation, i.e., delivery of only one plot per household, a 10-year ban on resale of formally allocated land, and compulsory remittance of 50% of the unearned increase in the value of land to the lessor in the event of resale have been influential for unauthorised sales as well. As indicated by survey data these conditions have influenced unauthorised sales due to: (1) the inability of the formal land delivery mechanism to check the allocation of more than one formal plot/flat (often more than one obtained in the name of their spouses and family members); and (2) inadequate supply of formal land for housing and investment purposes. Thus, the situation of unsatisfied demand resulted from the public land delivery has encouraged 86% of respondents who had never applied for DDA plot/flat to buy illegally resold formal plots. Further, income criteria that determined the subsidised formal allotments of predetermined plot sizes were not successful in finding the right income groups because as much as 57% of allottees felt their plot sizes were not according to what they need and can afford. In effect, they moved to larger size of plots of illegal status.

Group 2: Planning Controls And Building Bye-Laws

The analysis of household data shows that the smallness of formal plots allocated by the public land policy, restriction of commercial use in formally allocated land and building bye-laws applied to formal developments were reasons for the formation of unauthorised settlements. Among them, smallness of formal plots is more important reason because 57% of households who moved from formal to informal plots cited smallness of plot size as a primary reason. The restriction of commercial use in formal plots is another important reason for unauthorised land developments and illegal acquisitions of formally allocated land. Because about 70% of who moved from formal land expressed specific concerns over the restriction on commercial use of formal housing land. Furthermore, increasingly, the effect of building bye-laws applied to formal developments influence the

formation of unauthorised settlements because 30% of informants who had moved from formal to unauthorised colonies expressed this.

Group 3: Land Values And Price Controls

The analysis of data indicates that increasing formal land prices (the inability of public land delivery policy to control rising land prices) have influenced the formation of unauthorised settlements because the majority of respondents' opinion indicate that the initial cost of entry is lower in informal settlements. This reason encouraged the respondents who could not pay formal subsidised land rates and those who wanted to pay lowest prices to opt for informal land that is comparatively cheaper.

7.8. CONCLUSION

This Chapter has established that large-scale public land delivery contributed to unauthorised land developments by allocating inappropriate land to some households, and leaving unmet demand among others, especially among those who never applied for formal land.

The analysis of field data has revealed that 77% of the residents of unauthorised land have moved from neighbouring states. Most of them bought their unauthorised land for owner-occupied housing, and a substantial number of them preferred illegal land rather than to wait for formal land allocated on the basis of regulatory conditions. In the absence of alternative channels of adequate options of authorised land supply, the migrants who fail to fulfil the required formal procedures and the condition of a significant period of stay in Delhi opted for unauthorised settlements.

The analysis indicates that the suitability of unauthorised land towards the majority of households appropriate time of affordability of housing land that was unavailable through large-scale public land delivery. The responses of the majority of interviewees residing on unauthorised land reveal that they could obtain their informal plots in the time they desired, and when they could afford sufficient finance and were willing to invest on housing. Illegal settlers faced little difficulty in taking possession of their land and most of them are satisfied with their land.

The cheaper land rates paid by the government for compulsory public land acquisition and resulting attraction of profitmaking to landowners has motivated them to illegally subdivide and sell their land. Hence, the inability of public land policy to mobilise finance through expropriation of land at off-market prices has encouraged various agents to assume an unauthorised role in the land development process. The weaknesses in public land acquisition and delivery under the large-scale public land ownership have contributed to a shortfall of supply relative to demand, motivating households to recognise and also to opt for the unauthorised land developments.

The unauthorised land developments in Delhi are quicker, administratively simpler and locationally better advantaged in regard to distance from place of work and access to services than are formal developments. Informants on unauthorised land report that the illegal land was released more quickly than formal housing land supplied by the Delhi Development Authority. All but two per cent of interviewees reported a waiting period for unauthorised land of less than a year. Neither were there any administrative procedures, form-filling nor other paperwork, nor advance payments. The interviewees had many opportunities to choose the appropriate size of the plot they could afford and required, and most of them had not faced difficulties in obtaining possession of the land and paying higher rates, or of cheating and supply of faulty documents. Unauthorised land delivery does seem to provide flexibility towards payment of land cost and built houses in phases, and attendant choices of distance from work.

The lease deed condition of restriction of commercial use in formal plots and the policy of auctioning land for higher income residential and commercial uses were a reason for unauthorised land development in Delhi. The existing commercial nature of a large number of houses having in-built commercial spaces in their residences and households owning shops near their residence reveal that restriction of commercial use in formal plots is a reason for unauthorised land developments. In both informal and formal segments of the land market, the majority (59% in unauthorised area and 87% in formal Rohini area) of land use violators are self-employed private entrepreneurs/shopkeepers. A person interested in land (commercial or commercial cum residential), or a person interested in commercial enterprise but unable to afford auctioned commercial plot) has no option than choosing informal land. This fact is supported by the responses of a majority of households (70%) who moved from DDA allotted plots to unauthorised

colonies, that restriction of commercial use in formal developments was the reason for their movement to unauthorised land.

The field data also reveal that the stringency of the condition preventing resale of formal land within ten years, and compulsory remittances thereupon of 50% of the unearned increase in the value of land to the lessor, have encouraged immediate illegal resales of formal land in the regulated formal market. These plots have been mostly sold to property agents who in turn sold and/or arranged sale to households at a higher price. Being allocated a second plot despite checks by the public land delivery system, and the higher price commanded by such resale plots were the major reasons behind such illegal sales.

It is observed from field results that the income criteria followed in public land allocation have not checked the mis-appropriation of formal plots against the condition of allocating only one plot to a household in the city. The households' income at the time of survey is different from that of the income category on which they were allocated subsidised plots at Rohini.

The data show that the formal housing land allotted in the form of plot/flat by public land delivery did not reach the right person, aggravating the unsatisfied demand. Because public land delivery does not result in land demand being matched with formal supply, upper income households procure small sized formal plots illegally. This induces a large number of households who have been allocated subsidised formal plots and/or those who obtained more than one plot to resell their formal plots illegally for a higher price.

The majority of interviewees moved from formal to informal plots due to the smallness of the former, and for the flexibility afforded by unauthorised land. The majority of households who prefer informal settlements are not investors, but there is a considerable number of high and middle income groups already allocated land, still waiting to take advantage of the emerging informal land market.

The informal land prices (average prices) mostly match subsidised pre-determined land rates on which land is allocated to low and middle income groups. The prices indicate that initial cost of entry is lower in informal settlements for those households unable to pay formal pre-determined rates (low and middle income groups who have not

been allocated land in time and could not apply due to high cost of land), and/or those who were prepared to pay only the lowest price (higher income group and self-employed private entrepreneurs who could not and/or did not bid in the commercial auctions).

Colony Name	Physical condition of the area			Electricity			Sewer	Make Shift	Individual water supply			Public water supply			Use of the plot	
	Flood Prone	Steep Slope	Water Logging	Plain Area	DESU	Illegal			Generator	None	Individual Municipal	Borewell	Hand Pumb	Public Connection	Public Hand pumb	None
Budhvihar			957-5681	837-2392	1017-5681	837-2392		837-5681							837-5681	897-3827
Gopal Vihar			1196-2990	957-2990	957-2990	957-2990		1196							957-1196	957-1196
Vijay Vihar			2392	2392	2392	2392		2392							1196-2990	957-2153
Yadev Nagar			897-1435	598-3588	598-3588	598-3588		598-3588							598-3588	598-3588
Swaroop Nagar			120-1196	120-1196	120-1196	120-1196		120-1196							120-957	120-957
Jeevan Park			1112	1112	1112	1112		1112							1112	1112
Libaspur			1196-2392	1256-2392	1435-2392	1435-2392		1196-2392							1196-2392	1196-2392
Punjabi Colony			508-2392	1196-9568	957-9568	957-9568		957-9568							508-9568	508-9568
Sangam Vihar			4485	4485	4485	4485		4485							4485	4485
Sainikfarm			718-3289	718-2033	718-3289	718-3289		718-3289							718-3289	718-3289
Mitnagar			1196	1196	1196	1196		1196							1196	1196
Biharipur			526-1435	538-1196	526-2990	526-2990		526-2990							526-2990	526-2990
Sonia Vihar			2392	2392	2392	2392		2392							2392	2392
Khajuri			2990-3588	2990-3588	2990-3588	2990-3588		2990-3588							2990-3588	2990-3588
Sabhapuri			568	568	568	568		568							568	568
Shastripark			1435-6578	1316-1435	1316-6578	1316-6578		1316-6578							1316-6578	1316-6578
Joshi Colony			4784	4784	4784	4784		4784							4784	4784
Mandawali			1794	1854	1794	1854		1794-1854							1794-1854	1794-1854
Vinodnagar			897-1316	718-1196	897-1316	718-1316		718-1316							718-1316	718-1316
Mahalaxmi Enclave			1555	538-2631	538-2631	538-2631		538-2631							538-2631	538-2631
Babu Nagar			1017-2661	1196-1794	1017-5980	1017-5980		1017-5980							1017-5980	1017-5980
Mustatabad			1076-7176	1435-3588	1435-7176	1435-7176		1076-7176							1076-7176	1076-7176
Ashok Nagar			957	957	957	957		957							957	957
Ramapark			837-1316	837	837	837		837							837	837
Laxmivihar			1316-5980	718-1794	2392-5980	1495-2990		718-1794							718-1794	718-1794
Bagwati Garden			1196	1196-1435	1196-1435	1196-1435		1196-1435							1196-1435	1196-1435
Mohan Garden			1674	1674	1674	1674		1674							1674	1674
Rajdhanipark			2392	2392	2392	2392		2392							2392	2392
Ratanbag			1196-2093	1196-1316	1196-2093	1196-2093		1196-2093							1196-2093	1196-2093
Mahvir Enclave			538-598	538-598	538-598	538-598		538-598							538-598	538-598
Nanhepark			1734	1734	1734	1734		1734-2392							1734-2392	1734-2392
Arjunpark			1794	1794	1794	1794		1794							1794	1794
Kiren Garden			2093-2272	2093-2272	2093-2272	2093-2272		2093-2272							2093-2272	2093-2272
Sukiram Park			957-1435	957-1435	957-1435	957-1435		957-1435							957-1435	957-1435
Patel Garden			837-1435	837-1435	837-1435	837-1435		837-1435							837-1435	837-1435
Guruharikrishn Ngr			1196-1435	897-1196	1196-1435	837-1256		837-1256							837-1256	837-1256
Vikas Nagar			1076-1734	1196-2392	1316	1076-2392		1076-2392							1076-2392	1076-2392
Swaran Park			508-6578	120-9568	897-6578	538-5980		120-9568							508-6578	508-6578
Sainik Nagar			478-2990	837-4186	658-2392	478-5980		658-2392							478-5980	478-5980
All Range																

Table 7.19 Unadjusted land prices (Rs. per square metre) and availability of infrastructure on unauthorised plots

Note: Blank cells indicate data not available

Source: Household survey conducted during July-November 1997

Endnote for Chapter 7

¹ Refer Chapter 5 for more details on housing land delivery and provision of subsidy.

² State government is a provincial administrative body responsible for provincial/state or city administration. In Delhi, it was called Delhi Administration until 1993. Now, it is called “state government of National Capital Territory of Delhi.

³ See for example the application brochure “ Rohini - a new approach to comprehensive planning,” DDA, 1981.

⁴ Commercial and industrial land is allotted on predetermined (subsidised) rate to only few special designated categories of households. For details refer Chapters 4 and 5 of this thesis.

Chapter 8

SUMMARY AND CONCLUSIONS

8.1. PREAMBLE

This final Chapter qualitatively tests the hypothesis set in the beginning of this research, and answers the research questions and propositions. The inferences drawn from the findings of the analysis are discussed with reference to their implications on the post factum theory built in Chapter 2. The Chapter also discusses the implications of major findings on the emerging theoretical knowledge from the experience of implementation of large-scale land policy schemes in Delhi and on the viability of the concept of large-scale public land policy on the provision of access to land for housing and the prevention of unauthorised land developments in the cities of developing countries. The implications of these major findings are examined discussed with reference to the formulation of more efficient and effective public land policy in Delhi and the possibility of extending Delhi's public policy concept to other cities in India.

8.2. SUMMARY OF MAJOR FINDINGS AND THEIR RELATION TO THE WORKING HYPOTHESIS, QUESTIONS AND PROPOSITIONS

This research which analysed the operation of large-scale land policy and unauthorised land developments has found that there is a relationship between policies and the households attitude to create unauthorised land developments in Delhi. The major findings of this and their relation to the hypothesis are discussed in detail in the following subsections.

8.2.1. Research Findings

This research found substantial evidence that large-scale land acquisition, development and disposal policies which govern the public authority's delivery of land for housing have been major contributors to the creation of unauthorised land developments and housing in

Delhi. Despite the DDA's efforts to provide sufficient land for planned development through regulatory supply mechanism, the formal housing land delivery has failed to cope with the growing demand. Using interviews with 300 households living on illegally developed land, 106 households living on illegally resold (but legally developed land), 28 households who illegally resold their plots, and 69 property agents, this research obtained explanations of their actions which can be linked to the principal land management policies of the DDA. Their accounts indicate that a substantial portion of them sought to obtain illegally developed land or to illegally obtain land because DDA policies:

- failed to offer them legal alternatives which were affordable;
- failed to provide legal alternatives in sufficient quantities which allowed those interviewed access to available land;
- failed to make available alternative choices of size, house type, location and options of tenure and standards that were legal;
- failed to ensure adequate legal land was available at the time a household preferred to obtain land or housing;
- failed to make available adequate affordable land that could offer investment opportunity, non-residential use and/or income earning or employment opportunities; and
- failed to provide cheap land with sufficiently flexible lease terms, use and design conditions, and delivery procedures.

The accounts of interviewed households who moved to unauthorised land despite DDA's allocation of housing land to them, and of households who illegally resold their subsidised plots at Rohini indicate that the DDA's land delivery mechanism:

- failed to offer the right plot sizes and affordable prices for their preferences;
- allowed them to obtain substantial unearned profits in the illegal resale market;
- failed to prevent families from illegally obtaining more than one allocated plot;
- failed to offer legal options for future expansion of an allocated housing unit.

The accounts of households living on unauthorised land developments indicate that the land delivery mechanisms of informal markets are effective in providing access to land to these households because of their ability to supply plots:

- at preferred or necessary times, in contrast to the long waiting period required for DDA allocated land;
- in varying sizes that are affordable (especially sizes larger than the DDA supplied);
- at cheaper prices than legal land obtainable at that moment;
- permitting flexible payments of land prices which fit the financial capacities of households;
- on which house construction can be carried out incrementally and in phases.

This research has also found that the policy of regularisation of some of the unauthorised developments has also encouraged investment in additional illegal development. This attracted small portions of households who had applied and were waiting and of others who were already provided with legal land by DDA. They were encouraged by the possibilities of investment, and extra-income earning opportunities such as shop-keeping and commercial-cum-residential use of their space, in the face of the lack of affordable legal alternatives.

In order to systematically achieve the aims of this research (see Section 1.0), a working hypothesis was conceived, and a few research questions and a number of theoretical propositions were posed (see Section 1.4) to qualitatively test the hypothesis. The relation of hypothesis to research findings is summarised in the following section.

8.2.2. Findings With Regard To The Research Questions And Propositions

Certain research questions and propositions have been posed at the start of this research (see Section 1.4). With regard to the first of those questions, the analysis of the data gathered from the household survey and office records showed that large-scale unauthorised land developments and illegal transfers of formal land emerged during the operation of public land policy in Delhi. This is because the operation of public land policy in Delhi has not provided adequate legal land for housing. By the end of thirty years of operation, the DDA had supplied only about one million dwelling units against an

estimated demand of approximately 1.5 million. Besides, a backlog had accumulated by August 1993 of about 112,682 households, who have registered and have been waiting for formal land over a period varying between 4 and 14 years.

This accumulated backlog arises from the DDA's inability to acquire adequate land for its land bank which has delayed the development and delivery of land. Thus, it is no wonder, in a capital city like Delhi where there is a limited cheap rental accommodation available, that the public policy could not achieve its aim of fully preventing unauthorised land developments and sub-standard squatting. This research observed that the DDA was the only source of legally developed or acquired land. It supplied land for leasehold ownership and there were no legal channels to provide rental housing except some government departments who built limited accommodation for their staff. The response of 81% of those interviewed living on unauthorised plots, and 86% of those interviewed living on illegally resold formal plots show that they never applied for formal land.

The responses of those interviewed indicate that the DDA has not provided adequate access to land for housing through its policy instruments. They indicate that the DDA's land delivery mechanism has not controlled land prices, land speculation and/or profiteering from land, and could not re-capture unearned increments from the resold formal land. From the responses gathered, it can be concluded that the DDA's land delivery system has not supplied the right lands, to the right persons/parties, at the right time and at reasonable prices. The most important effect was to encourage the creation of illegal land development and transactions. This had other negative impacts, such as the downward raiding of higher income households into low and middle income subsidised plots. The policy has not promoted adequate access to legal land for all. The effects of the DDA's regulated land delivery as stated by those interviewed are summarised below.

DDA's policy of delivering affordable legal land on priority allocation, through discriminatory prices (subsidised for low and middle income and auctioned for higher income groups, and commercial and industrial use) and the policy of preventing investment in land, have encouraged the illegal transfer of land legally delivered by the DDA. Its failure to control illegal resells has encouraged extensive 'downward raiding or filtration' of higher income households into subsidised formal plots allotted to low and middle income households. Most higher and middle income households interviewed who have not

registered with the DDA under the land delivery schemes, have bought these resold DDA plots paying higher prices. Their responses indicate that the substantial reasons for obtaining illegally resold land are: the DDA's policy failure to provide alternative legal channels, to cater for the changing needs of housing; and to provide adequate quantities of affordable land for investment and commercial use.

The lack of alternative channels of affordable legal land delivery has stimulated large number of households to look for other alternative options. The colonisers' ability to promote unserviced unauthorised plots quickly of varying sizes, and with flexible norms, conditions and payments, encouraged large numbers of households to opt for these illegal plots. Meanwhile, as stated by households who left legally allocated land to occupy informal plots, the availability of affordable illegal plots equivalent to the sizes of formal plots supplied for the higher income group through auction sales, plus the expectation that their plots would eventually be regularised, have motivated a large number of households to opt for unauthorised plots with a minimum of essential services.

The interviews indicated that the DDA's method of allocating land at pre-determined prices to EWS, LIG, MIG households, while auctioning for higher income group plots and all commercial land, has also motivated many households to choose unauthorised land developments. The DDA's lease conditions prohibiting commercial use or commercial cum residential use in residential areas have made unauthorised plots attractive to many households.

The research has also found that the DDA's inability to implement its land delivery policies, unrestricted by only one formal plot allocation per family, has permitted middle and higher income households to obtain more than one formal plot in different schemes. Later, they can resell them for higher prices than they paid, and some times they have used the money to buy comparatively cheaper plots in regularised and new unauthorised colonies. In spite of increasing formal land prices, this process contributed to the failure of attempts to tackle speculation and control land values by supplying the right lands to the right parties at reasonable prices.

Those interviewed indicated that the availability of unserviced affordable plots, in sizes, at locations and at times they preferred, along with flexible payments that were not available from the DDA, were the prime reasons why they choose to occupy illegal plots.

They stated that unauthorised land was available for construction in phases, and as well as in large size plots at cheap prices. This substantially motivated most the households who could not, or had not applied for, formal land to choose unauthorised land straight away. Many interviewed also stated that the unauthorised developments provided flexibility from income restrictions, as well as choices provided choices of plot sizes and locations which made it easier to find an affordable plot at a suitable place. About 98% of the interviewees said they were able to obtain their unauthorised plots within one year, against the average wait of 5 years for formal land, which strongly contributed to their opting for unauthorised land even though it carried risks.

The research has found that the weaknesses of the public land acquisition, delivery and enforcement policies have contributed to the insufficiency of the formal land supply. The formal plots that fell short under the circumstances of slow supply facilitated the effective informal land demand which became a basis for the creation of large-scale informal developments. Furthermore, circumstances such as increasing formal land prices, lengthy and complicated procedures for lease execution, and restrictions on building design and expansion have also played effective roles in determining the illegal choices of these households.

The interviews indicated that a large number of households' ability to obtain a formal plot before or after formal plot allocation in violation to delivery conditions contributed to the resale of those plots. A small number of households were found to have already bought land in unauthorised settlements, and this encouraged them to sell their formally obtained land in the market for illegal land transactions for substantial profits.

From these findings, the research concludes that the inability of the DDA's policies to provide adequate access to legally developed land and the higher prices of the legally provided land that was available encouraged substantial numbers of those interviewed to use alternative strategies for obtaining land which was illegal in use and/or sale.

In addition to confirming the propositions, and research questions and finally the hypothesis, this investigation gave rise to some new research questions. It was found that 96% of households living on unserviced unauthorised plots and 79% of the surveyed households over all feel happy and satisfied with their unauthorised plots. This poses a new research question: whether or not city governments can supply land with minimum

services? What is the level of infrastructure that is required and will be accepted in order to promote large-scale planned development in a effective and efficient manner?

It is interesting to observe that out of the 300 households interviewed, 77% are migrant families which came from outside Delhi. Most stated that they arrived after the second drive of regularisation of unauthorised developments in 1969. A large number also stated that they arrived after the third regularisation drive in 1977. Interestingly, most of these households are engaged in self-employed private commercial business. Thus, their presence raises the question: is there any relation between regularisation and in-migration of large number of self-employed households into Delhi?

Considering the totality effect of Delhi's land policy which combined few public policy instruments, and the existence of similar informal developments in other circumstances where such policies do not exist, a post factum theory (see Chapter 2) was framed from these theoretical observations to corroborate the empirical findings with the existing theoretical debate. The research findings' relation to the theoretical debate is summarised in the following Section 8.3.

8.3. THE IMPLICATIONS OF THE RESEARCH FINDINGS FOR EXISTING THEORY

The research found in the earlier section that large-scale land policy has contributed to the creation of unauthorised land developments. This was true because the regulatory mechanism followed by large-scale land policy has failed to provide adequate access to affordable legal land for all. As a result, it has contributed to increasing illegal transactions of formal land, rising land prices, and ultimately peoples' attraction to unserviced informal lands that were available at that moment as per their preference. Thus, this section discusses the implications of these research findings for the existing theoretical debate on informal land developments and land policies effects theory: **the post factum theory and its modifications in view of the new findings.**

The post factum theory of this research (see Chapter two) postulated that informal developments are created as an effect of: a mismatch between the overall demand and the legal supply of land; land planning regulations executed in the form of use zones, subdivisions, building bye-laws and development standards; unaffordable legal land prices;

investment and speculation motives; and institutional and administrative deficiencies. This section is expanded under five major groups.

8.3.1. The Contribution of Demand And Formal Supply differences to the Creation Of Informal Land Subdivisions

The research found substantial empirical evidence to support the theoretical observation of many academics that overall demand exceeding the formal channels of supply will contribute to the creation of informal land developments (Ferreira et al., 1985; Soares and Stussi, 1990; Kombe, 1993; Mitra and Nientied, 1989; Maasdrop and Pillay, 1983; Pezzoli, 1987; Basu, 1988). This research found that Delhi's housing land supply provided through DDA's public housing and serviced land programmes to co-operatives and individual registrants has failed to deliver land fast enough. In due course, it not only accumulated a large backlog of formal registered unsatisfied demand, but it also failed to register all of those who were eligible for legal land.

The theoretical debate argues that government, if sufficiently active as a land developer, can dominate the market and can largely determine the supply of land (Sandercock, 1979). But it is counter argued that a government land delivery system cannot cope with the urban demand (Kombe, 1993) due to public authorities' inability to provide sufficient land on a large-scale (Misra, 1986; Yonder, 1987), because public land delivery tends to favour the middle class and plot speculators (Baross and Linden, 1990), and because inappropriate delivery to households is unavoidable (Mitra and Nientied, 1989). This research found from the responses of those interviewed that the DDA, in spite of being active for more than thirty years, could not provide adequate access to housing land for all. The supply constraints occurred in acquiring proposed land in time, developing acquired land as proposed, and delivering the developed land to the right party. As a result, it not only delivered formal land in a slow and uncertain manner, but it also could not ensure that delivery was regulated by the land disposal terms and conditions. There was substantial evidence that the delivery process allocated more than one formal plot to a household in many cases and that these extra plots were resold for higher prices.

There is also an argument that low income groups - the poor (Yonder, 1987) and disadvantaged (UNCHS, 1984) - who are excluded from legitimate access to land find no

option except through informal supply (Mitra and Nientied, 1989; Howland, 1977; Yonder, 1987; UNCHS, 1984). This research found that it is not only the unsatisfied low income demand that is encouraged to opt for unauthorised developments but also a substantial number of high and middle income households were encouraged to do so. A similar finding is reported by Pervar (1993) about Hyderabad where public development is active.

This research empirically supported the observation of UNCHS (1984) that the DDA's attempt to slow down the demand and discourage migration by a formal land eligibility requirement of five years of residency has encouraged large number of households to choose informal land where there are no such conditions.

This research found substantial empirical evidence from users that informal land sources are attractive because of their quick delivery (World Bank, 1980), flexible standards of sizes and services (Vernez, 1973; Payne, 1989), flexible procedures (Benninger, 1986), easily access (Doebele, 1987; Yonder, 1987), their developers are far more pragmatic and efficient in identifying what most people want and are willing to pay for (Payne, 1988:40), and they provide a realistic alternative choice to the poor (Doebele, 1987). But, there was no evidence that informal developments exist by violent acquisitions as noted by the World Bank (1980) elsewhere. This research found empirical evidence to the arguments such as subsidised public housing programmes directed towards low income groups are often appropriated by middle and high income households through illegal transfers or bureaucratic favouritism (UNCHS, 1984). And this downward mobility of speculation encouraged original formal allottees to choose different sizes of illegally sold formal plots and informal settlements as suggested by Misra (1986) and Yonder (1987). However, this research found that unauthorised land developments in Delhi accommodate more low, middle and high income households than the very poor. This suggest a new observation that when there is large-scale government intervention in land market, the resulting unauthorised developments restrict access to the poor because of their comparatively higher standards of subdivisions which forces the poor to very substandard living such as squatting.

It is argued that it is easier for a private developer or an individual to acquire, develop and also dispose of plots than the public sector (Soares and Stussi, 1990), and

they are quicker and better organised (Vernez, 1973). This research found evidence that informal developments cannot be compared with formal developments because most of the unauthorised land developers have not followed any planning, and have made no provision for infrastructure. Their primary role is to negotiate with land owners, cut the raw land into different plot sizes leaving little space for paths and sell them as and when buyers contact them. Until recently, these unauthorised subdivisions were done by a large number of land owners, colonisers, property dealers and plot owners. They develop them on in a very small scale: therefore they are quicker and better organised.

8.3.2. The Contributions of Land Planning Regulations To The Creation Of Informal Developments and Transactions

The World Bank (1980) argues that the history of lax enforcement of land use and subdivision regulation makes informal subdivision existent on a wider scale. This research found contrary evidence to this argument. A substantial number of those interviewed indicated that the absence of land planning regulations in terms of plot sizes, service standards, uses and construction motivated them to opt for unauthorised land. Lack of these regulations has also attracted some of those interviewed who had been already allocated formal land by DDA.

Theoretical arguments state that the policies of land use control restrict the range of choices available to land users. They restrict the locational advantages, employment and investment opportunities, ways and options of land development and timing of development (Monk, Pearce and Whitehead, 1991), they restrict the availability of land which can legally be developed (Parsons, 1992; Dowall, 1992), and in turn encourage users to look for informal land. This research found substantial evidence from the responses received that the restrictions imposed with formal residential land allocation were a reason for opting for informal land. A large number of households also mentioned the lack of choices of work place close to residence, rigid building bye-laws, no space for future expansion in formal plots, to be prominent reasons for their motivation to entry to informal plots. The empirical evidence indicates that these reasons have also promoted substantial number of illegal sales of formal plots.

Theoretical analysis has concluded that the use of high standards of formal land delivery has encouraged informal land subdivisions by leaving no option for households who cannot maintain the required standards (Okpala, 1980; UNCHS, 1984; Baken and Linden, 1989; Dowall, 1992). They also encourage higher income group households to take over the low income formal housing (Mitra, 1990). The insistence on high standards of development and the provision of complete infrastructure increase the formal costs beyond the affordability of low income households (Mohan and Villamizar, 1982). However, this research found that the DDA's attempt to deliver affordable plots have encouraged households to look for better choices in terms of plot sizes. A large number of households mentioned that their ability to afford larger plots than the DDA offered was a reason for choosing unauthorised land developments.

The presence of many middle and high income households in unauthorised colonies and their occupation of larger plots than formal standards empirically support the observation of Mattingly (1993:107) that informal land occupation is an alternative to paying higher prices and/or accepting smaller plots. Although a majority of those interviewed stated the formal plot sizes are smaller than they wanted, a substantial number of higher income households illegally bought the smaller formal plots from allocatees at the higher resale prices indicating that other factors may determine the choice of plot size, such as planned development and assured services.

Researchers also have observed that informal settlements can offer better locations with reference to work places and urban services, and employment opportunities that are ignored in formal schemes (Benninger, 1986; Basu, 1988; World Bank, 1980). This research found evidence from the majority of respondents living on unauthorised plots of their residences being close to their work place and a majority expressed their satisfaction on urban services that are available around their residence. However, this research observed that fresh unauthorised subdivisions are quiet distant from city centres and most do not have adequate economic activities that could enhance local employment opportunities and real wages.

8.3.3. The Contribution of Land Prices To The Creation Of Informal Land developments

The theoretical debates argue that the cost of entry is low to informal land market (Gilbert and Ward, 1985; Doebele, 1987; Yonder, 1987; Mitra and Nientied, 1989). Informal lands' lack of legal status, insecure tenure and bad locations make them initially cheaper (Benninger, 1986; Ward, 1984; Payne, 1984; Basu, 1988; Baross and Linden, 1990). In addition, there are fewer services. In contrast, it is argued that informal subdivisions charge higher prices (Mitra and Nientied, 1989) perhaps taking advantage of long delays caused by legal development processes (World Bank, 1980). From the analysis of the prices of different segments of land market (informal, subsidised and resale formal prices) this research found empirical evidence that the upper range of the informal median prices is higher than the average subsidised prices of the DDA and far lower than resale formal prices of DDA allocated plots. This indicates that the entry prices of informal land are lower than formal subsidised prices and far lower than resale formal market prices.

Prices for plots of a particular legal status varied in terms of whether it was newly unauthorised or likely to be regularised or already regularised, and of its distance to the main road. Secured, tenured or regularised lands have commanded slightly higher prices than insecure ones. This research found no evidence that informal prices are low due to bad locations. Neither was there any evidence that informal developers distributed free of cost or charged lowest prices that users intended to pay. But there was evidence that a large number of households obtained plots by instalments. This research observed that land prices often increased on the basis of the number of resells and their attraction to commercial use along access roads.

Although a large number of respondents said that the informal prices are affordable, the unauthorised land studied in this research was not cheap enough to accommodate the lowest income group. Respondents from the economically weaker sections, a negligible number, indicated that prices charged by informal subdividers excluded the lowest income groups from unauthorised land market. This caused a shift in the nature of the socio-economic groups entering into unauthorised settlements like those found by Durand-Lasserve (1987), Soares and Stussi (1990) and Thirkell (1995:9) and argues that the

majority of the poorest must be sheltered in informal squatter settlements as already observed by some academics (Basu, 1988; Ali, 1990; SPA, 1994).

Sandercock's (1979) contention that, if a government becomes sufficiently active as a developer, it can determine the general level of prices for both raw and developed land, is opposed by many writers. They argue that government development has raised land prices by creating artificial scarcity (Misra, 1986), auctioning the developed plots to achieve the highest prices (Misra, 1988; McAuslan, 1985), creating backlogs which result in speculative price levels (Yonder, 1987), setting allocation prices which have no relationship with the affordability of low and middle income groups (UNCHS, 1984; Basu, 1988), and regularising unauthorised colonies and providing infrastructure. Delhi's experience shows that the public land delivery failed to control price raise.

This research found that the DDA's land delivery was inordinately slow due to delay in the acquisition of proposed land and its voluntary activities that distracted its primary attention. It accumulated a backlog of registrants waiting for a long period, and also resulted in the accumulation of unsatisfied demand that was beyond the ability of the DDA's land delivery policies. This process created an acute shortage of available legal land and encouraged illegal resales of formal plots and downward filtration of higher income households into subsidised plots. It is observed that besides slow supply of land, DDA's periodic rises of subsidised prices, auctioning prices that created uncertainty in determining affordability and fixing government prices, and illegal reselling of formally allocated land, have raised prices tremendously, especially cheap land for investment and commercial opportunities in planned colonies where non-residential land is mostly auctioned.

8.3.4. The Contributions of Investment, Business And Speculation To The Creation Of Unauthorised Land Subdivisions

Theories argue that informal housing is encouraged by income-earning activities (Silas, 1988; UNCHS, 1984). Baross and Linden (1990) argue that informal development occur due to lack of investment opportunities and/or speculation, and Zetter (1984) argue that illegal development is a risk accepted by the landowning elite. Empirical evidence of this indicates that informal land developments are encouraged by income-earning activities. A

large number of households interviewed reported that they own a commercial shop in and around their colonies and most of them are self-employed commercial entrepreneurs. It is also indicated that a large number of low income households among the interviewed own commercial shops in their colonies. Therefore, although it is not substantial, the possibility of economic activities and income earning opportunities have also encouraged those interviewed to opt for informal subdivisions.

8.3.5. The Contribution of Institutional And Administrative Deficiencies To The Creation Of Illegal Land Developments

This research found that the case study speculations that malpractice, corruption, nepotism and favouritism in the formal land allocations (kombe, 1993); involvement of land owners, subdividers and local officials (councillors, police, etc.) (Baross and Linden, 1990) were not substantial causes in the creation of unauthorised land developments in Delhi. Only 5% of the interviewed households and 17% of the interviewed landowner farmers stated that these reasons motivated them to opt for informal land developments. Similarly, in regard to UNCHS's (1984) observation that a variety of actors, organisers of invasions and politicians render assistance for informal developments, the majority of households indicated that they were not assisted by anyone. However, a large number of households mentioned that they were assisted by property dealers. This research has not found substantial evidence in Delhi of premeditated and planned involvement by real estate sharks, politicians, local leaders, Mafioso racketeers and directors of housing agencies with clear interests in sponsoring unauthorised developments (Payne, 1984) and/or by entrepreneurs with underground connection subdividing and selling public lands (Yonder, 1987).

Misra's (1988) observation that the advanced acquisition of land of below market value and later auctioning of the developed plots at the highest price have encouraged a large number of land owners to realise the development value "floating" over their lands to be gained by illegally subdividing them. Responses received from farmers living on informal plots revealed that a large number of them decided to illegally subdivide their land due to the lower rate compensation paid by public land acquisition.

Zetter (1984) observed that the deficiencies of weak institutional structures for land administration, surveying and title registration accentuate market imperfections and create opportunities for speculation. This research found evidence that the institutional structure of the large-scale land policy operation was inefficient. In spite of DDA's large staff, financial abilities and legal tools, it could not supply adequate quantities of legal land for the demand. This was caused mostly by DDA's operations as planner, land developer, promoter of housing, services and infrastructure, and ultimately planned development for the whole Delhi, which nullified the importance of the quick and timely supply of residential land for housing.

8.4. IMPLICATIONS OF RESEARCH FINDINGS FOR THE CONCEPTS OF PUBLIC LAND POLICY

The findings of this research confirm that the DDA's experience of large-scale public land policy has been unsuccessful in providing adequate access to legal land for housing. Although they differ somewhat from the basic conceptual arguments that land banking can, over time, increase public authorities' control over city growth, increase their influence over land prices (UNCHS, 1983; Atmer, 1987; Carr and Smith, 1975), supply affordable land to the poor (Devoy and Rodrungruang, 1983), appropriate unearned increments of land value increases (UNCHS, 1984; Dunkerley, 1983), eliminate the speculative profit (Carr and Smith, 1975; Rober and Sevensson, 1977; Roberts, 1977), and ensure efficient land use, and social equity in land distribution, the current achievements of DDA demonstrates their possible success. The DDA's experience shows that the concepts of land banking, public acquisition, development, leasehold disposal and cross-subsidisation did facilitate planned development of services, infrastructure and the provision of considerable amount of housing to low income groups.

As observed in this research, the policy of price freezing and acquisition of land has not worked successfully due to the long procedure of land acquisition, low compensations and inadequate legal provisions to ensure development of the land acquired. The policy of advance land acquisition and banking is possible provided reasonable prices for compulsory acquisition are awarded to farmers whose livelihood is taken away once and for all.

However, expropriation is a necessary tool to acquire land for a land bank when dealing with large numbers of low income groups whose life style is usually accustomed to substandard squatter/informal shelters with minimum services, and government is unable to change the socio-political set-up of a large number of land owning elite. The experience of Sweden, in contrast to Delhi, where expropriation took more than five years to complete, indicates that special legal provisions in the form of acquisition/expropriation courts and flexible procedures to pay higher rates in certain cases can ensure the quick and sufficient acquisition of land for public land bank.

Delhi's experience confirms that cheap land acquisition on a large-scale and auctioning land for higher income housing, commercial and industrial use can facilitate city beautification and some basic community infrastructure, but it drastically constrains the supply of formal subsidised land for housing. This is due to financial uncertainty and institutional management set-up. Therefore, it becomes inevitable that either decentralisation of the institutional structure in the form of the multi-municipality models of Sweden and the Netherlands or a new model of a multi-city development authorities with distinct functions to be established. The DDA, a single authority with tremendous staff, could not utilise its full man power due to various institutionally-based reasons.

This research found that long term residential leasehold demonstrated some ability as an instrument to control increasing land prices, discouraging speculation by reducing resales, and providing standard formal shelter to all income groups. However, the lease condition prohibiting resales for 10 years and payment of 50% of unearned profit after that period has not only experienced a large number of illegal resales but has also failed to avoid increased resale prices and to recover unearned increments. On the one hand, managing to obtain more than a plot against the allocation rules and profiteering were reasons for reselling formal plots. On the other hand, resold plots were bought because of an inadequate formal land supply and the lack of reasonably priced formal land for higher income housing, commercial and investment purposes. This mostly affected subsidised plots provided to EWS, low and middle income households, resulting in a large number of subsidised plots being resold to high and middle income households. A similar trend is noticed by Ratzka (1981) in Stockholm where leasehold subsidy benefited middle and upper income brackets.

The research also found that, in spite of reducing direct speculation in formal land by allocating one plot per family, discouraging vacant plots by heavy penalties and preventing resells, the large-scale land policy could not regulate overall price rises and the resale of formal land at higher prices. Although the overall prices increased due to increased inflation and the acute demand for cheap and quickly supplied land, formal land resale prices increased mostly because of repeated number of resales. There are also no evidence that Delhi's land policy reduced prices by reducing the level of speculation, allowing cheaper land assembly and enabling lower carrying costs and servicing costs. But it could supply subsidised land for low and middle income households from the benefits of auctioned land revenues.

8.5. SCOPE FOR FURTHER RESEARCH

The research emphasised on how and why unauthorised land developments emerged under the operation of a unique and ambitious integrated large-scale public land acquisition, development and disposal policy which contained a special mechanism of land supply to control land values and prevent informal/illegal/unauthorised developments of any kind. The research concentrated on the policy impact on the housing land supply part. To judge the full effect of the public policy and to pinpoint its effect on different components of city land planning, development, supply and management, more empirical researches need to be undertaken. The priority fields are:

- similar studies on the other segments of land markets such as squatters and freehold land;
- reasons for the failure of DDA's public land acquisition policies;
- comparative study of Delhi's experience with Netherlands, Sweden and Iran where the public policy has been observed to be successful
- effect of the large-scale land policy on the supply of adequate commercial and industrial lands.

This research could not address some of the issues raised by the literature that government ownership of land creates lower levels of productive investment and labour absorption, a regressive spatial structure, very high costs of urban infrastructure, reduction of growth potential of house building industry. Although it is possible that the operations

of the DDA have pulled large sums of finance from national banks and revolving fund, there are very few channels for private developers/builders investment (only the construction of houses on serviced plots supplied by the DDA for individuals and co-operative societies, and on freehold plots). This research observed that the DDA's construction staff has grown many times during its operation of more than three decades.

However, it is possible that the labour absorption capacity of the private building industry could have been higher than the DDA's monopolistic operation of house building and land development, due to the latter's operational, supervisory and institutional limitations. Therefore, the DDA's construction and building investment and its possible impact on potential growth of the building industry emerges as a new research area which would determine the strategy for building construction in growing cities of developing countries. Similarly, the costs, quality and adequacy of urban infrastructure required and provided under the operation of large-scale land policy is another area that has implications for a local government monopoly in land and housing development. This area is a potential issue for further research.

DDA records show that during the period 1985-87, the financial resources were tight mainly due to the allocation of funds to Asiad works in 1982, and the non-imburement of expenditures incurred on the maintenance of resettlement colonies. However, the DDA was able to continue its land development and disposal without any interruption with the help of land auction revenues. The performance of a revolving fund as a major source for urban land development under these circumstances emerges as a challenge for research.

Willcox (1980) believes that the price rise would have been higher in the absence of the large-scale land policy. This point could not be explored due to DDA's monopoly and the absence of a parallel market that was not controlled by the large-scale land policy. Therefore, a comparative study of an open market and a market with substantial government intervention such as Delhi would make the facts clearer.

8.6. THE IMPLICATIONS OF THE MAJOR FINDINGS FOR PUBLIC LAND POLICY TOOLS

Some of the research findings revealed that the public policy tools followed in Delhi's public policy have not worked satisfactorily. However, lessons of experience strongly argues that the public policy tools have worked satisfactorily in Sweden, Netherlands and Iran. The belief here is that the negative effect of these policy instruments in Delhi could be context specific and that changes in these tools, techniques and mechanisms can produce better results than the DDA achieved with its intervention. With this in mind this section discusses the implications of the major findings on public land policy.

This research has observed that problems with the expropriation of land make it difficult to bank adequate land for future development. Legal complications were caused by the Central Land Acquisition Act and Delhi Development Act. This research found from the responses of those interviewed that the low rates of compensation paid, delays in the payment, and/or corruption and harassment of farmers have affected the quick and smooth operation of land acquisition processes. This encouraged a large number of farmers to subdivide the land alone or with the association of colonisers.

The arrangements of Land Acquisition Collectors of the Delhi Administration to acquire land for the DDA and to transfer the acquired land through the Land and Building Department was an ineffective method for large-scale land acquisition. This method, which aimed for proper scrutiny of land acquisition procedures and maintenance of more than one set of records, has created duplication of work and administrative delays in the transfer of possession of land acquired. This particular method is good as it is, if the land is acquired for limited development. It is also observed from the field survey that the expropriation of land has promoted the incidents of bribes/corruption and harassment during acquisition.

Another issue that needs attention is the limitations of a single authority in taking up a task with multiple functions. The planning responsibilities of DDA and its allied functions such as house construction, city beautification in the form of flyovers, highways, sports/games complexes, city forests, industrial estates, expensive commercial and prestigious office complexes, have slowed its activities which are essential to adequate land acquisition, development and supply. Furthermore, its partial functions for the

provision of services to squatter resettlement colonies, the maintenance of its newly developed colonies, the provision of interstate bus terminus and the operation of Delhi lotteries have reduced its operational efficiency towards planning and land development and diverted DDA's land revenues from use towards the objective of providing and utilising adequate and affordable land supply.

Importantly, the necessary cautions emphasised by the major findings of this research are the tools of public land delivery instrument. This research found substantial evidence of weaknesses in Delhi's land delivery policies. The income criteria followed to identify beneficiaries for flat/plot allotment was found to be causing harassment and generating dissatisfaction with the public land allotment system. This seems to have played a crucial role in attracting corruption, submission of false information and violation of procedures due to inadequate supply of formal land that could not match the overall demand and long delays in disposing developed land for the households who have already registered with DDA.

It is observed in this research that the inadequate legal provisions towards actions against the misuse of premises have led large number of buildings to be misused and in addition the delay in formal land disposal has discouraged large scale administrative actions against these misuses and as a result it led into corruption in building regulation and land use monitoring system.

8.7. THE IMPLICATIONS OF THIS RESEARCH FOR LARGE-SCALE LAND POLICY IN DELHI AND ITS EXTENSION TO OTHER CITIES OF INDIA

The empirical evidence gathered by this research prompts many policy changes in order to enable the public policies to be capable of achieving their policy goals and objectives. As Mitra (1990) has argued it would be worthwhile to consider the land banking policy stimulants and ways and means to improve its performance, rather than discarding the policy in view of its negative impact that contributed to the creation of large-scale unauthorised land developments and sub-standard squatters. The findings of this research have implications for the improvement of Delhi's current policy and the possibility of replicating its instruments and tools to other cities of India.

8.7.1. The Implications Of This Research For Large-scale Land Policy In Delhi

This research finds that Delhi's large-scale public land policy needs substantial revision in regard to its land acquisition, development and disposal strategies. The inadequate access to legal land for housing being the major group of reasons that attracted a substantial number of interviewees to informal housing and illegal resells, the delivery policy needs to be reviewed with regard to the possible creation of extra channels or actors of legal land supply within the existing policy framework. This research found that most interviewees moved to informal and/or illegal resells because of the allocation criteria that selected registrants/beneficiaries on the basis of their income group, affordability, plot sizes and current ownership status. This encouraged them to look for illegal sales that fit their requirements. This policy needs reviewing with regard to efficient and effective criteria that are logical, possible and easily monitored by the public authority.

At a lower level, the unaffordability of formal commercial land being a contributor to occupation of informal land for commercial based reasons and occupation of illegally resold plots or conversion of residential plots into commercial plots and/or commercial cum residential plots, the auction policy needs to be reviewed. Furthermore, as this research has also observed that unavailable opportunities for investment in property have attracted a large number of households to move to informal plots or buy resale plots, this needs to be considered when supplying land on auction or allotments.

The research community criticises DDA's cross-subsidisation formula. It is argued that the DDA has not effectively utilised this tool towards providing sufficient land for low income housing land. The policies regarding cross-subsidisation and utilisation of revolving fund need changes which would provide adequate land for the growing volume of low income households. This research has found that most of the land delivery conditions have contributed to the selection of inappropriate beneficiaries, thus discouraging a large number of households from following the DDA's procedures. Attention should also be given to removing the bad reputation which the DDA seems to have earned due to its expropriation policies, restricted delivery of formal housing land and long procedures in lease administration. Finally, it was observed that the information supplied in the annual

records do not tally with other sources of published and compiled information, suggesting that proper records and management skills are missing.

8.7.2. The Implications Of This Research For Extending The Large-scale Land Policy To Other Cities Of India

The research community observes (Howland, 1977; Jha, 1984; Misra, 1986:35; Acharya, 1988:1430) that proposed replication of the Delhi model in other Indian cities would not be successful as in Delhi. They argue that the regional status, financial position, city economy, income distribution and administrative limitations (Howland, 1977) would play a crucial role in the successful execution of this model of policy. The findings suggest that the Delhi policies would be able to achieve success elsewhere with some changes in the policy framework. More clear land acquisition laws, increased channels of legal land development, reductions in infrastructure standards or involvement of non-governmental organisations for the provision of infrastructure, simplicity and flexibility in planning standards, procedures and lease conditions would ensure more success than what could be expected by replicating the model as it is.

8.8. OVERALL SUMMARY AND CONCLUSIONS

The main conclusions of the research are first, that the large-scale land acquisition, development and disposal scheme (referred to as large-scale land policy of Delhi) has contributed to the creation of informal land developments and illegal land transfers in Delhi, especially unauthorised housing. The emergence of unauthorised or illegal land developments was encouraged mostly by the inability of the large-scale land policy to deliver timely and adequate quantities of affordable land in varying plot sizes, with flexible lease conditions. In Delhi, unauthorised land development was seen as an alternative channel of housing land supply that filled the gap created by the inadequate and slowly-provided supply of formal land. This research found that the public land policy which aimed to fully prevent the haphazard or informal development by eliminating private free open market speculation, and providing access to land to everybody at the right time and at reasonable prices has failed to achieve its primary objective.

This research using empirical evidence gathered from office records and questionnaire interview of households living on informal land, households living on resold formal land, households who resold their formal plots, and property agents, found that the large-scale land policy has not provided adequate access to legal land for housing through its regulatory mechanism of land delivery. The responses of households residing on informal land indicated that substantial portions of them sought to obtain illegally developed land, or to obtain land illegally because of the opportunities which existed to obtain varying sizes (larger than formal eligibility) of plots, at comparatively cheaper prices, at the desired time, and with flexible payments, construction and use terms.

This research has also found evidence from those interviewed that the large-scale land policy's failure to deliver the right land to the right persons/party at reasonable prices prompted unauthorised resales of formal plots and thus resulted in a large number of higher income households buying subsidised plots at higher prices. The higher resale prices of formal plots, and households managing to obtain more than one formal plot against the formal allocation norms, encouraged large number of households to resell their subsidised plots in an informal resale market.

APPENDIXES

- I. Administration Of Field Survey Investigation**
- II. Letter of Introduction to Interviewees**
- III. Questionnaire for residents of unauthorised land**
- IV. Questionnaire for present residents of formal land and actual DDA allottees**
- V. Questionnaire for property agents/dealers**

Bibliography

I. ADMINISTRATION OF FIELD SURVEY INVESTIGATION

The main aim of this was to identify reasons for the increasing number of unauthorised colonies and the influence of large-scale land policy upon them. Thus, this research had to proceed investigation despite the lack of an accurate universe of public and private developed housing land. In order to overcome the problem of universe, and ensure the accuracy and reliability of survey data, this research conducted a reconnaissance and pilot survey prior to the final household survey. The details of these surveys follow.

Reconnaissance Survey

This survey was a preliminary settlement listing survey with informal discussions of selected property agents located in that area conducted before pilot survey. This survey showed that unauthorised subdivisions do not have a uniformity of size, income group and fixed area. Their characteristics vary depending upon their location, date of establishment and regularisation status. It was also observed that an accurate estimate of plots, population and their area coverage would be time consuming.

During this survey, the major unauthorised settlements were visited and informal discussions held with property agents, developers and local residents having knowledge on the development and growth of these settlements. Information such as number of colonies, area coverage, number of plots, average plot sizes, prices, regularisation status, agents and socio-economic groups involved in the land development and sales was collected. This survey was conducted by the author with the help of local experts from NGOs and helped in understanding the development process for choosing appropriate sample frame, target groups and samples.

Pilot Survey

Prior to conducting the actual survey, a pilot test was conducted to reveal any unanticipated problems such as language, local terminology and clarity in the questions of the survey. The pilot survey ensured that the items covered by the questionnaire were

comprehensive for the purpose of gathering the required information. Pilot testing checked the variation of answers, the meaning of the questions, redundancy, scalability, non response etc. The results of the pilot test checked against past research findings showed many characteristic traits of the settlement that could be recorded in the research questionnaire. It also helped to train some of the interviewers.

Some of the common errors found in data recording were the use of different units of measurement other than specified and unmarked refusals or answers not known. This test helped to add a few items in the questionnaire to gather information important to test the hypothesis. On the basis of its experience, some questions posed to the respondents were made shorter or longer depending upon their understanding, as the long questions allow them to think and also recall more information (Lee, 1993:78). Similarly, it helped to replace new terms with familiar terms, making respondents more relaxed and aiding in understanding the question (ibid). Simple questions were placed in the beginning followed by the most important questions in the middle and least important questions in the end. In order, to convince both Hindi-speaking as well as English-speaking households, the questionnaires were made bilingual. It helped to introduce uniformity of flow, question skips and time factors, and respondents' interest and attention in the final survey.

Final Field Survey And Training

The interviewers for the field survey were recruited with the help of the School of Planning and Architecture and staff of Delhi Development Authority. The author took assistance from 11 interviewers in different contexts and timings. Most of them were graduate students aware of local areas and who could communicate in English and Hindi. Data for unauthorised colonies were obtained in the presence and supervision of the author, and data on Rohini formal plots were obtained by the author personally with the help of local persons who are aware of the area and could convince people by their recognition as local residents. The data from resold formal allottees were gathered by the author personally.

Special Aspects Of Research And Questionnaire Design

The questionnaire was designed from the outset, keeping computer processing in mind. Although there were many open questions, the pre-coding was already done in the questionnaires, and also while designing the questionnaire the data entry requirement is taken into consideration. Units of measurement and scaling techniques were used to ensure right data.

The questionnaire consisted of open-ended as well as closed options. The most important questions were placed first and sensitive questions asked in the end. Consistency checks were built into the questionnaires. The questionnaires were designed such that the data is obtained by interviewing as well as by observation. Adequate thought was given to data processing at the time of questionnaire design and care taken to keep most of the questions close ended in order to enable easy data coding and processing. However, the questionnaire contained a sufficient number of open questions to tap varied reasons that encourage informal land developments in Delhi. Items in the questionnaire were designed as far as possible with multiple choice options with special care to keeping the choices exhaustive and mutually exclusive. The questionnaire is piloted to identify ambiguities or mistakes and for the ambiguity yes/no questions used.

The questionnaires contained extra papers to make notes of suggestions of the respondents and other information that did not refer to any of the questions. This helped in assigning ambiguous data into specific categories and also in creating new categories in instances where the multiple choice offered in the questionnaire were not exhaustive.

Confirmation Of Skills And Experiences Of Field Survey

Dowall's (1994:35) methodology of arriving at a representative price (median value) from the assessment done by three brokers was found to be a complicated technique for collecting reliable land prices in Delhi. This is because most of the brokers do not maintain proper records for income tax reasons and they have least interest in reporting accurate market price prevalent in that year. Considering the fluctuations in transaction cost, it would need a fortnightly or monthly monitoring of appraisals for which real estate brokers have financial interest and commitment. Most of the property dealers were

reluctant to provide the right information from their records and, depending upon their volume of business, they either under quoted or over quoted the prices. Large numbers of households felt that the property prices were also rising due to bargaining powers of property dealers and not many were interested to quote the right price.

A list of 200 each of EWS, LIG and MIG non-allottees waiting for about a 10 year period was obtained from the DDA. In spite of the best efforts, only 7 households out of a large number of samples could be contacted due to wrong/incomplete addresses, the registrant having moved away from the address available, to house being locked/could not be contacted and address could not be traced. Considering the very small number of these samples against a large number of waiting households, the facts collected from this survey have not been used in this research. Similarly, an attempt to interview the government officials was unsuccessful as very few experienced staff involved in the operation of large-scale land policy were available at that moment and time did not permit to search for those expert administrators.

The unauthorised plots are still a sensitive issue for household survey in Delhi. Because a large number of households refused to participate without the consent of their president of the colony/settlement and it was extremely time consuming and an effortful job to identify the president and convince him to introduce the interviewers to some of the households and who would in turn introduce them to their neighbour households. The author had to accompany some of the colony presidents to colonisers' offices and in turn had to supply his address and other details for further inquiries with regard to the identity of the researcher. As these incidents luckily happened during the end of the survey, it had not affected the survey. The most sensitive part of the unauthorised household survey is the farm houses where even property agents refused to participate in the survey.

Another factor that ensured more reliable data and good rate of response, was the meetings with the members of colony associations where they existed prior to approaching respondents, and gaining assistance with a common letter addressed to or personal introduction by the president/secretary of the colony association to some of the households. In many cases, depending upon the locality, visits made during evenings and public holidays have also increased the response rate.

The researcher had a very important role in convincing the households. Therefore, soon after gaining the advice of president/secretary/office bearer of colony associations, the number of plots to be surveyed were sorted out and a group of two interviewers were despatched together and the supervisor (researcher) monitored the progress of the interviews. In the end, questionnaires verified and external consistencies were filled in by the concerned interviewer and in necessary cases households were clarified then and there.

Although the survey investigation was sensitive, the government's recent move to approve unauthorised colonies, withdrawing the condition of resale of built flats/houses and attempt to streamline the property dealings, increased the response rate and encouraged a large number of respondents to participate in the survey. Overall, the situation of the household survey was frightening but it became manageable with the help of the presidents of the colonies and property agents around the settlements surveyed.

Methods Of Data Coding, Processing And Analysis

In order to assess the validity of a hypothesis constituent concepts were translated into variables (Bryman and Cramer, 1990:4). Most policy researches being multidimensional and multi-methodical, this study used both qualitative and quantitative to ensure perceived validity of the study and provision of additional insight that one method could not provide (Smith, 1983; Majchrzak, 1984) The qualitative data analysis aimed to preserve chronological flow, assess local causality and derive fruitful explanations. They not only led to new theoretical integration but also helped to go beyond initial preconceptions and frameworks (Huberman, 1984).

Data Coding And Processing Techniques

Due to the magnitude of the data to be collected from office records, questionnaire data could not be processed in the field itself. However, a preliminary coding, rechecking of entries were done in order to ensure the availability of required data. A final trip was carried out to fill in the gaps in the questionnaire survey. Later, responses were coded by assigning individual values to each variable and missing values were distinguished from no response given and/or stated don't know or undecided or not applicable (Foster, 1993;

Bryman and Cramer, 1990:20). Ordinal scaling was used for income data in order to enable easy categorisation of income groups where as nominal data was used for descriptive variables.

The data coding, editing and processing analysis was undertaken in the following sequential steps: editing inconsistencies and converting data into measuring units; preparing a code book with the inventory of all variables, and making data entry and checking the errors and consistencies (Foster, 1993).

Computer Packages Used For The Analysis

The coded data from the questionnaires were entered into spreadsheets of Quattro pro package in Lotus 123 file type and converted into Statistical Package for Social Sciences (SPSS) data files. The matrixes of 150 columns by 300 rows for informal plots, 65 columns by 106 rows for formal plots, and 122 columns by 69 rows for property agents were developed and analysed as required. The data analysis was conducted using SPSS, Lotus 123, Microsoft Excel and Quttro pro statistical/spreadsheet packages. The contextual data base developed from the field interviews and secondary sources was taken to analyse the cause and effect of informal land subdivisions.

Some of the simple operations such as mean, median, conversion of measuring units from square yards to square metres etc. were done in spreadsheet packages. This spreadsheet method gave access to few other similar packages such as Lotus 123 and Microsoft Excel. The sophisticated data analysis such as frequencies, cross tabulation, descriptive analysis and scattered plotting etc., were done using SPSS for windows.

योजना तथा वास्तुशास्त्र विद्यालय
 SCHOOL OF PLANNING AND ARCHITECTURE
 (विश्वविद्यालय अनुदान आयोग अधिनियम, 1956 की धारा 3 के अन्तर्गत समायोजित)
 (DEEMED TO BE A UNIVERSITY UNDER SECTION 3 OF THE U.G.C. ACT, 1956)

6 October 1994

Sub: Survey of residents of residential developments in Delhi

Dear Resident/Plot owner,

A survey on land development and allocation in Delhi is being organized by Mr. K.Srirangan, Research Scholar at DPU, the University College London, in collaboration with the Department of Urban Planning, the School of Planning & Architecture, New Delhi, as part of his Ph D research. This research study explores the possibility of improving the existing large scale land allocation system in Delhi towards providing access to land to the every needy and encouraging the individuals to build their own houses with the required essential infrastructure. It is a pure academic research study and has no connections to the government functions. The information provided by you is strictly confidential and will be used only for academic purpose. No details about any individual will be passed on under any circumstances to any officials.

Therefore I request you to kindly cooperate with him/his investigators who will be visiting you to fill a proforma between 7 October and 25 November 1994 and provide us with the information that is factual (not officially recorded). We assure you that this information will be used solely for the purpose of academic study of policy analysis and your response will be kept anonymous.

Thanking you,

Yours sincerely,

(Prof. B. Misra)
 Head of the Dept. Of Urban Planning.

ASK ONLY PLOT/FLAT OWNERS

Code | Route

1. Which is your place of origin ?
 Name of the Place.....District.....State.....
2. If not born in Delhi, When did you come to Delhi ?
 Year.....,.....
3. When did you acquire this land (Plot/House) ?
 Date/Year.
4. What is the physical condition of your plot before construction ?

Flood zone area/Low lying area	1
Steep Slope	2
Water Logging area	3
Hills/upland	4
Others (specify).....	(5)
5. What is the tenure status of the Plot/Flat you are living now ?

Subdivided from freehold agricultural land	(1)
Subdivided from notified area of DDA	2
Subdivided from the DDA acquired land	3
Laldora area of urban village	4
Others (Please specify).....	5
6. How did you acquire this plot/house ?

In-herited parental property	1
Purchased from private owner/coloniser	2
Purchased from agent/broker	3
Purchased from previous owner	(4)
Occupied the vacant land	5
Others (please specify).....	6
7. Have you received any written documents from the coloniser/
 developer ?

	Yes	(1)
	No	2

If yes what kind of document ?
8. Do you remember the details of property dealer/government staff/
 constructors etc. who helped you to purchase this plot/flat ?

Property dealer.....	1
Govt. staff.....	2
Constructors.....	3
Politicians.....	4
Local leaders.....	5
Others (specify).....	6

9. How much time did it take to process the purchase of this plot ? Code | Route
 Months/years.....
10. What is the approximate size of your plot ?
Sq. mt./ft./yard
11. How many rooms are there in your flat/house ?
 No. of rooms ?..... Average size ?.....
12. How much did you pay for per square mt/ft/yard at the time you bought this here ?
 Plot/flat Rs.....
13. What was the mode of payment ?
 Single payment (1)
 Instalments 2
 Others (specify)..... 3
14. Have you paid for any subsequent charges such as development charges and registration fee etc. to coloniser or govt. ? If yes how much ?
 Development fee Rs.....year.....whom ..
 Registration fee Rs.....year.....whom.....
 Other (specify).....year.....whom.....
15. How did you built your house ?
 Little little (1)
 All in once 2
16. Where the neighbouring areas built-up at the time of purchase ?
 Fully built-up 1
 Partly built-up 2
 Un built (3)
17. Do you know the current selling price of the land near your plot of any vacant sale ?
 Yes/No
 If yes, Rs.....Per Sq. mt/ft/yard
18. Please give details of the distance from the plot boundary to the nearest building line (EXPLAIN TO RESPONDENT)
 Front set back.....ft
 Rear set back.....ft
 Side set back 1.....ft
 Side set back 2.....ft
-
19. What is the total floor area of the building ?
Sq. ft.
20. How many households are living with in the building ?
Nos
21. How many floors are there in the building ?
Nos

22. Were you ever evicted from any squatter or unauthorised colony ? Code Route
Yes/No
23. Are you satisfied with this plot/flat in terms of size, space, location etc ? Yes/No
 If not, can you give specific reasons ?
24. How close is your plot to the essential infrastructure centres ?
- | | Very near | near | little away | far away |
|----------------------------|-----------|------|-------------|----------|
| Employment (work place) | 1 | 2 | 3 | (4) |
| Commercial/shopping centre | 1 | 2 | (3) | (4) |
| Transport/major bus stop | 1 | 2 | (3) | 4 |
| School/college etc. | 1 | 2 | (3) | (4) |
25. Did the coloniser or land owner delivered any services ?
 If yes what are the servicees:
- | | |
|----------------------|---|
| Water | 1 |
| Electricity | 2 |
| Sewerage | 3 |
| Internal transport | 4 |
| Others(specify.....) | 5 |
26. Did the coloniser or land owner promised you to delivery any services in the past and present ?
 If yes what are the services :
- | | Past | Present |
|-----------------------|------|---------|
| Water | 1 | 1 |
| Electricity | 2 | 2 |
| Sewerage | 3 | 3 |
| Internal transport | 4 | 4 |
| Others (Specify)..... | 5 | 5 |
27. What was the likely source of water at the time of purchase ?
- | | |
|---|-----|
| Individual Municipal Supply | 1 |
| Bore well/hand pump with in plot | (2) |
| Mobile water tanks | 3 |
| Public (municipal) water supply | 4 |
| Public bore well/hand pump | 5 |
| None | 6 |
28. What is the present source of water supply to your plot ?
- | | |
|---|-----|
| Individual municipal supply | 1 |
| Bore well/hand pump with in plot | (2) |
| Mobile water tanks | 3 |
| Public (municipal) water supply | 4 |
| Public bore well/hand pump | 5 |
| None | 6 |
29. What is the present source of electricity to your plot ?
- | | |
|----------------------|-----|
| DESU supply | 1 |
| Illegal arrangements | (2) |
| No electricity | 3 |
30. What is the present source of drainage/sewer to your plot ?
- | | |
|----------------------------------|-----|
| Sceptic tank | (1) |
| Closed (MCD) sewer | 2 |
| Open (MCD) drains | 3 |
| Make-shift drains with in colony | 4 |
| Other (specify)..... | 5 |

	Code	Route
31. Which of the following types of permission for building construction does your plot have ?		
DDA approval	1	
Municipal approval	2	
Court orders	3	
No permission	4	
Other (specify).....	5	
32. Do you have any other plans for the extension of the building ?		
Construct another floor	1	
Construct a commercial unit	2	
Construct a industrial unit	3	
Other (specify).....	4	
33. Do you have any other dwelling/plot ?		Yes/No
If yes where and how many ? (IF NO SKIP Q-34)		
With in the settlement/colony	Nos.....	
In the city	Nos.....	
In the periphery	Nos.....	
34. What is the status of the other plots/flats you own ?		
Private provided	1	
Same as this	2	
Govt. developed (DDA/staff house)	3	
Rented	4	
Others (specify).....	5	
35. Do you own a shop and/or industry in this plot or near by ?		
Yes	1	
No	2	
36. Are you aware of DDA allotting plots/flats for residential purpose ? (IF NO SKIP Q-37)		
Yes	1	
No	2	
37. If yes have you ever applied for a DDA plot or flat ?		
Yes applied and got it cancelled	1	
Applied but still in the waiting list	2	
Plot/flat was allotted	3	
Plot/flat was not allotted	4	
Did not apply at all	5	
38. If not applied, can you state specific reason for not applying for DDA plot/flat ?		
39. If in waiting list/allotted a plot/flat, any specific reason for buying this plot instead of your own allotment ? (IF REQUIRED FILL MORE THAN ONE)		
Anticipated further price rise	1	
Anticipated regularisation	2	
Not satisfied with the plot/flat allotted	3	
DDA did not provide plot/flat	4	
In-expensiveness (Cheaper)	5	
Close to employment	6	
Possibility of commercial/industrial use	7	
Due to prevailing favouritism/corruption	8	
Others (specify).....	9	

	Code	Route
40. To know your affordability, did you have sufficient money to buy a plot from DDA at the time of buying this plot here ?	Yes No	1 2
41. Could you able to buy land at the time you had money and willing to invest for housing ?	Yes No	1 2
42. What is the composition of your family ?		
No. of adults.....		
No. of children.....		
43. What is the nature of your employment ?		
Salaried person in government		1
Salaried person in public sector		2
Own private enterprise.....		3
Employee in private enterprise		4
Other (specify).....		5
44. Do you receive money from any one overseas ?	Yes No	1 2
45. What is your average household income per month ?	Less than Rs. 1250 Rs. 1250—2650 Rs. 2650—4450 Above 4450	1 2 3 4
46. Did you find any difficulty in purchasing this plot ? If yes, please specify them.		
.....		
.....		
.....		
47. Have you received any financial assistance/help for housing ? If yes what kind ?		
.....		
If yes What kind ?		
48. If you are the land owner is there any special reason for subdividing land on your own instead of selling it to the DDA, Who is authorised for housing/development in Delhi ?		
49. Your age at the time of attaining ownership of this plot/flat ?		
Years.....		
The reasons for neglecting the plot Allotted by the public authority (Ask only allottees of plot/flat of DDA, MCD, and other government agencies)		
50. Was the plot allotted (DDA/MCD/NDMC) larger/small than the required size ?	Yes No	1 2

		Code	Route
51. Was the working place away from the plot ?	Yes	1	
	No	2	
52. Already have a DDA plot ?	Yes	1	
	No	2	
53. Was the finance a problem for buying a plot and construct in the plot allocated by the DDA ?	Yes	1	
	No	2	
54. Was construction according to building bye laws a problem in a plot allocated by DDA ?	Yes	1	
	No	2	
55. Commercial / industrial We was not permitted along with residential use ?	Yes	1	
	No	2	
56. The sale price of DDA plots are high therefore prepared to buy this ?	Yes	1	
	No	2	
57. Was not satisfied with the plot allotment in terms of its ?	Yes		
	No		
No space for expansion	1	2	
Restriction for further sub-division	1	2	
Restriction for renting	1	2	
Restriction for starting business	1	2	
Restriction for vertical expansion	1	2	
Restriction for horizontal expansion	1	2	
Quality of construction	1	2	
Any other reason (specify).....	1	2	
58. Note down the history of the development of this colony.			
59. How did the plot subdivision started ?			
60. Their suggestions and recommendations.			
<u>Thank you very much for your help in answering these questions.</u>			
FOR INTERVIEWER : (TO BE FILLED AT THE PLOT/FLAT)			
61. Is the built up area in the plot is the following ?			
Single storied detached/attached unit		1	
Double storied detached/attached unit		2	
Multi-storied detached/attached unit		3	
Vacant land		4	
62. How many residential units exist in the plot ?			
Nos.....			
63. Does this plot consists of any of the following structures partially or fully ? (Check one or more)			
	Yes	No	
Residential unit	1	2	
Commercial unit	1	2	
Industrial unit	1	2	
Other (Specify).....	1	2	
64. Classify the structure in terms of their construction :			
Permanent structure		1	
Semi-permanent structure		2	
Temporary structures		3	
Fake structures		4	
Vacant plot		5	

Survey No. Colony Phase Serial No Type Interviewer

RESIDENTS OF FORMAL LAND/ALLOTTEES OF THE FORMAL LAND

Dear Resident/Plot owner,

We are doing a survey for a research study on the land allocation system and the operation of real estate market in Delhi. We believe that by this study we would be able to find out the reasons for delay in allotment of formal land to the every needy and investors interested to participate in the property market. The study also aims to investigate the policy options to provide enough land on cheaper rate to the every needy. My first task is to find the right person to interview. Are you the plot owner/resident of this plot? (If yes) I have a questionnaire to fill in. Please could you help me with this now?

प्रिय निवासी/भूखण्ड मालिक

दिल्ली में भूमि आबंटन प्रणाली और भूसम्पत्ति बाजार की क्रियाओं के सन्दर्भ में एक शोध अध्ययन के लिए यह सर्वेक्षण किया जा रहा है। हमें विश्वास है कि इस अध्ययन के द्वारा प्रत्येक जरूरतमंद को निवेशक को जो भूसम्पत्ति बाजार में निवेश करना चाहता है, को नियमित भूमि के आबंटन में होने वाले देरी के कारणों का पता लग सकेगा। इस अध्ययन का एक उद्देश्य ऐसे नीति विकल्पों का पता लगाना भी है जिससे प्रत्येक जरूरतमंद को पर्याप्त भूमि सस्ते दामों में मिल सके। मेरा पहला काम है कि मैं साक्षात्कार के लिए सही व्यक्ति को ही सम्पर्क कर सकूँ। क्या आप इस भूखण्ड के मालिक हैं/इसमें रहते हैं? यदि हाँ तो मेरे पास एक प्रश्नावली है जिसे मुझे भरना है। क्या आप इसे भरने में मेरी मदद करेंगे?

LOCATION OF THE PLOT -----
 PLOT SIZE-----
 STATUS OF THE PLOT-----
 INTERVIEWERS NAME-----
 DATE OF INTERVIEW-----
 TIME: Start----am/pm. Finish----am/pm Length of interview--
 SUPERVISED BY-----CHECKED BY-----

CONFIDENTIAL

1. All information collected for this survey will be treated in the strictest confidence. 2. In reporting on the survey, no information will be released to individuals or government official.

Call record (give date/time)	Code final result below
1st call	1. Completed interview
2nd call	2. Deadwood eg.empty /demolished
3rd call	3. Refusal: Reasons
4th call	4. Individual not contacted in the household

RESIDENTS OF FORMAL LAND/ALLOTTEES OF THE FORMAL LAND

PART I

	Code	Route
1. Was this plot allocated in your name?		
	Yes	1
	No	2

(IF Yes, ASK NAME OF THE ALLOTTEE AND DO NOT FILL THIS QUESTIONNAIRE WHEN THE NAME MATCHES WITH THE NAME IN THE LIST PROVIDED. IF NO, PART I TO BE FILLED FROM THE PERSON LIVING NOW AND PART II TO BE FILLED FROM THE ACTUAL ALLOTTEE)

2. If No, Who's name was it allocated?

Name-----

3. Is the allottee a member of your family at the time of allotment?

Yes	1
No	2

4. Kindly give the address of the actual allottee ?

5. What is your tenure status in this plot?

Owner	1
Tenant	2

6. How did you procure this plot?

Through property agent	1
Through personal contact	2
Through advertisement	3
Through family offer	4
Others (please specify)-----	5

7. When did you purchase this plot?

Date/Year-----

8. Were you able to change the power of attorney

Yes	1
No	2

9. If No, what are the specific reasons for the delay?

10. What was the actual market cost of similar plot at the time you bought this here?

Rs-----

11. Have you applied for a DDA plot or flat?
(IF ANSWER IS NO SKIP Q12)

12. Any specific reason for buying this plot instead of waiting for your own allocation?

13. Do you own any other plot in this locality/Delhi?

Yes 1
No 2

14. If yes, who is living in that plot?

Family member 1
Vacant 2
Tenant 3

15. What is the nature of your employment?

Salaried person in government 1
Salaried person in public sector 2
Own private enterprise 3
Employee in private enterprise 4
Other (specify)----- 5

16. What is your monthly average household income?

Less than Rs.1250 1
Rs 1250-2650 2
Rs.2650-4450 3
Above Rs 4450 4

17. Did you find any difficulty in purchasing this plot?
If yes, please specify them.

Thank you very much for your help in answering these questions.

FOR INTERVIEWER:

18. Is the plot vacant?

Yes	1
No	2

19. Is there a built up area in the plot such as?

Single detached/attached unit	1
Double detached/attached unit	2
Multistoried detached/attached unit	3
Others (specify)-----	4

20. How many residential units exist in the plot?

21. Number of floors existing in the building?

No.-----

22. Does that plot consists any of the following structures?

	Yes	No
Residential unit	1	2
Commercial unit	1	2
Industrial unit	1	2
Other (specify)-----	1	2

PART II: ALLOTTEES OF FORMAL LAND BY THE DDA

I. PRELIMINARY DETAILS:

1. DDA records shows that you have been allotted a plot. Do you remember the year of allotment of this plot?

Date/year-----

2. Who's name was it allotted?

Name:-----

3. What is the relation of allottee to the head of the household?

4. When did you sell out this plot provided by the DDA?

Year-----

5. To whom did you sale?

Property agent 1
Private individual 2
others (specify)-----3

II.DETAILS ABOUT PRESENT LIVING:

6. What is the size of the built up space/plot you are living now?

-----Sq.mt/ft/yard.

7. Is this plot same size of built up space/plot allotted by the DDA?

Smaller 1
Larger 2
Same 3

8. What is the tenure status of the plot/flat you are living now?

- | | |
|---|---|
| Plot/flat allotted by the DDA | 1 |
| Self built private flat (regularised) | 2 |
| Self built private flat (not regularised) | 3 |
| Free hold property | 4 |
| Tenant | 5 |

9. How much did you pay for the plot in which you are now living in?

Rs per -----Sq ft/mt

10. What is the nature of your employment?

- | | |
|----------------------------------|---|
| Salaried person in government | 1 |
| Salaried person in public sector | 2 |
| Own private enterprise | 3 |
| Employee in a private enterprise | 4 |
| Other (specify)----- | 5 |

11. What is your average household income per month?

- | | |
|--------------------|---|
| Less than Rs. 1250 | 1 |
| Rs 1250- 2650 | 2 |
| Rs 2650-4450 | 3 |
| More than Rs.4450 | 4 |

THE REASONS FOR LEAVING THE PLOT ALLOTTED BY THE PUBLIC AUTHORITY

12. Was the plot size larger than you required?

- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

13. Was the working place away from the plot?

- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

14. Have you acquired another plot? (BEFORE /AFTER ALLOCATION)

- | | |
|-----|---|
| Yes | 1 |
| No | 2 |

15. Was the sale price higher therefore you prepared to sale it?

Yes 1
No 2

16. Was the finance a problem for construction?

Yes 1
No 2

17. Was construction according to building bye laws a problem?

Yes 1
No 2

18. Was there a problem to pay for the cost of plot/ loans borrowed for purchasing and construction?

Yes 1
No 2

19. Were you not satisfied with the plot in terms of its;

	Yes	No
Space for expansion	1	2
Restriction for further sub division	1	2
Restriction for renting	1	2
Restriction for starting business	1	2
Restriction for vertical expansion	1	2
Restriction for horizontal expansion	1	2
Any other reason (specify)-----	1	2

20. Please rank reasons listed for disposing off the plot according to your priority? (Starting the most important as number one)

Reason	Priority
Plot size was large/small	
Work place away from the plot	
Acquired another plot	
Fetchd for higher price	
Finance was a problem for construction	
Could not pay for the debts	
Bye laws were problem	
No space for expansion	
Restriction for further sub division	
Restriction for renting	
Restriction for starting business	
Restriction for horizontal expansion	
Restriction for vertical expansion	

Thank you very much for your help in answering these questions.

FOR INTERVIEWER:

21. Is the plot vacant?

Yes	1
No	2

22. Is there a built up area in the plot such as?

Single detached/attached unit	1
Double detached/attached unit	2
Multi storied detached/attached	3
Others (specify)-----	4

23. How many residential units exist in the plot?

No-----

24. Number of floors of the existing building?

No.-----

25. Does that plot consists any of the following structures?

	Yes	No
Residential unit	1	1
Commercial unit	2	2
Industrial unit	3	3
Other (specify)-----	4	4

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

SEMI STRUCTURED QUESTIONNAIRE FOR PROPERTY DEALERS/AGENTS

INTRODUCTION :

We are doing a survey for a research study on the land allocation system in Delhi. We believe that by this study we would be able to find out the reasons for delay in allotment of formal land to needy and solution to provide enough land for the needy. My first task is to find the right person to interview. Are you owner/ Incharge of this agency (if yes) I have a questionnaire to fill in. Please could you help me with this now ?

परिचय :

दिल्ली में भूमि आबंटन प्रणाली के संदर्भ में एक शोध अध्ययन के लिए यह सर्वेक्षण किया जा रहा है। मुझे विश्वास है कि इस अध्ययन के द्वारा जरूरतमन्द लोगोंको नियमित भूमि के आबंटन में देरी के कारण का पता लगा सकेगा और जरूरतमन्द लोगों के लिए पर्याप्त भूमि सुलभ कराने की सम्भावनाओं का पता लग सकेगा। मेरा पहला काम है कि मैं साक्षात्कार के लिए सही व्यक्ति को ही सम्पर्क कर सकूँ। क्या आप इस भूमिस्पर्ति एजेंसी के स्वामी/भागीदार हैं यदि हाँ तो मेरे पास एक प्रश्नावली है जिसे मुझे भरना है, क्या आप इसे भरने में मेरी मदद करेंगे ?

INTERVIEWER'S NAME.....

LOCATION OF AREA..... *Khasra No. 1234, 12th*

DATE OF INTERVIEW..... *5/10/12*

Time : Start *12:15* a.m./p.m. Finish..... a.m./p.m. Length of interview.....

SUPERVISED BY.....

CHECKED BY.....

CONFIDENTIAL

1. All information collected for this survey will be treated in the strictest confidence.
2. In reporting on the survey, no information will be released to individuals or govt. officials.

Call record (give date/time)	Code final result below
1st call	1. Completed interview
2nd call	2. Deadwood eg. empty/demolished
3rd call	3. Refusal : Reasons
4th call	4. Individual not contacted in the household

SEMI-STRUCTURED QUESTIONNAIRE FOR PROPERTY DEALERS/AGENTS

1. When did you start this business ?
Year
2. What is your highest qualifications attained ?
.....
3. Do you have prior experience in this property business ? Yes/No
Position No. of Years experience
4. What is the jurisdiction of your property dealing ?
5. Can you indicate the kind of properties are being dealt by your property agency ?

Free hold properties	1
Lease hold properties (DDA Plot/Flat)	2
Un authorised/regularised	3
Un authorised (not regularised) (Private/Public Land)	(4)
Others (specify)	5
6. How many units (Flats/Plots) you transacted under the following categories of property transactions in the past one year period ? (Note down the details if price varies by location/floor/size etc. In a seperate sheet)

Category :	No's	Flats Average Price per sq. yard/ft.	No's	Plots Average Price per sq. yard/ft.
I Residential				
(i) Slum tenements				
(ii) Economically Weaker Sections (E.W.S.)				
(iii) Low Income Group (L.I.G.)				
(iv) Middle Income Group (M.I.G.) ÷ SFS				
(v) High Income Group (H.I.G.)				
(vi) Un authorised regularised units				
(vii) Un authorised not regularised				
II Commercial units				
III Industrial units				
IV Others (specify)				

7. Do you have any terms and conditions in the transaction of property ? If yes kindly give details.
8. Give details about Govt. rules and regulations if any you follow in your property transactions.

9. How much is your transaction fee/commission charge for each transaction ?

10. I want some details about prevailing characteristics in regard to type of property, location, size, year of sale and market price etc. Can you kindly give details on the kind of transaction and their market sale price since beginning of your property dealing from your property records? (Kindly provide whatever information is available).

Category of Property	Location	Year	Transaction Price (Per Sq. Yard/Ft.)

11. Do you have any special preference towards any specific type of property transaction such as leasehold/freehold/unauthorised plots or flats etc.? If yes, state reasons starting from the most important one.

12. Some people say that the housing land delivery/alotment system of Delhi is not working well. What do you think about it.? If yes, can you state reasons for your views ?

13. What is your opinion about the housing land prices whether they are increasing or decreasing? Can you give some examples ?

14. What is your opinion about the functioning of DDA's land allotment and land management system ?

15. Do you deal with Plots/Flats of unauthorised colonies? If yes, is there any difference between DDA's Plots/Flats and unauthorised developments in terms of Plot size, location, prices and preference etc. ?

16. Are there any resale of Plots/Flats? If yes, are they similar Income group? Please Give examples.

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