CONTRIBUTIONS

CITY HISTORY - LIFE HISTORIES : CHANGING EQUATIONS. MIGRATION SURVEYS AND BIOGRAPHICAL DATA COLLECTION IN DELHI

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Contributions CSH 97/7

CENTRE DE SCIENCES HUMAINES
New Delhi

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CONTRIBUTIONS

SARKAR P., "Growth and terms of trade: a north-south macroeconomic framework", *Contributions CSH 96/1*, New Delhi.

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LANDY F., "Finalités, logiques, stratégies : rationalité et objectifs des exploitations paysannes tropicales. Un exemple d'Inde du Sud", *Contributions CSH 96/4*, New Delhi.

JAHANBEGLOO R., "La vérité de Gandhi", *Contributions CSH 96/5*, New Delhi.

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EL ALAMI N., "Le mouvement communiste indien et l'apprentissage de la légalité républicaine (1920-1964)", *Contributions CSH 97/4*, New Delhi.

BUFFETRILLE K., "Réflexions sur les pélerinages aux montagnes sacrées, lacs et grottes", *Contributions CSH 97/5*, New Delhi.

ZERAH M.H., "Some issues in Urban Water Management : Household Response to Water Supply Unreliability in Delhi", *Contributions CSH 97/6*, New Delhi.

DUPONT V., "City History - Life Histories : changing equations. Migration surveys and biographical data collection in Delhi", *Contributions CSH 97/7*, New Delhi.

RESUME / SUMMARY

Histoire de ville - histoires de vie : équations variables. Enquêtes migratoires et collecte de données biographiques à Delhi.

Le propos général de cette contribution est une discussion méthodologique dans le contexte d'un programme de recherche sur mobilités spatiales et dynamiques urbaines dans l'Aire Métropolitaine de Delhi. La recherche vise à relier les comportements de mobilité et les pratiques résidentielles des habitants au développement de la métropole ainsi qu'à sa structuration et ses transformations internes, afin d'atteindre une meilleure compréhension de son fonctionnement. Sur la base d'une présentation détaillée du système d'investigation mise en oeuvre, cette contribution montre les avantages à combiner des enquêtes démo-statistiques et des entretiens de type anthropologique, ainsi que différents angles d'observation et niveaux d'analyse. L'accent est mis plus particulièrement sur la contribution de la collecte de données biographiques, et sur la manière dont les histoires de vie individuelles et l'histoire de la ville peuvent s'entremêler. Ceci est illustré à partir de deux études de cas exemplaires : la population des sans logis dans la vieille ville, et les habitants d'un village urbanisé dans une nouvelle ville périphérique.

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The general purpose of this contribution is a methodological discussion in the context of a research programme on spatial mobility and urban dynamics in the Delhi Metropolitan Area. The research aims at relating the mobility behaviour and residential practices of the urban dwellers to the development of the metropolis, as well as its internal structuring and transformations, in order to reach a better understanding of its functioning. Based on a detailed presentation of the system of investigation implemented, this paper shows the advantages of combining statistical demographic surveys and anthropological type of interviews, as well as different angles of observation and levels of analysis. The stress is laid more particularly on the contribution of biographical data collection, and the way the individuals' life histories and the city history can intermingle. This is illustrated more particularly by two significant case studies: the houseless people in Old Delhi and the inhabitants of an urbanized village in a new peripheral town.

FOREWORD & ACKNOWLEDGEMENTS

The author is a demographer at the French Institute of Scientific Research for Development through Co-operation (ORSTOM, Dept. *Conditions de Vie et Développement* , 213 Rue Lafayette, 75480 Paris cedex 10, France), associated with the *Centre de Sciences Humaines* (CSH).

The research for this paper is part of a study on the patterns of population mobility in the metropolitan area of Delhi. This is a collaborative project between ORSTOM which financed the study, and the *Centre de Sciences Humaines* and the Institute of Economic Growth (Delhi) both of which provided institutional, logistical and intellectual support. We are most grateful to these institutions for their assistance and co-operation. This project has also received financial support from the CNRS (*Action Concertée en Sciences Sociales ORSTOM-CNRS*) as part of a collective research programme on the city of Delhi[α], and programme *PIR-Villes* for a comparative analysis of residential practices in Delhi and Bogota[β]), as well as from the CSH as part of the research theme on "Urban dynamics".

Sincere thanks are also due to the team of field investigators and research assistants who helped in collecting, coding and editing the data. Regarding more particularly the two case studies detailed in this paper, I would like to mention here Jay PRAKASH and Dhananjay TINGAL who assisted me in conducting the in-depth interviews in Noida and Old Delhi.

An earlier version of this paper was presented at an international workshop on the contribution of biographical data collection to the knowledge of spatial mobility, organised by *the Institut National d'Etudes Démographiques* (INED), ORSTOM & *Réseau Socio-Economie de l'Habitat* at INED, Paris, on 12-13 June 1997. This paper was prepared for a session on the significance of complementary observations to the understanding of life histories. The comments of Marie-Hélène ZERAH and Thomas BROTEL helped me in revising this first version. In order to widen the scope of the initial paper beyond the specific requirements of the workshop, and to give a more exhaustive presentation of the system of investigation implemented for the study of the patterns of population mobility in Delhi, it was further completed by drawing on another methodological unpublished paper, namely :

> DUPONT (V.), "Patterns of population mobility in the Delhi Metropolitan Area and their impact on the urban dynamics. Presentation of the system of investigation". Paper presented to the seminar "Migration and Urbanisation in Vietnam", Ho Chi Minh City, 5-8 December 1995, 22 p.

[α] The collective project on the city of Delhi is co-ordinated by Véronique DUPONT and Denis VIDAL (ORSTOM), as part of the CSH theme 'Urban dynamics' and in association with the Centre for the Studies of Developing Societies (Delhi). Its main objective is to analyse a set of social and cultural dynamics which can take account for the recent and present evolution of the Indian capital city. The research teams includes Indian, French and British scholars, whose inter-disciplinarity allows us to combine various types of approaches and research fields: sociology, anthropology, political sciences, demography, geography, history, environmental sciences....The different specific research programmes carried out under this joint project cover the following themes: patterns of spatial mobility and urban transformations; impact of environmental factors on residential choices; interrelation between the contemporary history of the country and its capital city and the development of certain urban neighbourhoods; entrepreneurial and commercial dynamics and control of the urban space in Old Delhi; practices of urban policies; pattern of electoral behaviour and their socio-spatial characteristics; regional identities and political culture; political patronage and development of unauthorized colonies; intellectual elite and urban culture in Delhi.

[β] The research programme on Bogota is conducted by Françoise DUREAU (ORSTOM, France) in collaboration with C.E. FLOREZ from the CEDE (University of Andes, Colombia).

CITY HISTORY - LIFE HISTORIES: CHANGING EQUATIONS
MIGRATION SURVEYS AND BIOGRAPHICAL DATA COLLECTION IN DELHI

The general purpose of this contribution is a methodological presentation and discussion in the context of a research programme on population mobility and urban dynamics in the Delhi Metropolitan Area. The research aims at relating the mobility behaviour and residential practices of the urban dwellers to the development of the metropolis, as well as its internal structuring and transformations, in order to reach a better understanding of its functioning. In this regard, we would like to show the relevance of a systemic approach combining different types of surveys (quantitative as well as qualitative) and different levels of analysis (from individual strategies at the micro-level, to the characteristics of the neighbourhoods at the meso-level, and the conditions of the labour market, housing production and urban policies at the macro-level). The stress will be laid more particularly on the contribution of biographical data collection, and the way the individual's life histories and the city history can intermingle.

Following an introduction on the main characteristics of the urban development in Delhi (Section 1), the particular objectives of the research will be expounded (Section 2). A presentation of the whole system of investigation will detail the different kinds of observations carried out and the various types of information collected (Section 3). Then, the discussion will focus on two significant case studies: the houseless people in Old Delhi (Section 4) and the inhabitants of an urbanized village in a new peripheral town (Section 5). These two examples will allow us to illustrate the changing equations between the city history and the individual life histories; we shall also draw some lessons on the respective contribution of contextual information, statistical surveys and in-depth interviews and the way to combine these different types of observation more efficiently.

1. PRESENTATION OF THE RESEARCH PROGRAMME
"Patterns of Population Mobility in the Delhi Metropolitan Area and their Impact on the Urban Dynamics"

1.1. Context of the study

At the national level, the process of urbanisation in India is characterised by two main features. Firstly, with a level of urbanisation that is relatively moderate (26% in 1991), India remains a predominantly rural country - and will remain so in the medium term. Secondly, the urban scene is dominated by the big metropolises, and the urbanisation process has gone hand in hand with a growing concentration of the urban population in the metropolises of a million- and multi-million inhabitants - Delhi being the third one by its size.

In Delhi, like in other large metropolises in the world, the process of urbanisation seems to be linked to other specific phenomena: the deconcentration of the urban core; a process of suburbanisation, with the rapid development of suburbs and the formation of satellite towns; an increased differentiation and segmentation of the metropolitan area; the development of commuting between place of residence and place of work as well as the development of other forms of circular mobility between different places of residence inside and outside the town, resulting in complex and multi-polar spatial residential patterns which go beyond the urban/rural dichotomy.

In the Indian context, the originality of Delhi lies in a few additional characteristics. The demographic evolution of this city is first marked by the traumatic history of the country. Promoted as the capital of the British Indian Empire in 1911, then capital of independent India in 1947, the city had to face a massive transfer of population following the partition of India and Pakistan. Thus, just after 1947, Delhi whose population was about 900,000 had to receive 470,000 refugees from western Punjab and from Sindh, while 320,000 Muslims left the capital and migrated to Pakistan. Over the last decades, Delhi is the Indian metropolis (over a million inhabitants in 1981) which has experienced the highest demographic growth. Its population has expanded from 1.4 million in 1951 to 8.4 million

in 1991. The rate of growth, however, slows down over that same period: 5.1% per year from 1951 to 1961, 4.5% to 4.6% per year from 1961 to 1981, and 3.9% per year between 1981 and 1991.

Today, Delhi is a city in full expansion: although traditionally, it has always had a political and administrative role to play, it is now becoming one of the country's major centres of economic growth. In addition, this capital city has pioneered original experiences in town and country planning, with a rigorous planning of the city, policy of urban public transport, the creation of satellite towns, measures of land control, relocation of slum dwellers. However, despite these policy measures, speculation on land and formation of slums could not be avoided. Delhi thus provides an example of how a capital with several millions of inhabitants has developed, with a sustained growth in the context of wilful urban policies.

The development of a metropolis like Delhi, with several millions of inhabitants, raises crucial and specific problems in terms of urban administration. Furthermore, the rate of demographic growth, in spite of its slow down, remains quite significant, which compounds the task of town planners.

Understanding how cities function and, in the first place, how their population dynamics function, is an indispensable prerequisite for any attempt at town planning. In this research project on Delhi, the study of population movements is used as a preferential tool to analyse and understand better the dynamics of the metropolis: its development as well as its internal structuring and transformations.

1.2. Research objectives

The main objective of this research project is to improve our knowledge of the different forms of spatial mobility and of the complex spatial residential patterns in a large metropolis, and to analyse the different types of mobility practised by the population in relation to its absorption into the urban labour market and conditions of access to a dwelling.

Then, it aims to analyse the impact of such residential and occupational strategies on urban dynamics, and this at three levels:

- Impact on the global dynamics of the town, in terms of geographical spread of the urban agglomeration and development of suburbs and satellite towns, that is, more generally, impact on the process of metropolisation and suburbanisation;

- Impact on the internal structure of the metropolitan area, in terms of population redistribution within the urban space and in terms of differential dynamics of certain neighbourhoods, and, more generally, role of residential strategies in the process of spatial segmentation ;

- By putting Delhi into its regional context, the different forms of population mobility will be also examined in order to better understand the structure of the exchanges that take place between the metropolis and the neighbouring states of North India, or other places of the national territory, or even international space.

In this perspective, we shall also examine the links between the urban policies at the macro-level and the individual's residential practices at the micro-level.

The following two questions guide our investigation:

- What are the residential practices developed by the population, its strategies as regards the occupation of the geographical and economic space of Delhi metropolitan area? What are the occupational, familial, etc... determinants of such practices?

- What impact do these residential practices have on the global and intra-urban dynamics of Delhi?

Particular attention is given to the forms of temporary and circular mobility and their evolution. The permanent versus transitory character of circular mobility will be questioned: do these complex

residential patterns represent a step towards a settling down into the city or do they tend to become perennial? What lessons can be drawn as to the impact of such patterns on urban dynamics?

The objective of such research in the Indian national context is also to understand to what extent the development of the forms of circular mobility can help to maintain a relatively moderate rate of urbanisation.

The research project on Delhi is also conducted in the perspective of an international comparison with another metropolis of the developing world, Bogota (Colombia)[1]. This will also allow us to compare the different patterns of spatial mobility in two large metropolises which face some similar problems although they belong to contrasting geographical and socio-political contexts.

2. SYSTEM OF INVESTIGATION

2.1. The principles: combination of different types of observation

The official systems of demographic data production in India (the censuses and the National Sample Survey) do not provide adequate information on the different forms of spatial mobility in relation to urban dynamics: first they focus mainly on migration seen as a relatively permanent transfer of residence, and secondly the level of aggregation of the data on migration does not allow a differential analysis of the neighbourhoods inside a given urban agglomeration. Hence, in addition to making use of the bibliographical and statistical data available on Delhi, this research programme relies essentially on specific surveys carried out on samples of population, in seven selected zones in the Delhi urban agglomeration and in two satellite towns of the metropolitan area, and which cover different types of settlement including a sample of houseless people.

In order to get a better understanding of the urban transformations linked to the residential behaviour and to the spatial mobility practised by individuals and their families, the system of observation follows three basic principles:

- To take into consideration the set of all types of mobility, regardless of the distance (intra-urban movements in the metropolitan area and migrations towards and from Delhi) or the duration of the movement (permanent or temporary migrations and daily commuting).

- To introduce a longitudinal approach, which helps us to understand the way in which people combine different residential practices throughout the different stages of their life cycle, in relation with other events affecting their professional and familial life.

- To take into consideration the family units in the observation and analysis of the migratory practices, in order to relocate individuals' mobility behaviours into their familial context, and thereby recover the collective dimension of the mobility logic, evidenced in numerous socio-anthropological works.

Thus, the system of observation adopted combines a quantitative and a qualitative approach, and includes three main facets (Figure 1):

- a statistical survey carried out on a sample of approximately 1,700 households in seven selected zones of the metropolitan area;

- an anthropological observation consisting of in-depth interviews carried out in the studied zones;

- a collection of basic information on the contextual background of each neighbourhood selected for the survey.

[1] See DUPONT, DUREAU, 1996.

Figure 1. Description of the observation system

GEOGRAPHICAL INFORMATION SYSTEM

- Delhi National Capital Territory consisting of: Delhi Urban Agglomeration divided into 143 census charges + 6 small towns + rural hinterland
- 6 ring towns

DEFINITION OF THE UNIVERSE OF STUDY

1. DELIMITATION OF THE METROPOLITAN AREA OF DELHI

Delhi Metropolitan Area as identified by the Master Plan of Delhi and the National Capital Planning Board, on the basis of geographical criteria (distance to Delhi), as well as criteria of demographic and economic inter-dependency

Delhi Metropolitan Area = Delhi National Capital Territory + 6 ring towns

2. SELECTION OF THE ZONES TO BE STUDIED

5 ZONES IN DELHI
Selected according to: geographical location, population dynamics, socio-economic characteristics, type of settlement and housing

1 RING TOWN (Noida) + 1 ZONE IN THE OUTSKIRTS (DLF Qutab Enclave)
Selected according to: geographical location, population dynamics, urban functions, type of urban planning operation implemented

SYSTEM OF DATA COLLECTION ON SPATIAL MOBILITY

1. EXTERNAL DELIMITATION AND STRATIFICATION OF EACH OF THE STUDY ZONE

4 ZONES IN DELHI + NOIDA
External delimitation according to the division into electoral consistencies and polling stations
Stratification according to the type of settlement following field observations

1 ZONE IN THE OUTSKIRTS (DLF Qutab Enclave)
Delimitation according to the land use survey established by the builder
Stratification according to the period since built and to the type of settlement following field observations

OLD DELHI (houseless people)
Localisation of the main concentrations of pavement dwelling areas and night shelters within the Walled City
Stratification according to the type of sleeping arrangement

2. SELECTION OF THE SAMPLE OF HOUSEHOLDS

4 ZONES IN DELHI + NOIDA : stratified and three-stage sampling on the list of dwelling units

1 ZONE IN THE OUTSKIRTS (DLF Qutab Enclave): stratified and two-stage sampling on the list of dwelling units

OLD-DELHI : sample of houseless people: stratified area sampling on the basis of previous head-count of pavement dwellers or the average attendance in each night shelter

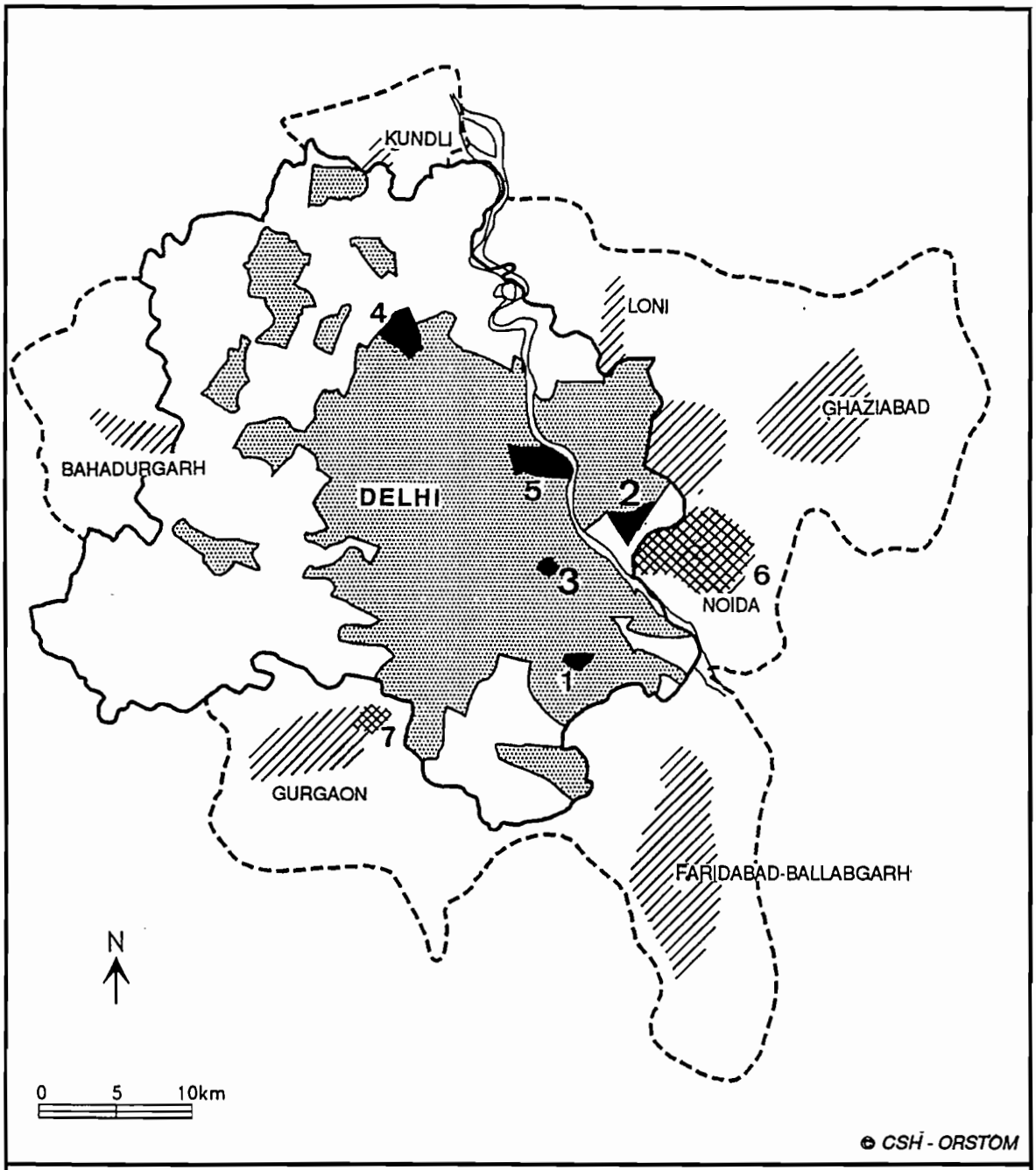
3. SURVEYS

STATISTICAL SURVEY
Sample of 1413 private households (in 1995)
Sample of 248 houseless persons (in 1996)

ANTHROPOLOGICAL SURVEY (1996-1997)
Sub-sample of 100 persons from the statistical survey
+ about 30 various in-depth interviews

+ collection of basic information on the contextual background of each neighbourhood surveyed

Figure 2. Location of the residential zones surveyed in Delhi Metropolitan Area



Boundaries of Delhi Metropolitan Area

Boundaries of Delhi National Capital Territory

Yamuna River

Urban zones of Delhi as per the 1991 census

Other urban zones of the metropolitan area

Rural zones

Zones surveyed in Delhi Urban Agglomeration

Zones surveyed outside Delhi National Capital Territory

Zones surveyed in Delhi Urban Agglomeration

1. Tigri
3. Pragati Vihar - Nehru Stadium
2. Mayur Vihar - Trilokpuri
4. Badli-Rohini
5. Old Delhi

Zones surveyed outside Delhi National Capital Territory

6. NOIDA (Uttar Pradesh)
7. DLF Qutab Enclave (in Gurgaon, Haryana)

Source: Figure drawn on the basis of the following maps:

- "Map of Delhi " in: *Census of India 1991, District Delhi, District Census Handbook*, Directorate of Census Operations, Delhi.
- "Land use 1986-87" in: *Regional Plan 2001. National Capital Region*, National Capital Region Planning Board, Dec. 1988.
- "Delhi Metropolitan Area" in: *Master Plan for Delhi, Perspective 2001*, Delhi Development Authority, August 1990.
- *Eicher City Map. Delhi*, Eicher Goodearth Ltd, New Delhi, 1996.

2.2. Universe of reference and zones selected for the survey

The area of reference: the metropolitan area of Delhi

The specific aspects of the process of metropolisation observed in Delhi (namely: suburbanisation and development of satellite towns, intensification of circular mobility which goes beyond the urban/rural dichotomy) imply that the relevant area of reference for a study concerned with the development of Delhi cannot be limited to the administrative boundaries of the urban agglomeration. For the purpose of this study, the area of reference is the Delhi Metropolitan Area, as identified for the first time by the Master Plan of Delhi (1962) and defined by the National Capital Planning Board in its Regional Plan for 2001 on the basis of a study of the Delhi region.

Thus, the Delhi Metropolitan Area consists of:

- Delhi National Capital Territory including Delhi urban agglomeration, the small and medium-sized towns of the hinterland, as well as the rural areas;
- 6 ring towns located within a radius of 35 kilometres around the capital, and whose demographic and economic development is inter-dependent with that of Delhi, and involves large-scale commuting.

Selection of the zones to be studied

Given, on the one hand, the population size and geographical spread of a metropolis like Delhi (close to 10 millions today), and, on the other hand, our time and cost constraints which allowed us to survey a total sample of maximum 1500 households, it was obviously not possible to envisage a sample that would be representative of the entire Delhi metropolitan area. Considering our research objectives, what appeared important was to have a sample representative at a local level - the neighbourhood - (since the objective of the statistical survey implies the measurement and a close analysis of intra-urban flows among neighbourhoods) and also to highlight the different patterns of population mobility that count in the global functioning of the metropolitan area. Therefore, we have reduced the universe of the study and selected specific zones in the Delhi metropolitan area. The selection was done according to a reasoned choice, on the basis of the analysis of the census data[2], as well as other information available on the land use pattern and types of settlement and housing.

Considering again the size of the urban agglomeration as well as the size of some of the ring towns (two of them with a population over half a million), and, on the other hand, the permitted maximum size of the sample (1500 households), we found it more interesting for the purpose of this survey to focus the observation on certain types of zones, in order to better highlight the most significant aspects of the process of metropolisation at work in the Delhi region, that is the rapid growth of the peripheral zones of the urban agglomeration, and, concerning the ring towns, the creation of satellite towns and new residential townships. Subsequently, we decided to focus on zones of more recent settlement with higher rate of population growth (between 1981 and 1991), hence indicating important movements of population towards those zones, which are generally located in the periphery. Nevertheless, we included in the study a relatively centrally located zone, in order to have a better representation of the various types of residential patterns and urban transformations. For the same reason, we have also conducted a specific survey of a sample of houseless people sleeping on the pavements or in the night shelters located in Old Delhi (the historical core of the city) where the highest concentration of pavement dwellers is found.

The other criteria applied to select the zones then aimed at taking into account the diversity of the neighbourhoods found in the metropolitan area in terms of: geographical sector, residential density, economic functions, socio-economic characteristics of the population, types of settlement and housing - which are linked to urban policies and public interventions. This approach allows us to conduct a differential analysis of the residential practices of the people in relation with urban policies which have been implemented.

The main characteristics of the zones selected are described in Table 1, and their location shown in Figure 2.

[2] See DUPONT (V.) & MITRA (A.), 1994.

Table 1 - Description of the selected zones

STUDIED ZONES	CHARACTERISTICS OF THE ZONE*	N° of strata and criteria*	N° of sample house holds
IN DELHI URBAN AGGLOMERATION			
1. TIGRI	Neighbourhood located in the southern periphery High residential density and rapid population growth Low income groups, many construction workers Different types of settlement and housing: large slum, resettlement colony, unauthorized colony, flats built by the Delhi Development Authority for low income groups	4 Criteria: type S	175
2. MAYUR VIHAR - TRILOKPURI	Widespread zone located in the eastern periphery Middle to very high residential densities, and rapid population growth Different income groups, high proportion of persons employed in services Different types of settlement and housing: slum pockets, large resettlement colony, unauthorized and *a posteriori* regularized colonies, many flats built by the Delhi Development Authority, co-operative group housing societies, urban villages	6 Criteria: type S	342
3. NEHRU STADIUM	Small zone, relatively centrally located, in New-Delhi Slum: highly densely populated, developed since 1979-80 Group housing: flats for government employees built at the same time	2 Criteria: type S	164
4. ROHINI-BADLI	Widespread zone located in the west-northern periphery, including an industrial zone Low residential density and very rapid population growth Low and middle income groups, with high proportion of industrial workers Different types of settlement and housing : slums, resettlement colony, unauthorized colony, flats built by the Delhi Development Authority for different income groups, individual plots with independent houses, urban villages	3 Criteria: type S	171
5. OLD DELHI	Historical core of the city Extremely high residential density and negative population growth High concentration of commercial activities and small scale industrial units The survey focuses on the houseless people sleeping on the pavements and other open areas or in the night shelters run by the Municipality.	2 Criteria: type S	248 house less persons
TOTAL DELHI		private households: houseless persons :	852 248

Table 1 - Description of the selected zones *(continued)*

STUDIED ZONES	CHARACTERISTICS OF THE ZONE*	N° of strata and criteria*	N° of sample house holds
IN THE RING TOWNS OF THE METROPOLITAN AREA			
6. NOIDA: New Okhla Industrial Development Authority (entire territory)	New town developed since the late 70s, east of Delhi, including a very large industrial estate Very rapid population growth All income groups Different types of settlement and housing: planned sectors for individual plots and group housing, slums, urban villages	3 Criteria : type S	397
7. DLF QUTAB ENCLAVE (residential township in the outskirts of the town of Gurgaon)	New residential township in the outskirts of the town of Gurgaon, south of Delhi Developed by a private builder with some phases still under construction Very low residential densities High income groups Individual houses mainly, a few group housing, a colony for the employees of a car factory	7 Criteria: type S + period since developed	164
TOTAL RING TOWNS			561
TOTAL 7 ZONES	private households: 1413 houseless persons : 248		

* The demographic characteristics refer to the 1981-91 decade.
** Criteria of stratification: type S = type of settlement and housing, as described in the 2nd column, on the basis of field observation

Table 2- General characteristics of the sampling frame for the survey of private households

	STATISTICAL SURVEY OF PRIVATE HOUSEHOLDS (Feb.- April 1995)
	DELHI + 1 RING TOWN (NOIDA)
GENERAL STRUCTURE	Stratified and three-stage sampling
SAMPLING FRAME	Electoral rolls of the 4 zones in Delhi and of one ring town, including list of polling stations and voters' list. The latter were used as a list of dwelling units (after identification and counting on the basis of the voters' addresses)
STRATIFICATION	Stratification based on the type of settlement and housing, following field observation
SELECTION OF POLLING STATIONS (1ST STAGE)	In each zone and strata, selection of polling stations with probability proportional to the size (in number of voters in the polling station) **--> 110 polling stations**
SELECTIONS OF DWELLING UNITS (2ND STAGE)	From each selected polling station, dwelling units were selected independently with equal probability using random numbers generated by electronic computers. **--> 1076 dwelling units**
SELECTION OF HOUSEHOLDS (3RD STAGE)	Survey of all the households in each dwelling unit of the sample **--> 1249 households**
	1 ZONE IN ANOTHER RING TOWN (GURGAON)
GENERAL STRUCTURE	Stratified and two-stage sampling
SAMPLING FRAME	List of the occupied dwelling units in the zone, established on the basis of a land use survey of all the plots
STRATIFICATION	Stratification based on the type of settlement and the period since developed, on the basis of the master plan established by the builder and field observation
SELECTION OF DWELLING UNITS (1ST STAGE)	In each strata dwelling units were selected independently with equal probability using random numbers generated by electronic computers. **--> 153 dwellings units**
SELECTION OF HOUSEHOLDS (2ND STAGE)	Survey of all the households in each dwelling unit of the sample **--> 164 households**
TOTAL SAMPLE	**--> 1229 dwelling units** **--> 1413 households**

2.3. Statistical survey

Sampling frame for the survey of private households

For 4 zones located in Delhi metropolitan area (i.e. excluding Old Delhi) and for one ring town (NOIDA), the electoral rolls updated in October 1994 for Delhi and January 1995 for Noida, have been used as a sampling frame. In order to limit the risk of non exhaustivity of the electoral rolls, we used these lists to draw, not a sample of individuals, but a sample of dwelling units. The dwelling units were identified by the voters' addresses, and all the households living in the selected dwelling units were surveyed, whether or not the individuals were registered in the electoral rolls. In that manner, we could survey a good number of new comers or tenants who were not registered.

In each zone we applied a stratified and three-stage sampling (see Table 2). At the first stage, we selected polling stations, from the list of polling station in each zone, with probability proportional to the size (in number of voters in the polling station). At the second stage, in each polling station of the sample, we selected the dwelling units, independently with equal probability using random numbers generated by electronic computers. At the third stage, we surveyed all the households in each dwelling unit of the sample. This sampling scheme was applied independently in each strata of each of the studied zones. Each zone was previously divided into 2 to 6 strata, according to the type of settlement and housing, following field observation (see Table 1).

In the sixth zone selected, a new township in the outskirts a ring town, electoral rolls involved too many limitations to be used as a sampling frame: no updating, number of persons not registered likely to be particularly high in a new neighbourhood with some phases still under construction. Therefore, the list of occupied dwelling units was established on the basis of a land use survey of all the plots; this survey was conducted with the help of maps prepared by the builders and showing the boundaries of the zone as well as the boundaries of the plots. Then, we used this sampling frame to apply a two-stage sampling similar to the one applied in the other zones : the dwelling units were selected independently with equal probability using random numbers; then all the households in each dwelling unit of the sample were surveyed. The stratification of the zone was established according to the type of settlement and the period since developed, on the basis of the master plan established by the builder and field observation.

Finally, the total sample for the survey of private households consists of 1229 dwelling units, corresponding to 1413 households surveyed. For the survey of houseless people in Old Delhi, a specific method of sampling had to be designed, since this category of urban dwellers is not covered by the electoral rolls. We applied instead an area sampling method, which is described in section 3.3, and allowed us to survey 248 individuals.

Questionnaire

To finalise the questionnaire of the statistical survey, we have benefited from the lessons drawn from the implementation of a similar survey in Bogota (as mentioned above). Basically, the questionnaire followed the design conceived for the study of population mobility in this metropolis[3] with - of course- some necessary adjustments to take into account the specificity of the Indian context. It consisted of a structured schedule with mostly close-ended questions, including the following sections:

The first section dealt with the **characteristics of the building and dwelling unit**. Although the questions are very simple, they provide the basic information needed to analyze the conditions of access to the dwelling unit, which are essential elements in the process of residential insertion of the migrants and the natives into the different neighbourhoods of the metropolitan area.

In order to collect information at the individual level, the list of the members of the household was then established by applying criteria distinct from those normally used in censuses and household surveys. Indeed, if we wish to understand temporary migration and complex systems of residence (multi-residential), our field of observation must include not just the usual residents of the dwelling but also persons for whom the dwelling forms a component of their residential system. For the

[3] See for example: DUREAU (F), 1994.

purposes of our survey, it was decided therefore that, apart from the usual residents (persons who live most of the year in the household, whether or not they were present at the time of the survey), we would include as members of the household persons who lived most of the year in another dwelling, but who had resided in the dwelling unit surveyed for at least thirty days - not necessarily in a continuous manner - during the year preceding the visit of the interviewer (whether or not these persons were present at the time of the interviewer's visit).

The next set of questions related to the **demographic and socio-economic characteristics of all the household members**: sex, age, marital status, caste, religion, mother tongue, other languages spoken, level of education, characteristics of main and secondary occupation. We tried to follow the definitions used in the Census and the National Sample Survey to be able to relate the information obtained through these sources with the survey's results. In addition to this basic data information was sought on daily moves: dwelling unit - place of study, dwelling unit - place of work, i.e. commuting. Commuting was described in terms of space (exact location of the place of destination), mode of transportation used, time taken and cost in case of public transportation. In this section as in the rest of the questionnaire, the description of place was transcribed verbatim with accuracy.

The object of the following section (**Migratory steps**) was to gather information on the residential trajectory from the time of birth till the date of the survey. Four key steps were recorded: birth (place), departure from the place of birth (year), arrival in Delhi (year, place of last previous residence and reason for migration), arrival in the present dwelling (year, place of last previous dwelling and reason for moving). Details about the activity carried on in the last place of residence before migrating to Delhi were also recorded, which will further allow us to link occupational and residential mobility. Two additional variables were created at the time of coding, on the basis of the migratory table used to collect the information: the number of migratory steps before the last arrival in the Delhi urban agglomeration, and the number of dwelling units occupied in the Delhi urban agglomeration. This section thus provides the necessary information to calculate indicators of residential mobility intensity, outside Delhi, and inside the urban agglomeration, identify the types of trajectories and link this information with the individual demographic and socio-economic characteristics. Now, even though it is not exhaustive, we do have basic information on the migratory trajectory of all the household members, making it possible to introduce the family unit in the analysis of residential practices.

Then comes an innovative section on the **System of residence of all household members.** The aim was to gather information on temporary moves of all household members and locate bi and tri-residential practices. Apart from the dwelling surveyed, two places of stay were identified for each individual. For the other places of stay, questions were asked about the type of dwelling, purpose of stay and type of activity in that place. As in the case of the list of the household members surveyed, the minimum period of stay in a dwelling unit for it to be considered as "another dwelling" - a component of the system of residence - was 30 days, not necessarily in a continuous manner, during the year preceding the survey. This data enables us to grasp the system of residence of an individual, i.e. the spatio-temporal configuration defined by the various places of stay and the frequency of residence in each one of them.

The last section of the questionnaire dealt with the **Characteristics of the family members living outside the dwelling unit surveyed.** This aimed to go beyond the household as the residential unit of reference and to introduce the family, including segments which are spatially scattered, as the unit of analysis for the study of spatial mobility. The collection of data about the place of residence and present activity of the parents and parents in law, children and / or spouse not living in the dwelling unit surveyed provides an observation of the system of residence of the family and a very interesting comprehension of the function of some individual residences, such as the function of the urban residence in the economic and social reproduction of the family, and an understanding of the conditions around the occupational strategies developed by the family in the economic and geographic space.

Data collection for the main statistical survey in private dwelling units was carried out from mid-February to the end of April 1995 in four zones of Delhi urban agglomeration and two ring towns; the specific survey of houseless people in Old Delhi was conducted in January-February 1996.

2.4. Anthropological observation

An anthropological observation supplements the quantitative approach; it includes three series of qualitative interviews which were carried out in certain neighbourhoods covered by the statistical survey. These three surveys have complementary thematic orientations, yet they follow a common main objective: to deepen the understanding of the populations' residential practices and mobility behaviours.

i) In-depth interviews focusing on the interactions between urban environment and residential practices

These interviews, conducted by Mriga Sidhu, aim to analyse how the inhabitants perceive their environment (including in terms of basic utilities and services provided) and consequently how this perception influences their residential choices. Taking into account the feasibility constraints within the framework of the project, about 50 in-depth interviews could be envisaged. Hence it appeared preferable to select certain neighbourhoods and to focus the interviews on certain types of settlement and population for which environmental issues seemed to be more relevant.

Thus two studied zones (out of 6 covered by the 1995 statistical survey) and 5 types of settlement (out of 9 identified strata) were selected:
- Mayur Vihar - Trilokpuri: a large zone located on the eastern bank of the Yamuna river, which has experienced a high population growth for the last 15-20 years, and which provides a great diversity of settlement types, among which 4 were selected: unauthorized colonies; colonies initially unauthorized and regularized *a posteriori* by the Municipality; urbanized villages; resettlement colonies (where plots were initially allotted to evicted slum dwellers).
- DLF Qutab Enclave: a new residential township located on the southern outskirts of Delhi, outside the limits of the Delhi Territory boundary. This township was developed by a private builder which attracted its clients through promises of better quality of life and a pollution free environment.

A sample of 58 households was purposely selected from the files of the statistical survey. In each zone and type of settlement selected for the in-depth interviews, individuals were selected (in different households) in order to represent the main categories of inhabitants with respect to the following socio-demographic and residential criteria: age and sex, status of occupancy in the dwelling (owner or tenant), migratory status (native to the locality, migrants according to duration of residence).

To conduct the interviews, a schedule in the form of a guide with open ended questions was used. The interview guide was organized on the basis of a chronological frame, documenting three phases of the individual's life and housing conditions: the previous dwelling, the present dwelling, and future plans.

In the first selected zone the interviews were conducted from December 1995 to May 1996, that is 10 to 14 months after the statistical survey[4]; and in the second zone from January 1997 to May 1997, that is 20 to 25 months after the statistical survey. The length of the interval between the two phases of data collection entailed a certain loss in the sample. Thus, out of the 58 households of the initial sample, 10 substitutions had to be done due to the departure of the selected household since the time of the statistical survey. The most mobile individuals have a higher probability to be missed out by the second round of observation; the resulting bias will have to be estimated.

At the level of the selected sub-samples, an additional contribution of this anthropological survey, resulting from the time gap between the two rounds of observations, is a follow-up survey which allows us to evaluate the changes that have occurred since the first round. Thus, the in-depth interview also provides an opportunity of updating the situation of the household surveyed in 1995 and to record the changes in the composition of the household and its occupational structure. In case of departure of the household since the statistical survey, possible information is collected from the neighbours concerning the date of the departure and the place of destination, as well as any indication giving insights about the reasons for departure. Hence, this anthropological survey provides a few

[4] The in-depth interviews conducted in Mayur Vihar and Trilokpuri have been transcribed and the information organized in a Working Paper: see SIDHU, 1996-97.

indications - admittedly partial - on the population dynamics in terms of settlement and turnover of the inhabitants in the selected neighbourhoods and types of settlement. Furthermore, this qualitative observation carried out during a second round enabled us to evaluate the general quality of the data collected during the statistical survey, draw indications about the types of response errors likely to occur and the degree of accuracy of the responses. This quality check will help us to be more aware of the limitations of the statistical survey, and thus to take the necessary precautions to interpret the results in a better and safer way.

ii) In-depth interviews focusing on the interactions between residential mobility, access to housing and access to employment

The second series of qualitative information collected aims to analyse the interactions between mobility patterns, access to housing and access to employment. The purpose of these in-depth interviews is to collect detailed migration, occupational and familial histories, to better understand the circumstances and reasons of the migration to Delhi as well as the conditions of absorption into the city and the urban labour market, to bring forward the relations maintained with the native place, and to explore the future plans as regards housing and stay in Delhi.

To carry out this qualitative survey, we have selected two exemplary case studies: 1°) houseless people in Old Delhi, 2°) the village of Harola, an urbanised village in the new satellite town of NOIDA. In order to take into account the specific local context in which the individuals' residential practices take place, the guide for the in-depth interviews (a schedule with open-ended questions) was adapted consequently. These two case studies are presented in more details in Sections 3 & 4 and the contribution of an anthropological approach to the study of mobility discussed further. Till today, I have conducted about 50 in-depth interviews with the help of a research assistant - interpreter (respectively with Dhananjay Tingal and Jay Prakash). This will be completed (if possible) by 2 other series: one with slum dwellers in a centrally located area, and the other with occupants (owners as well as tenants) of flats built by the Delhi Development Authority.

iii) Interviews with the inhabitants of a slum under the threat of eviction

The slum under study, Rajiv Gandhi Camp, is situated in New Delhi, adjoining a modern administrative complex, in a relatively central zone near the Jawaharlal Nehru Stadium. Due to this prime location, this slum is under the threat of demolition with a project of resettlement for the dwellers in a faraway peripheral zone. The objective of the interviews was to analyse at a micro-level the implementation of urban policies in this particular field, and their interrelations with the settlement strategies of the slum dwellers. This neighbourhood was included in the zones covered by the 1995 statistical survey, hence the combination of these two sets of data will allow us to carry out a sharp analysis of the interrelations between residential practices and town planning operations. However, the respondents for the qualitative interviews were not selected among the household sample of the statistical survey. The informants were chosen in the field in order to represent the different types of actors, taking also into account the variety of demographic and socio-economic characteristics. About 20 semi-directed interviews were conducted with slum dwellers, supplemented by interviews with local politicians and government officials. This qualitative survey was conducted by Isabelle Milbert, in two stages, in April-May 1996 and in February-March 1997 (MILBERT, 1996).

2.5. Collection of basic information on the contextual background

The two-fold (quantitative and qualitative) observation of spatial mobility and residential practices was supplemented by the collection of basic information on the contextual background of each neighbourhood selected for the survey: civic amenities available, land use pattern, history of the neighbourhood, how the area has developed over the last decades in terms of housing, civic amenities and economic activities, whether it has benefited from specific urban policies or whether it results mainly from non governmental initiatives (including unauthorised settlements)[5]. Information on the urban policies implemented at the level of the capital and its region was also gathered. These various

[5] The information of the contextual background of each surveyed zone was organised in a Working Paper: see SIDHU, 1995.

types of information were collected through the consultation of official and other reports, and through direct field observation in the selected neighbourhoods as well as interviews with key informants: heads of neighbourhoods, in charge of non governmental organisations, social workers, officers in administrations, builders, real estate agents, union leaders, etc.

This collection of complementary information on the contextual background of the surveyed zones and on urban policies aims to relate the individual and familial residential practices with other intervening factors: at the level of the neighbourhood, and beyond at the macro level, with policy of urban management and planning which are reflected in the organisation of the different neighbourhoods.

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All the neighbourhoods selected for the study were re-visited in March 1997, along with Françoise Dureau who has conducted a similar study of mobility patterns in Bogota. This field observation, two years after the first phase of data collection, allowed us to appraise the transformations in the settlement pattern (densification and extension, development of economic activities and infrastructure). A few informal interviews with some inhabitants gave also the opportunity to update and/or deepen our information on some specific points. Finally, during these visits, the discussions with a colleague specializing in another continent (Latin America) and not familiar with the Indian urban realities, as well as her comments and questions on the situations observed, constituted a very enriching exercise, not only in the perspective of the comparison between Delhi with Bogota, but also for a better comprehension of the urbanisation process in Delhi itself.

3. HOUSELESS PEOPLE IN OLD DELHI

3.1. Relevance of a specific survey of houseless people in a study of population mobility

In a study focusing on the patterns of population mobility in relation to absorption into the labour market and access to a dwelling, it seemed important to include in our survey a sample of people who are deprived from any form of housing, and who moreover are known to be essentially migrant. Yet, there is a striking paucity of specific studies on houseless people in the case of Delhi. A direct consequence of this is the lack of accurate information on this segment of the urban population, and to start with, on its total number. As per the 1991 census, the houseless population enumerated in Delhi was about 50,000, while according to other estimations from the slum wing of the Delhi Municipality, it would represent 1 % of the total population of the capital, which would correspond to about 100,000 houseless people in the mid-nineties.

3.2. The studied area: Old Delhi

Although houseless people can be found in various parts of the urban agglomeration, the heaviest and most conspicuous concentrations of pavement dwellers are located in Old Delhi. The morphological and economic characteristics of the historical core of the capital city contribute to the specific attraction exerted on a floating population without shelter.

The Walled City of Old Delhi, the historical core built by the Mughals in the 17th century, exhibits features typical of traditional Indian cities, with a mixed land use pattern combining a high concentration of residential units with an important aggregation of commercial and small-scale manufacturing establishments. What is however remarkable in the case of Old Delhi is the extremely high residential densities (616 persons per hectare in the Walled City in 1991, as against 135 on the average in the whole Delhi urban agglomeration) combined with an equally impressive congestion of economic activities. While a process of population deconcentration from the old and deteriorating housing stock is at work, commercial and manufacturing activities as well as related services have proliferated, providing a large number of informal job opportunities. This has attracted a population of male migrant workers, most of them unskilled, who can find casual work in the wholesale markets

as loaders and handcart pullers, work as independent cycle *rickshaw* drivers, road side mechanics, or petty vendors, get employed in the small restaurants and tea stalls as helpers, or go to the different specialized labour markets to get recruited on a daily basis (in construction, for catering and other services related to marriage parties), ... etc. The residential integration of many of these migrant labourers remains extremely precarious. Thus at night many of them are found sleeping under the verandas in the bazaar, on the pavements and other open grounds, or in the night shelters run by the Municipality for houseless people.

A range of services specifically oriented towards the needs of this houseless population have also developed. The Government itself, taking cognisance of the plight of the houseless, started constructing night shelters in the early sixties; 6 of them - out of 16 functioning in 1996 - are located in the Walled City proper and represent nearly 60 % of the total sleeping capacity of about 4000 provided for the shelterless people in the entire urban agglomeration. In the night shelters run by the Municipality, for a nominal rate of Rs. 3 per night (in 1996), each inmate is provided with a blanket and a ground carpet, and has free access to the toilets and bathrooms usually available in the same building. Some small private entrepreneurs have figured the shelterless situation of so many people as a good business opportunity: they illegally rent out sleeping places and bedding facilities to the pavement dwellers. Quilts on hire are available for an average rate of Rs. 5 per night, and cots with bedding for an average rate of Rs. 15 per night. These are particularly in demand during winter, when the temperature at night can go down to 3° C. Yet, a substantial proportion of the pavement dwellers do not avail bedding facilities on rent and sleep under verandas or in open spaces whose access is free - apart from harassment by the police.

The particular significance of the houseless people in Old Delhi explains our choice to limit the study area for the specific survey of houseless people to this part of the city, which was moreover not represented in the zones selected for the general statistical survey.

3.3. The specific survey of houseless people

The target population consisted of such persons deprived of any form of shelter of their own and sleeping at night in the Walled City on the pavements, under the verandas and in other open spaces, or in the night shelters run by the Municipality.

A preliminary phase of field observation and collection of secondary data aimed at collecting information on the contextual background and to prepare the statistical survey and the in-depth interviews. In addition to the review of the very few studies conducted on houseless people in Delhi, the collection of secondary data pertained mainly to the statistical series maintained by the Night Shelter Department of the Municipality, and showing the daily attendance in every night shelter. Apart from this, the preparatory phase was essentially based on field observation.

First the main concentrations of pavement dwellers in Old Delhi were identified, a head-count carried out in each location late at night, and the corresponding information reported on a detailed map[6]. The 6 night shelters located in the Old City proper were also included in the survey: for each night shelter the average attendance was estimated on the basis of the entrance records for the last previous month, and a map showing the layout of the premises was prepared. This set of maps (for the pavement dwelling areas as well as the night shelters) helped to prepare a sampling frame to draw an area sample for the statistical survey. Complementary information on each pavement dwelling area and night shelter was collected through direct field observation and informal interviews with local informants: entrepreneurs renting cots and bedding, shop and restaurant keepers, guards and inspectors of the night shelters... The information gathered included: the morphological characteristics

[6] 'Main concentrations' mean also conspicuous ones, hence the pavement dwellers scattered in the backside streets of the bazaar, or taking refuge in the underground parking lots, and more generally those sleeping in the darkest corners of the Old City were not covered by our survey, for security reasons, since all the field work had to be conducted at night. Consequently, there is a risk of bias in the sample, and the pavement dwellers surveyed should be considered as representative of the 'main stream' houseless people in Old Delhi, while the underground section, the most marginal among them, and those more likely to be involved in illegal or criminal activities, might be under-represented. Besides, the survey could not be conducted in two of the previously identified and enumerated pavement dwelling areas, following interference by the police. But it is not possible to appraise the exact nature and extent of the sample bias.

of the locality for pavement dwelling areas or the physical characteristics and equipment of the night shelter, the different economic activities carried out in the vicinity, the capacity of bedding facilities on rent wherever available, indications on the characteristics of the population sleeping in the pavement dwelling area or in the night shelter.[7]

Another significant feature of Old Delhi, which plays a particularly important role for the houseless people, is the presence of a good number of major labour markets for daily workers: those were identified and their location and specialization reported on a map.

This preparatory phase enabled us to adjust the questionnaire of the general statistical survey to the specific situation of the pavement dwellers, and to finalise the schedule for the semi-directed in-depth interviews. Since the statistical survey and the in-depth interviews were conducted simultaneously (as explained below) it was not possible to use the field observations and preliminary findings of the statistical survey to prepare the interview guide. In this case, the collection of contextual information in a preliminary phase proved to be essential.

As it was revealed by the preliminary phase of field observation, the population of houseless in Old Delhi consists almost exclusively of male individuals without their family: hence the sample and observation unit for the **statistical survey** was the individual. An area sample of about 5 per cent individuals was drawn in each pavement dwelling area previously identified and in each night shelter. The statistical survey was conducted at night, from the 9th January to the 8th of March 1996, covering a total sample of 248 individuals: 99 sleeping in the night shelters and 149 in various open spaces.

In winter, the number of pavement dwellers resorting to renting quilts from private entrepreneurs or sleeping in the night shelters to protect themselves from the cold is higher, allowing us to better compare the different residential strategies. The pavement dwelling areas of those sleeping outside are also more concentrated, especially on the pavements covered by verandas, whereas in summer the houseless people tend to be more scattered in various available open spaces, like parks, which would have made their counting and survey more difficult. Further, while winter is the lean agricultural season, the urban labour market in Old Delhi provides certain seasonal employment opportunities at that time, likely to attract temporary migrant workers. In particular, due to the auspicious season for marriage, large numbers of daily labourers can get recruited for wedding parties requiring catering services and the set up of temporary tent structures to host numerous guests.

The **in-depth interviews** were conducted simultaneously with the statistical survey, in order to avoid the risk of loosing track of this sample of population without fixed residential place. The number of in-depth interviews to be conducted in each night shelter or each pavement dwelling area was determined according to the number of houseless people in each place, and the persons to be interviewed were randomly selected through area sampling from the sample for the statistical survey. However, some adjustments were done during the course of the survey, considering the composition of the sample already interviewed, in particular with regard to the criteria of age, familial status and occupation. Finally, 36 in-depth interviews were conducted: 16 among the night shelter inmates and 20 among the pavement dwellers sleeping in various open spaces.

These in-depth interviews did not aim at providing statistically representative estimates, but rather to supplement the statistical survey by an anthropological approach. Their objective was: to collect detailed migration, occupational and familial histories with special emphasis on the migration to Delhi and absorption into Delhi's labour market, as well as relations maintained with the native place; to better understand the present shelterless situation and living conditions; to inquire about the future plans including willingness to move to another dwelling.

To supplement the interviews with houseless people sleeping in the nigh shelters or in open areas, a few additional in-depth interviews were conducted:
- 3 with small private entrepreneurs renting out sleeping place along with cots and bedding for the night in open areas, in order to better document the origin and functioning of this trade;
- one with a labour contractor visiting regularly the night shelters to recruit daily workers.

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[7] The information collected in the preparatory phase was reported in a Working Paper: see TINGAL, 1996.

3.4. First lessons drawn from the statistical survey and complementary observations

The analysis of the houseless people's life histories, collected through qualitative in-depth interviews, allowed us first of all to illustrate the variety of the situations encountered with their multiple facets, to give an idea of the significance of certain residential and economic practices among the houseless and to explain their logic, and to establish a typology of migration trajectories taking into account the type of relations maintained with the family and the native place. However, the necessarily limited number of respondents selected for this anthropological approach prevents us from providing any statistical estimates of the frequency of each specific pattern, and to measure the respective impact of the various factors (economic, familial, social, ...etc.) intervening at each migration step. For a detailed analysis of the interference between the different events of the houseless migrants' life histories, a collection of biographical data as part of the statistical survey, hence covering a large sample, would have been required. For this purpose, the summary of the main migration steps collected in the statistical survey can provide some very useful indications, but only partial.

However, the main focus of our research is not exactly the internal logic of the individuals' mobility behaviours as such throughout their life cycle, but more specifically the interactions between population mobility and the dynamics of the city under study. In this case, a statistical survey including a summary of the main migration steps, combined with in-depth interviews including detailed life histories, completed by information on the contextual background, can adequately respond to our objectives.

Notwithstanding their diversity, all the individual trajectories observed in this case study meet at a common place, Old Delhi, under similar shelterless conditions. As mentioned above, the characteristics of Old Delhi in terms of employment opportunities -especially in the informal sector- contribute to the special attraction exerted on a population of unskilled migrant workers. In addition, the location in the old city itself or in its immediate vicinity of two main railway stations and a major inter-state bus terminal plays also a role in settling the shelterless migrants in the locality: upon their arrival they are in direct contact with (or easily directed to) some major sources of employment for unskilled labour, and they can easily find the nearby pavement dwelling areas and night shelters.

Thus, as shown both by the analysis of the statistical survey and the in-depth interviews, although financial constraints undoubtedly prevent or limit the possibilities of access to a dwelling, proximity between the sleeping place and the place of work provides a major clue in understanding the shelterless option and choice of location by the pavement dwellers and night shelters' inmates (Dupont, Tingal, 1997). A location near the work place or the labour market enables them not only to cut their transport expenses but also to avoid a tiring commute. This ensures a proper rest, which is vital for manual workers involved in occupations demanding intense physical strength. In addition, for casual labourers, proximity to the source of employment opportunities also increases the probability of getting daily work.

Hence, to analyse the last (presently observed) migration step of the houseless people - arrival and settlement in Delhi under shelterless conditions - the characteristics of the city are fundamental, for they have a significant impact on the conditions of absorption into the city, from the residential and occupational angles. In this context, the combination of basic information on the contextual background and in-depth interviews with a sub-sample of houseless people and local informants can provide very comprehensive and revealing information in order to understand the interactions between individual mobility and urban dynamics. The collection of detailed life histories through in-depth interviews enabled us to integrate information on the local economic and social conditions of the place of destination (here Delhi), without *a priori* limitation and rigid framework, as it is necessarily the case in a statistical survey by the means of a schedule with close-ended questions.

More generally, migration and occupation histories are totally effective only if one can replace each of the stages of the individual paths within its social and economic background in order to better understand the determinants and functions of migration. In a study on the pattern of population mobility focused on a specific town, this can be definitely done to explain the population movements affecting the city (and neighbourhood) under consideration. Thus, in the case study of Old Delhi (or NOIDA), the persons interviewed had in common the fact of having chosen the same city (or even same locality) as their living and working place, which allows us to integrate the local economic and

social conditions into the analysis of the individual strategies. The analysis of the life histories can therefore give us information not only on the internal logic of the individual behaviours but also on the urban dynamics of the locality.

Another major finding of the in-depth interviews conducted with the houseless people pertains to their social condition: living alone and without shelter does not necessarily imply familial and social marginality (Dupont, Tingal, 1997). Almost all the houseless surveyed in Old Delhi are migrants and for the majority of them the family and the native place remain their context of reference. Furthermore, the shelterless situation of the migrants in the capital is not a deterrent factor of familial solidarity, on the other hand it is often a precondition. Hence, the residential practices of the majority of the houseless reveal an economic rationale that aims at maximising savings and remittances to their families in their native places, by minimising their housing and transportation expenses. In fact, the reference to the native village, as a structuring pole of the migrant's life space, could be more particularly significant in the case of houseless migrants (except of course for the minority among them who have severed all links with their families[8]) as compared to migrants whose residential integration is less precarious. Thus, the reference to the native village and basic community, which includes a mythical dimension, may help the houseless migrants to accept better their present living conditions in Delhi, and to justify the hardships and degrading aspects of their situation.

These findings show the importance of collecting information on the contextual background not only of the present living and working place (Old Delhi), but also of the place of origin of the migrant. The interview guide included a series of questions on the economic and familial context in the native place, as well as on the relationships maintained with the family and place of origin. To carry on further with this approach, one could envisage complementary observation in the places of origin of the migrants. This will be done in the framework of another associated programme on the houseless people of Delhi conducted by Dhananjay Tingal: in this research programme the study area will cover the entire urban agglomeration and will combine surveys in Delhi and qualitative surveys in the place of origin of the migrants. This will allow a more comprehensive understanding of the context of origin, and a better appraisal of the impact of the individuals' migration to Delhi on the economic situation of their families.

4. THE INHABITANTS OF AN URBANIZED VILLAGE IN THE PERIPHERY

4.1. Context of the case study: Harola, an urbanized village of NOIDA

NOIDA, or New Okhla Industrial Development Authority, was created at the end of the seventies in the eastern periphery of Delhi, at about 15 kilometres from the city centre, in the adjoining state of Uttar Pradesh. The objective of the planners was to develop a full-fledged autonomous industrial township, and hence to contribute to a more balanced development of the Capital Region. The industrial and demographic growth of NOIDA has benefited from its proximity to the capital and good road connection. Today NOIDA includes a very large industrial estate, comprising about 4000 establishments. The new town has attracted population from all income levels: migrants in search of employment, and previous residents of Delhi in search of cheaper and better housing conditions than in the capital itself. Consequently the population growth was extremely rapid during the eighties: 13,3 % per year from 1981 to 1991, with nearly 150 000 inhabitants in 1991; the population in the mid-nineties is estimated at 250 000.

The territory of the new town was delimited in 1976 by annexation of the land of 23 villages (in the first stage of development). While the development of the new planned sectors and of the industrial estate follows a rigorous zoning, with a regular grid pattern of roads, 20 years after the creation of the new town, the original villages still appear as distinctive enclaves and have developed in a completely unplanned way. Harola, located today in the core of the industrial zone, was the first village to be incorporated in the planned city, and has undergone dramatic transformations.

[8] In these cases, departure from the native place was generally induced by acute familial tensions, often involving violence.

The most spectacular transformation in the morphology of this village is the construction of one-room tenement buildings for rental purpose. Curiously, the planners of the new industrial city, despite their ambition of integrating work centres and residential sites in the same project of a model town, have "forgotten" to provide affordable housing to the industrial working class. For example, the housing policy implemented by the NOIDA authorities does not include a rental sector, and the housing schemes (for sale) exclude *de facto* the most underprivileged sections of the population, in particular the mass of the casual labourers who have migrated to the new industrial town in search of work. Hence, those have squatted vacant plots of land in the industrial zone to erect precarious dwellings, leading to the expansion of slums, or they searched rooms on rent in the nearby villages. This housing demand, not satisfied by the public sector, provided a good investment opportunity for the villagers.

The proliferation of tenement buildings for rental purposes in the village of Harola lead to a considerable residential densification. It also entailed changes in the socio-demographic composition of its population: following the influx of migrants from other regions, including a high proportion of male workers without their family, the original villagers become a minority group.

4.2. Combination of various types of observation

The **statistical survey** in NOIDA was conducted in April 1995 and covered a sample of 395 households distributed in the main types of settlement identified, namely: independent houses and group housing in the planned sectors, urbanized villages and slums. The collection of **information on the contextual background** (described in Section 2.4) was carried out at the same time as the household survey, and in the case of Harola it included informal interviews with the village head and other local dignitaries.

Direct field observation during data collection, informal interviews, as well as the checking of the questionnaires of the statistical survey, all pointed out the significance of the transformations in this urbanised village and certain specific dimensions of its dynamics. In particular, even before analysing the data of the statistical survey, this first approach evidenced the large number of constructions of one-room tenements rented out to the migrant workers, and which have become the main source of livelihood of many villagers. It also revealed some interesting residential strategies that deserved further research, for example the cases of slum dwellers living previously in rented rooms in Harola.

Due to its spectacular process of urbanisation, the village of Harola could provide a significant case study. Thus, this village was selected by Ricardo Montezuma, a Colombian architect and town planner, in order to carry out in February 1996 a field observation of the spatial organisation of the village at a micro level. This allowed us to better document its settlement pattern and housing structure, as well as the transformations undergone in this domain. The observation also included the **architectural survey** and drawings of a building of one-room tenements: this provided us with accurate data on the housing conditions of the tenants, in particular on the extremely high residential density recorded in this type of group housing (see Montezuma, 1996).

To complete this approach, we also decided to conduct an **anthropological observation** aimed to better understand the process of transformation of this village through the life histories and the residential practices of its inhabitants. Although the data of the statistical survey were not analysed yet at that time, the previous observations enabled us to identify three main categories of inhabitants for the in-depth interviews: the ex-farmers who have built one-room tenements to rent out to the migrants working in the adjoining industrial zone; tenants of these rooms; and dwellers of the nearby slums who previously stayed on rent in the village. These criteria were taken into account, in addition to socio-demographic characteristics, in order to select purposely a sub-sample of individuals for the in-depth interviews from the questionnaires of the statistical survey.

The interview guide comprises sections which were common for all the respondents, in particular the detailed life histories, and the future plans with regards to economic activities and to residential mobility.

On the other hand, some sections were specific to each category of inhabitants:

- For the ex-farmers, now house owners: impact of the process of urbanisation on the family's economic and living conditions, including in particular questions on the acquisition of agricultural land by the Noida authorities, the investment realised with the money received for the compensation of the land, the tenements rented out, as well as a personal appraisal of the process of urbanisation which has taken place in Noida and in the village.

- For the in-migrant tenants: migration to Delhi and/or to Noida and absorption into the labour market, arrival in the present dwelling unit and housing conditions, relations maintained with the native place, comparison of the living conditions in Harola-Noida and in their native place.

- For the ex-tenants, now slum dwellers: in addition to a series of questions similar to those asked to the actual tenants, a specific section was devoted to the previous housing conditions in Harola, as compared to the present living conditions in the slum, and to the reasons of the residential change from Harola to the slum.

Whenever possible, we tried to interview different members from the same household, the head and his spouse, sons and daughters (if grown-up), in particular for the sections relating to the appraisal of the process of urbanisation and to the comparison of the living conditions in Harola-Noida and in the native place. Such an appraisal and comparative perception of the living conditions involve a strong subjective dimension, likely to vary according to the generation and to the sex of the respondent. Hence, it was important to collect information from old as well as younger people, and from men as well as from women.

One in-depth interview was also conducted with the ex-village head, an old man who witnessed the whole process of change, and from whom we collect information at the village level, including detailed information on the provision of civic amenities in relation with the urbanisation of the village.

About 15 in-depth interviews were conducted from the 23 October to the 14th November 1996, that is 18 months after the statistical survey. Due to the long time interval between the two rounds of observation, the migrant tenants selected could not be found again and had to be substituted for a new sub-sample of individuals with similar characteristics. The contribution of this series of interviews as a second round observation after a certain time interval is similar to what we described above in the case of the interviews focusing on environmental factors (see Section 2.3).

To sum up, the case study of this village benefits from the combination of three types of approach: a statistical survey, anthropological interviews, and an architectural and urbanistic observation.

4.3. First findings and reflections

The contribution of qualitative life histories in relation to other types of information collected differs according to the category of inhabitants in the village: the ex-farmers, native of the village on the one hand; and the migrant workers living in rented rooms on the other.

All the in-depth interviews with the original villagers revealed that the creation of the new town of NOIDA marked these ex-farmers with traumatic memories (Dupont, 1997). In Harola the acquisition of the totality of the agricultural land in one go by the government of Uttar Pradesh took place in 1976, during the emergency state. Thus, it is with the arrival of the bulldozers in their fields, tracing new roads and destroying their crops, that the farmers learned that their land was forcibly acquired by the government, for the construction of the future city. Without any previous information, therefore without being prepared to adjust to the changes, the villagers suddenly lost their traditional means of livelihood. Hence, the farmers had to abandon their cultivation and move into new types of economic activities, like dairies, trade and business, manufacturing workshops, transport enterprises, ..etc.. However, as expounded above, the most significant economic conversion was the construction of tenements to rent out.

Thus, for the natives of the village, the most dramatic change in their life history and the calendar of this change can be explained by the genesis of the new town of NOIDA : the transformation was

imposed upon the inhabitants, who had to undergo a forced occupational mobility. In this context, a series of in-depth interviews with some chosen respondents can provide a good understanding of the village recent history as well as the individual life histories, the latter bearing the hallmark of the former.

For the migrant workers, the main factor explaining their migration to Noida pertains to the attraction of a new industrial township in terms of employment opportunities, and the main factor explaining their settlement in Harola pertains to the availability of cheap housing facilities on rent in the urban villages. Here again, the characteristics of the development of NOIDA and Harola play a major role in the last migration and residential steps observed. However, the impact of the history of the village and the new town on the individual life histories is not -of course- as determinant as it was for the original villagers. In the case of the migrant workers, what we observe in NOIDA is the meeting point between individual trajectories (reflecting economic and social strategies) and the history of a new town, but the calendar and the modalities of the meeting allows for some flexibility. In order to analyse the pattern of mobility of these migrants, the respective contribution of statistical data, qualitative life histories and information of the contextual background calls for reflections similar to those already expounded in the case of the houseless people in Old Delhi. (see 3.4).

5. CONCLUSION

These two case studies in Delhi, of the houseless people in the Walled City and the inhabitants of an urbanized village in a new peripheral town, have illustrated the impact of the history and the characteristics of the city and the neighbourhood on the individuals' life histories. In this context, in-depth interviews with detailed life histories, combined with the collection of information on the conditions of the development of the locality, proved to be essential to complement the statistical approach and improve our knowledge of the pattern of residential and occupational mobility.

Certain historical and political events in the city or the country may have a brutal and compulsory effect on some residential or occupational changes of the population at a precise point in time. Here one can recall the trauma of the partition in 1947 with its subsequent massive cross-movements of refugees, from and to the capital. One can also mention the state of emergency in 1975-77 with the forced eviction of 700,000 slum dwellers from the central parts of the capital and their transfer to resettlement colonies located in the urban peripheries (like Trilokpuri in east Delhi). Fortunately, other steps and landmarks in the development of the capital had less radical effects on its population, they rather provide the conditions favouring certain types of movements, but without obliterating the individual strategies. In this category, we find the various planning operations and housing schemes of the Delhi Development Authority. Another meaningful example is the intense public construction activities for the preparation of the 1982 Asian Games in the capital, with in particular the construction of the Jawaharlal Nehru Stadium which attracted large numbers of migrant labourers and set up the conditions for the emergence of an adjoining squatter settlement, Rajiv Gandhi Camp. The impact of these different events and development steps is also reflected in the biographical data collected in the zones surveyed.

In a more general perspective and from a methodological point of view, the spatial frame adopted for the surveys - i.e. a selection of neighbourhoods in the same urban area - proves to be ideally suited to study the relationships between the behaviour of individuals and the context in which they function. In this framework, the advantage of combining an anthropological type of observation with statistical demographic surveys enhances the efficiency of the system of investigation: these are two modes of approach to social reality and they highlight and reinforce mutually. Furthermore, the variety of the angles of observation guarantees a better grasp of the different facets of the processes of spatial mobility and metropolisation.

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