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**GROWTH AND DIFFUSION OF FARMHOUSES IN THE NATIONAL CAPITAL TERRITORY OF DELHI****S.K. Aggarwal****and****S.P. Kaushik****Abstract**

*This paper examines the process of the occurrence and growth of farmhouses in the National Capital Territory of Delhi. Degradation in quality of life in the main city and accumulation of wealth by rich class possibly in clandestine manner encouraged investments in immovable properties like farmhouses. Many stakeholders are involved in this process of its development like farmers, estate developers colonizers and the elites of Delhi. There are striking spatial variations in the distribution of farmhouses. Because of the loopholes in the regulatory byelaws, farmhouses have developed leapfrogging in peripheral areas of Delhi occupying the frontage of major road network. The area falling south of Meharauli has the largest concentration of farmhouses. About two-third of the agricultural area of the villages located in this belt is under farmhouses. Rajokri- Bijwasan belt has another major cluster in the southern part. Both sides of NH-1 are dotted with farmhouses in Alipur block of northwest Delhi. Distribution pattern on the whole reveals clustering phenomena. The haphazard growth has led to environmental degradation, rising crimes and social tensions.*

**Introduction**

In the developed part of the world, there is a long established tradition to own a farmhouse or more specifically a second home by the rich communities. Second homes as sated by (Coppock, 1977, Kowalczyk 1984 and Otok 1984) are called by various names - vacation homes, summer cottage, chalet garden, holiday homes, retirement homes, hobby farm and recreational holding. It serves several purposes. Besides a good living environment, it is a good investment in immovable properties, which provide handsome returns by way of speculation and development of urban activities towards the locations of farmhouses (Satyaparkash, 2004). In case of India, farmhouses are emerging in a big way at least on the fringe of many mega cities like Delhi, Calcutta and Bangalore. The process of their growth and their influences on the urban form, local ecology, social conflicts and infrastructure development are less researched in India and this study is an attempt to understand the first component of this process of spatial growth and urban form.

Growth of farmhouses in the national capital territory of Delhi is an urban expansion process towards the peri-urban areas. It is largely an outcome of the socio-economic, infrastructural and demographic forces during the eighties when Delhi experienced rapid population and spatial growth. Rapid economic development process over the years has generated surplus. Conversely, economic development has also produced

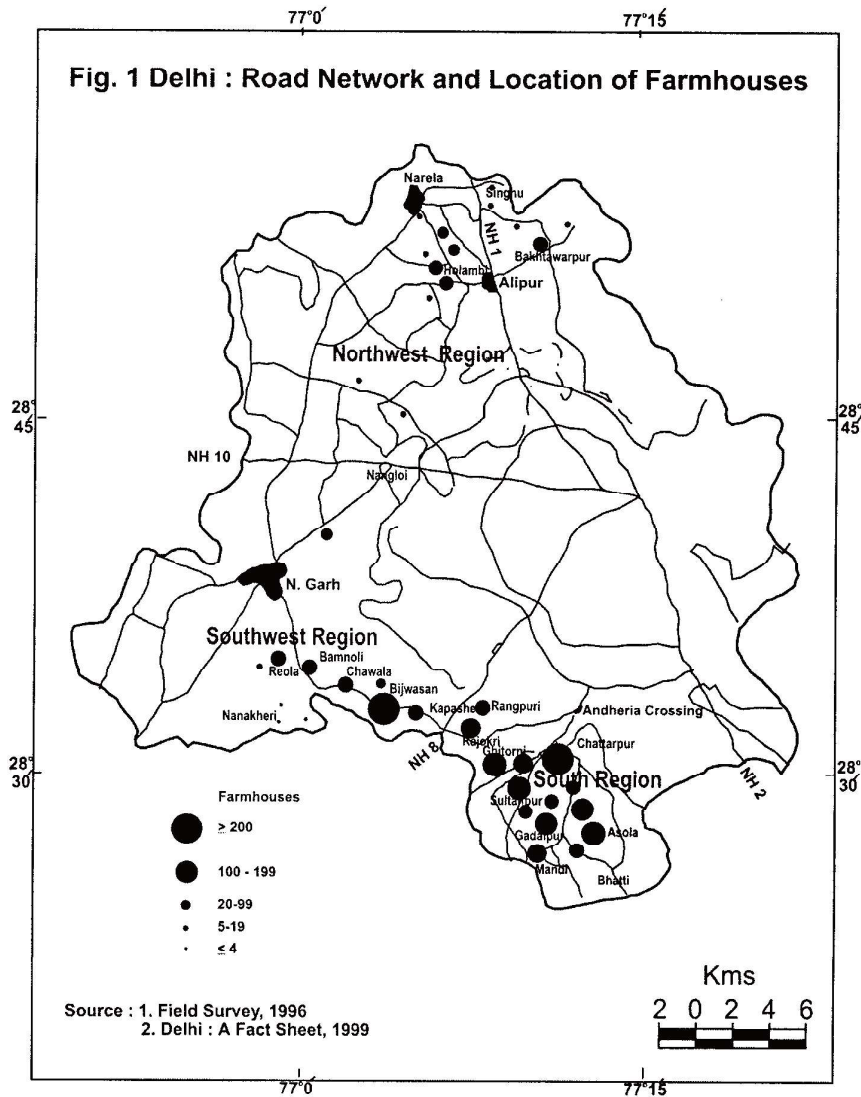
negative social and environmental impacts. Congestion on roads, erratic supply of power and drinking water further added to the deterioration of the quality of life. Such consequences of hyper-urbanization coupled with the economic surplus, largely in the form of black money, induced the rich to move to new locations either for permanent resettlement or for transient habitation. The most affluent section of the urban society, including industrialists, bureaucrats and politicians, afforded to invest a part of their wealth in activities like development of farmhouses, which serve both purposes of good investment in immovable property and an ideal place for weekend retreats.

The above driving forces have led to the gradual growth of farmhouses in the rural periphery of Delhi.

**Purpose, database and methodology**

The purpose of the present paper is to highlight the growth and diffusion process of the farmhouses; to examine the forces behind their growth and emerging spatial patterns of distribution. This study is based on the information collected through field survey conducted during 1996-97. There are about 2000 farmhouses in Delhi,

which are comparable to the government estimates (Times of India, 1998). Five percent representative samples have been drawn from each village in proportion to its number of farmhouses. In all 100 samples of farmhouses were selected through purposive random sampling. Within a particular village, farm samples are drawn randomly. On this basis, 60 samples have been drawn from the South region, 28 from Southwest region and 12 from the Northwest region. The farmhouse process affects about 50 villages of the NCT but large clusters have developed in about 20 villages (Fig.1).



The study is largely descriptive based on the experience of fieldwork, as published and official records on the farmhouses are almost absent. According to the authors' knowledge this is the first study of its kind and thus has limitations to support some findings. A great difficulty was experienced while generating the basic information like year of establishment, area under a farmhouse and the functions and activities performed. Very little cooperation was available to obtain relevant information from the farmhouse owners due to their unfounded fear and prejudices. Alternately, information was collected through personal field observations, gardeners, and managers of farmhouses, village officials and elder men of the surrounding villages. We made our best efforts to generate and collect information under the challenges and still deficiencies exist in generating such data, and the results and findings need to be interpreted with caution on some aspects.

The growth trends are understood through simple tabular and graphic methods. The distribution patterns and related dispersion and concentration aspects of the farmhouses have been analyzed with the help of distribution maps and nearest neighbour analysis (NNA) technique. The study remains largely descriptive in nature as the experience of fieldwork provides most of explanation.

#### **Growth and diffusion of farmhouses**

Development of farmhouses has taken place in two phases. The first phase involved the acquisition and procurement of land from the local cultivators. The second phase largely included construction activities after a lapse of time. On an average it takes about five (5.54) years to develop a farmhouse plot (purchase of land) into a developed farmhouse after completion of various formalities of construction of a boundary wall, farm building and the like. The gap gets reduced as the process gets established and land sale activity becomes less complicated. For example, it took about 6.56 years in the pre 1970 period, 5.9 in 1980s and less than 3 years in 1990s.

The emergence of farmhouses in the National Capital Territory (NCT) of Delhi began in early 1960s. The agricultural land was available at cheap price as most of it had low yields and lack of

irrigation facilities discouraged many land owners to hold the land. Agriculture was by and large rain fed. Because of rocky terrain and low average rainfall, returns from agriculture were mere sufficient for survival especially in the South region. In brief, there was excessive supply of agricultural land that attracted the neo-rich communities like retired military officers, senior and retired bureaucrats, businessmen and politicians. These rich elites purchased agriculture land in early 1960's and developed it later into farmhouses. The demand for exclusive farmhouse was limited until early 1970s. Later, DLF, a private estate developer, developed a cluster of farmhouses around Chattarpur village (in the South Region) located adjacent to Meharauli and that triggered the demand and the diffusion of farmhouse culture, as evident from Table 1. By mid-1990s, most of the area in the villages located in the South region outside their '*lal dora*' (a dividing line between settlement area and agriculture area of a village) area was under farmhouses possession.

Before 1975, mainly the South region, (Chattarpur belt) was preferred for farmhouse development. It was largely due to its proximity to rich residential areas of South Delhi, scenic natural landscape provided by the longitudinal Aravalli ridge and high speculative land values associated with spread of city in this region. Development of a farmhouse in Chattarpur by one of the late Prime-Minister of India may have also encouraged such early growth. Later, the businessmen, politicians and senior and retired bureaucrats developed farmhouses in DLF, Chattarpur region. The initial development of farmhouses in Chattarpur region exhibited a leapfrogging process in the surrounding villages. The number rose from a mere 20 in early 70s to 300 in 1980 to 900 in 1990 and to a peak of 1200 until 1996. Close to two-thirds of the total farmhouses are located in the South region. The growth pattern almost exhibits a logistic growth process, typical of innovation diffusion, and has reached a saturation (plateau) stage at present. Presently, South region has many important clusters of farmhouses. The largest concentration was observed in Chattarpur village followed by Ghittorni, Sultanpur, Jaunpur, Gadaipur, Mandi, Bhatti, Asola, Fatehpur Beri, Chandanhola and Satbari (Fig.1).

**Table 1**  
**Growth of Developed Farmhouses**

Region/Year	1970	1975	1980	1985	1990	1996
North west	0	0	0	100	160(60.00)	240(50.00)
Southwest	0	0	40	80(100.00)	240(200.00)	560(133.33)
South-central	20	160(700.00)	300(87.50)	680(126.66)	900(32.35)	1200(33.33)
Total	20	160(700.00)	340(112.50)	860(152.94)	1300(51.16)	2000(53.85)

\*Figure in parentheses exhibit growth in percentage over the preceding period.

Source: Field Survey, 1996

During 1980s, growth of farmhouses also picked up in the Southwest and Northwest regions (Table 1), where agriculture land was abundantly available at comparatively cheap rate. Important villages included Bijwasan, Kapashera-Samalka, and Rajokri in the Southwest and Holambi Kalan, Holombi Khurd, Bhorgarh and Bakhtawarpur village in the Northwest region (Fig.1). Since the late 1980's the growth rate remained highest in the Southwest region (Table 1).

These two regions started late on the band wagon and have not reached the saturation stage like the South Region. Their take off period started with a lapse of almost 10 years than the South region. At present these contain almost one-third of total farmhouses in Delhi (Table 1), however future prospects of growth of farm houses in the Southwest and Northwest regions are higher as they are still on take off stage. Furthermore, not much agricultural land is available in the South region. Recent interests for land development and spread of Delhi in the north has further generated a new demand for such land uses for speculative purposes and later for urban development. The upward trend in the growth of economy is also expected to increase the number of neo-rich, which conversely may fuel the demand for farmhouses in these new areas.

#### **Land occupancy under farmhouses and its implications**

Farmhouses occupy a significant area of rural Delhi. According to our assessment, about 20 per cent of the village area and 33 per cent of agricultural area (of sampled villages) is occupied by the

farmhouses in the three regions. The South region, where farmhouse activity started early in 70s, occupies almost two-third of the prime agricultural land and about one-fourth of the total village area. In other regions it was found relatively much lower, however they are in the process of seizing more agricultural land in coming years. The trend has serious ecological, economic and social implications. These need to be explored in great depth as a separate study. Our own observations and interviews with the cultivators who sold the agricultural land attest to the above concerns. As observed, large proportion (varying 50-70%) of the land in farmhouses coverage is used for non-agricultural purposes like sprawling lawns, landscaping, swimming pools, car garages, storage space and living space. Very small land is used for food crops, horticulture and other food products through dairy farming, piggery or poultry farming. All these products have great demand in the city and can strengthen the food security and reduce dependence on other states. Farmhouses withdraw huge amount of ground water for non-agricultural activities like watering the lawns and filling the water guzzler swimming pools. Likewise, water is used luxuriously for bathing, washing and sanitary uses. The south region is experiencing groundwater stress and ground water level has dropped to 30-40 metres with heavy withdrawals for such non-agricultural uses. This has disturbed the local hydrology and other ecological conditions like subsidence of land and loss of biodiversity. Such critical ecological damages need to be studied in depth. Sale of agricultural land by the village

communities and its social implications are being realized now by the affected families. Unemployment, addiction to liquor, gambling, rise in dowry demand and rise in crime rate are few affects that has disturbed the social ecology of the village communities who sold their land. It has created new social conflicts among the village communities and the farmhouse owners.

#### **Spatial Organization of Farmhouses**

Delhi Development Authority (DDA) is the legal agency to allow the development and regulate the functioning of farmhouses in Delhi. There were no strict regulations regarding the location of farmhouses in different parts of the city. DDA, however, had certain stipulations regarding the size, land use, built-up area and functions (Verma, 1998). These can be summed up as under:

- Minimum size of farmhouse must be 2.5 acres or more.
- It should be located at least 30 metres away from the village road.
- The boundary wall should not be more than 4 feet high.
- Built-up area should cover not more than 5% of the farmhouse area.
- Height of the building should not exceed 6 metres.
- It should be used for agricultural purposes only.

The basic functions of a farmhouse like agriculture, as expected by DDA, has been ignored and variety of commercial functions like use for banquet halls and renting for residential purposes have emerged over the years.

Spatial organization of farm houses has evolved over the years and has been largely influenced by aspects of:

- proximity to place of residence of farm owners,
- closeness to urbanized peripheral area of rural Delhi,
- scenic undulating terrain,
- speculative high land values,
- future expansion of city,
- proximity to highways and associated road network , and
- safety and security.

Apparently, considerations of soil quality, level of irrigation, and sources of water for irrigation

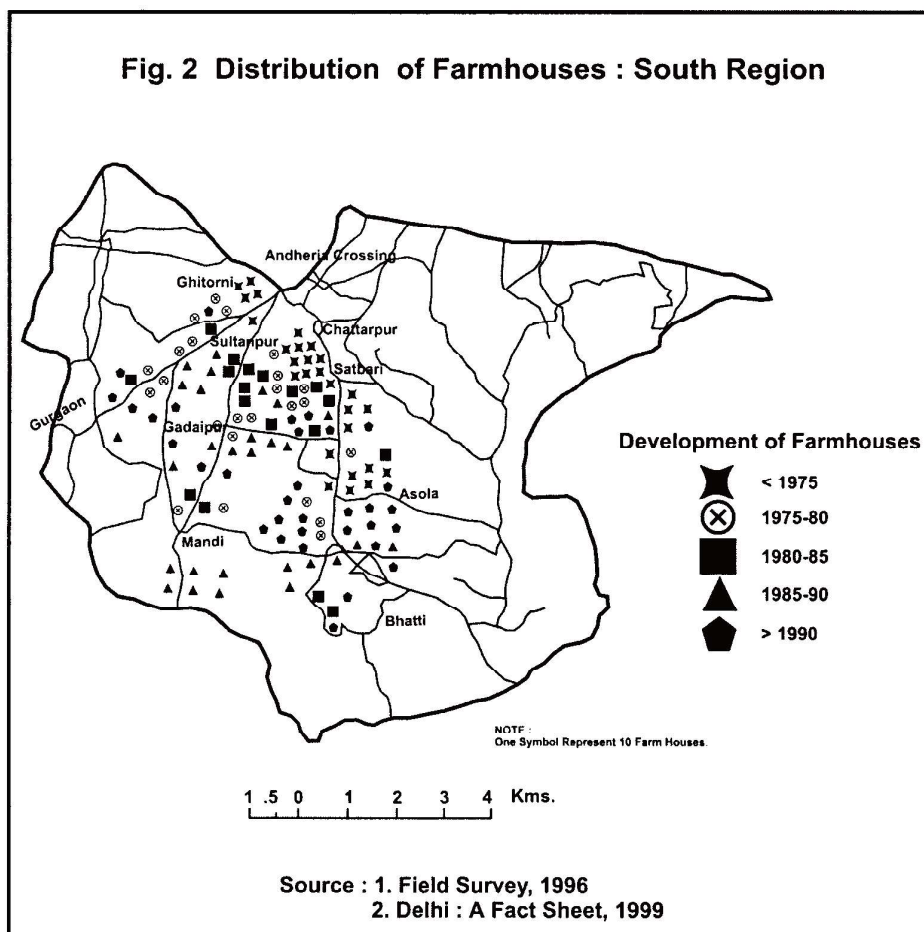
were not important in site selection process. Most of such factors, in various combinations, were available in South and North Delhi and that influenced high to medium concentration of farmhouses in these two zones. Contrary to this, the East and West zones were already densely populated and had no scenic terrain to attract the development of farmhouses as evident from Fig.1.

A nearest neighbour analysis was performed to examine the distribution pattern and the 0.5 "R" value of distribution reflects a moderate clustering pattern. The clustering is more significant in Northwest region as these are largely concentrated along the NH- 1, whereas in South Delhi zone the farm houses are distributed more evenly within the Aravali hills area. Concentrations are found more around 10-15 villages largely spread in South Delhi. The distribution is also skewed and eight villages like Chattarpur, Bijwasan, Rajokri, Sultanpur, Asola, Gadaipur, Ghitorni and Mandi (in South zone) out of 52 villages alone contain 50 % of the total farm houses. The clusters with more than 100 farmhouses in one village are chiefly located in the Southern parts of the study area (Fig.2).

Size of the farmhouses in Delhi is generally small. The average size of a farmhouse is 4.43 acres and according to our ANOVA results there are no significant regional variations in their average size across the three zones. Approximately, 80 per cent of the farmhouses in Delhi are less than 5.00 acres in size. Large size farmhouses (>10 acre) are only 4 per cent of the total farmhouses. Small size of farmhouses does not facilitate the agricultural activities, after close to 50 per cent of the area is covered for non-agricultural purposes. Unless non-farm area is increased through strict regulation by DDA, the intended purpose and functions of farmhouses will remain marginal against the present undesired use for speculative, leisure and recreation purposes.

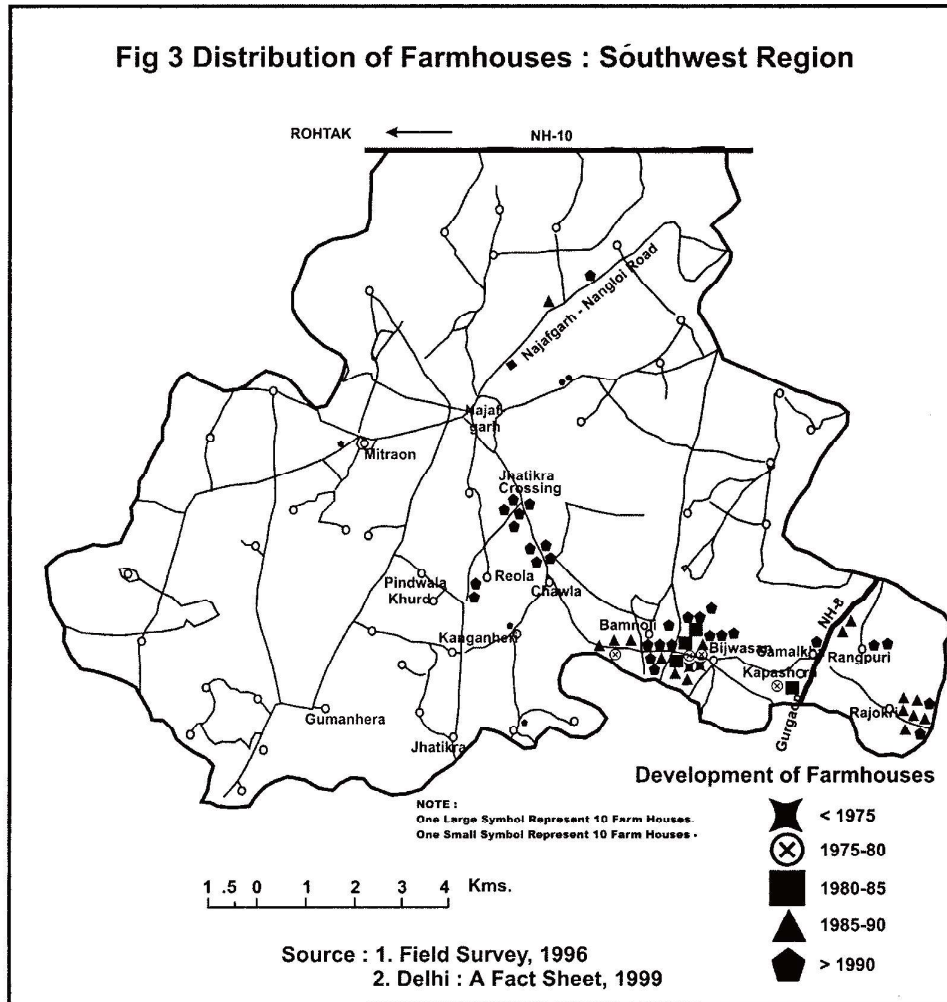
#### **Distribution of farmhouses in the South Delhi**

The largest concentration of farmhouses is found in the South Delhi. Close to two-thirds of the total farmhouses developed so far in the study areas are located here. Most of the above-discussed locational factors have facilitated the concentration in this region. Undulating scenic terrain of the Aravali hills and closeness of affluent colonies like



Jor bag, Defence colony, South extension, Kalkaji and Nehru place in particular has influenced the development of farmhouses in this area. Possible urban expansion of Delhi, as expressed in Delhi Master Plans of 1961 and 1981, in this direction also encouraged land speculative tendencies among the neo-rich communities and raised the demand for agricultural land available in surrounding rural hinterland of Delhi territory. DDA facilitated the ownership process with weak legislation and governance regulations. Thereafter, ownership of such farmhouses became a status symbol and dividend venture. In the process, many of the Delhi's politicians, bureaucrats and businessmen developed farmhouses in adjoining locations.

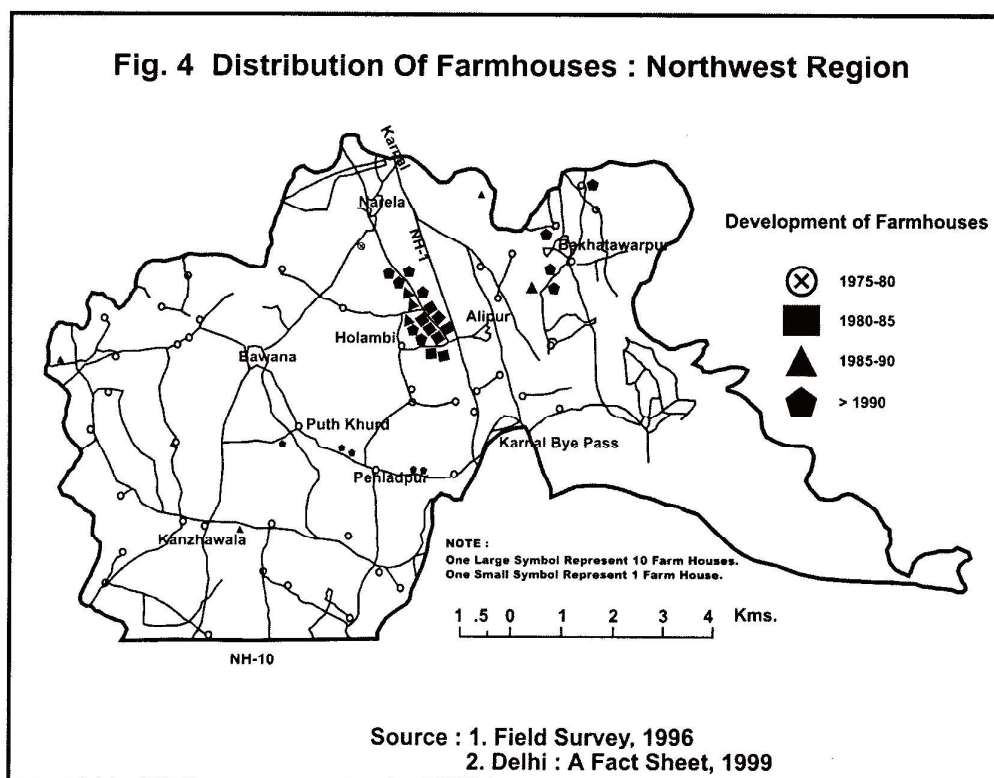
Here farmhouse clusters have developed in two different directions- a) South of Mehrauli and b) along Rajokri-Najafgarh road (Fig.2 and 3). Farmhouses within Mehrauli area have evolved along three different roads emanating from Andheria Crossing. One, along Mehrauli-Gurgaon road in the villages of Kishangarh, Ghittorni and Aaya Nagar. The second concentration is along Sultanpur-Mandi road. This belt includes the villages of Sultanpur, Jonapur, Gadaipur and Mandi (Fig.2). There is a continuous growth of farmhouses along this road. The third concentration of farmhouses in this belt, and perhaps the oldest, is along Chatrapur - Bhatti road and include villages of Satbari, Chandanhola, Sahurpur, Fathepur Beri, Asola and Bhatti (Fig.2).



On the other hand, Southwest region, which contains farmhouses located on both sides of Rajokri – Najafgarh road (Fig. 3), lacked some of the advantages that the South region had. Most areas have flat terrain and lacked the scenic appeal. Occurrence of saline water with high fluoride content at certain locations in Najafgarh block has adversely affected the development of farmhouses. The authors have found that prospective buyers preferred nearest locations for the development of farmhouse to their first home. Most owners of

farmhouses of this region belong to high and upper-middle income residential colonies (viz. Punjabi Bagh, Patel Nagar and Kirti Nagar) of Southwest Delhi. Because of comparatively low demand than the South region, farmhouses in the Southwest Delhi have developed primarily along the main roads. Real estate developers like Ansals Group and EROSE have played a pivotal role in developing the farmland and then selling the farmhouses to perspective buyers.





#### Farmhouses spread in Northwest Delhi

The third important cluster of farmhouses is noticed along National Highway-1 in Northwest Delhi around the villages of Holambi Kalan, Holambi Khurd and Bakhtawarpur (Fig.4) and contains 12 per cent of the total farmhouses in national capital territory of Delhi. These villages have locational advantage being near to Karnal highway and within a short time drive from the rich colonies of Civil Lines, Model Town, and Ashok Vihar in North Delhi. Furthermore lower land values, fertile agriculture land with easy access to surface and ground water and saturation levels in the South attracted investors in this region. The area was less favoured by the investors because of possible urban expansion and fear of land acquisition by DDA in near future. Occurrence of fluoride and saline water at some locations in Kanjhawala block also resulted into slow growth process (NCRPB, 1999).

#### Future Prospects

As evident from the above discussion on growth and spread of farmhouses in the south region of Delhi, there is limited scope for future development of farmhouses here. The region has less potential for future development as other competing land uses (like housing, service sector, IT parks and more recently shopping malls), stringent state government and DDA regulations and citizens' voice on ecological damages are becoming more serious threats and concerns. The most promising regions for future growth of farmhouses are Southwest and Northwest regions. Vast tracts of agricultural land were sold for farmhouses in this area that still are in the process of developing into farmhouses. This process has already started in many of the villages located in the interior to the Rajokri - Nazafgarh road. The semi-developed farmhouses are now visible in the villages of Raghopur, Badusara, Nanakheri, Kanganheri, Daulatpura and Mitraon,

which are located off the Rajokri-Najafgarh road.

North Delhi offers another choice. The process of farmhouses development started late as compared to south, however the growth rate has been rapid and has become now the prospective growth area. Vast areas in the interiors of existing clusters are still occupied by agriculture fields (Fig.4), which may become important destination for the development of farmhouses in near future. The recent announcements of developing North Delhi (Kundli industrial zone, education city, residential colonies and commercial developments by DDA) and beyond in Sonipat region by private developers along the NH-1 has boosted the demand for farmhouses. Like in south, this may further provide triggering affect in giving new directions to the urban spread of Delhi.

#### Conclusion

The farmhouse culture manifested within the fringe areas of Indian metropolitan cities is largely a post independence phenomenon. Its importance is not only because of introduction of innovative agricultural practices but also to understand how such activities can influence the future extension of the city, transformation of black money into white money through agriculture tax exemptions, triggering environmental degradation on the urban fringe through excessive resource use, disturbing social ecology and producing social conflicts within and between new and old communities. This study was encouraged by such concerns and tried to examine first the growth and diffusion process of farmhouses within the National Capital Territory of Delhi. The initial growth of farmhouses started in the scenic region south of Meharaulli during early 70s. In the beginning, only few farmhouses developed and gradually the process of diffusion picked up at an exponential rate and matured during mid nineties in this region. Relatively less advantaged locations within the North and Southwest regions emerged later on the scene and the growth was faster than the South. At present they remain the future growth areas for this activity as the South region has almost lost attraction due to high price of land, other competing land uses and pressure from the civil society for ecological and environmental threats. Distribution pattern reveals clustering phenomena around highways,

scenic terrain, and closeness to rich areas of Delhi. The process of spatial spread was a kind of leapfrogging wherein the early farmhouses developed randomly close to major roads and later the spread continued in the interiors along the lower level road network. The emergence of farmhouses has raised the land values and has also triggered the urban expansion process in areas around the farmhouses. The process needs to be regulated more by the governing agencies like DDA to monitor the growth in environmental degradation, rising crime and haphazard growth of urban areas around the farmhouses.

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