


The Urban Book Series

Nasrin Banu
Shahab Fazal

Livelihood and Wellbeing in the Urban Fringe

 Springer

Nasrin Banu · Shahab Fazal

Livelihood and Wellbeing in the Urban Fringe



Springer

Nasrin Banu
Department of Geography
Aligarh Muslim University
Aligarh
India

Shahab Fazal
Department of Geography
Aligarh Muslim University
Aligarh
India

ISSN 2365-757X

ISSN 2365-7588 (electronic)

The Urban Book Series

ISBN 978-3-319-39659-0

ISBN 978-3-319-39660-6 (eBook)

DOI 10.1007/978-3-319-39660-6

Library of Congress Control Number: 2016940316

© Springer International Publishing Switzerland 2016

This work is subject to copyright. All rights are reserved by the Publisher, whether the whole or part of the material is concerned, specifically the rights of translation, reprinting, reuse of illustrations, recitation, broadcasting, reproduction on microfilms or in any other physical way, and transmission or information storage and retrieval, electronic adaptation, computer software, or by similar or dissimilar methodology now known or hereafter developed.

The use of general descriptive names, registered names, trademarks, service marks, etc. in this publication does not imply, even in the absence of a specific statement, that such names are exempt from the relevant protective laws and regulations and therefore free for general use.

The publisher, the authors and the editors are safe to assume that the advice and information in this book are believed to be true and accurate at the date of publication. Neither the publisher nor the authors or the editors give a warranty, express or implied, with respect to the material contained herein or for any errors or omissions that may have been made.

Printed on acid-free paper

This Springer imprint is published by Springer Nature

The registered company is Springer International Publishing AG Switzerland

The Urban Book Series

Aims and Scope

The Urban Book Series is a resource for urban studies and geography research worldwide. It provides a unique and innovative resource for the latest developments in the field, nurturing a comprehensive and encompassing publication venue for urban studies, urban geography, planning and regional development.

The series publishes peer-reviewed volumes related to urbanization, sustainability, urban environments, sustainable urbanism, governance, globalization, urban and sustainable development, spatial and area studies, urban management, urban infrastructure, urban dynamics, green cities and urban landscapes. It also invites research which documents urbanization processes and urban dynamics on a national, regional and local level, welcoming case studies, as well as comparative and applied research.

The series will appeal to urbanists, geographers, planners, engineers, architects, policy makers, and to all of those interested in a wide-ranging overview of contemporary urban studies and innovations in the field. It accepts monographs, edited volumes and textbooks.

More information about this series at <http://www.springer.com/series/14773>

List of Figures

Figure 1.1	Schematic diagram showing broad land use in Urban Fringe. <i>Source</i> Pryor 1968	8
Figure 1.2	The diagram of bow wave model. <i>Source</i> Hart 1991	11
Figure 1.3	Conceptual Framework of the Study.	21
Figure 2.1	Location Map of Aligarh City	27
Figure 2.2	Map of administrative division of Aligarh.	28
Figure 2.3	Decadal growth rate of Aligarh city population. <i>Source</i> Population Census of India	28
Figure 2.4	Share of city population to the district population. <i>Source</i> Population Census of India.	29
Figure 2.5	Map of the major transport system in Aligarh	31
Figure 2.6	Working population of Aligarh city engaged in different sectors of economic activities. <i>Note</i> The data for the year 2021 is projected by Aligarh development authority (Aligarh Master Plan 2001–2021). <i>Source</i> Population census of India	34
Figure 3.1	Share of sector wise workers in urban fringe of Aligarh city. <i>Source</i> Population census of India, 1981, 1991, 2001 & 2011.	49
Figure 3.2	Share of sector wise workers in immediate urban fringe. <i>Source</i> Population census of India, 1981, 1991, 2001 & 2011.	49
Figure 3.3	Share of sector wise workers in intermediate urban fringe. <i>Source</i> Population census of India, 1981, 1991, 2001 & 2011.	49
Figure 3.4	Share of sector wise workers in distant urban fringe. <i>Source</i> Population census of India, 1981, 1991, 2001 & 2011.	50

Figure 3.5	Aligarh urban fringe: workers engaged in primary sector. <i>Source</i> Based on population census of India, 1981 & 2011.	54
Figure 3.6	Aligarh urban fringe: workers engaged in secondary sector. <i>Source</i> Based on population census of India, 1981 & 2011.	55
Figure 3.7	Aligarh urban fringe: workers engaged in tertiary sector. <i>Source</i> Based on population census of India, 1981 & 2011.	55
Figure 3.8	Number of working members within a household. <i>Source</i> Based on field survey, 2013.	58
Figure 3.9	Aligarh urban fringe: generation-wise occupation among sampled households. <i>Source</i> Based on field survey, 2013.	60
Figure 5.1	Aligarh urban fringe: female's participation in dairying activity. <i>Source</i> Based on field survey (2013)	105
Figure 5.2	Aligarh urban fringe: female's participation in different economic activities. <i>Source</i> Based on field survey (2013)	105
Figure 5.3	Aligarh urban fringe: milk marketing channel	113
Figure 6.1	Annual change in economic activities in urban fringe of Aligarh City from 1981–2001. <i>Source</i> Based on population census of India	121
Figure 6.2	Aligarh urban fringe: Household quality of life index. <i>Source</i> Based on field survey (2013)	136
Figure 6.3	Aligarh urban fringe: Infrastructural facility index. <i>Source</i> Based on field survey (2013)	150
Figure 7.1	Livelihood asset polygons for the Aligarh's urban fringe. <i>Source</i> Field Survey, 2013 and Census of India, 2011	156
Figure 7.2	Coping strategies adapted by sampled households in Aligarh's urban fringe. <i>Source</i> Field Survey, 2013.	157
Figure 7.3	Sustainable urban fringe livelihoods: a framework for analysis.	159
Figure 7.4	Exposure triangle diagram of the contributing scores for Aligarh's UF. <i>Source</i> Field Survey, 2013.	161
Figure 7.5	Sustainability triangle diagram of the contributing scores for Aligarh's UF. <i>Source</i> Field Survey, 2013.	162
Figure 7.6	<i>Source</i> Field Survey, 2013 and Census of India, 2011	166

List of Tables

Table 1.1	Delineation of Urban Fringe.	10
Table 1.2	Rural-urban linkages/FlowsT	11
Table 1.3	Livelihoods and the Rural–Urban Continuum	16
Table 2.1	Decadal growth of population of Aligarh City	29
Table 2.2	Growth of marketing centre in the Aligarh City	30
Table 2.3	Passengers movements by bus from different terminals in Aligarh City	32
Table 2.4	Growth of industries in Aligarh City (1981–2011)	33
Table 2.5	Types of industries in Aligarh City	33
Table 2.6	Working population engaged in different economic activities in Aligarh City	34
Table 3.1	Aligarh urban fringe: cash based and non cash based livelihoods of workers among sampled households	39
Table 3.2	Differences in the characteristics of the poor in urban, urban fringe and rural areas	45
Table 3.3	Aligarh urban fringe: economic sector wise workers in sampled villages	46
Table 3.4	Aligarh urban fringe: household’s association with different sectors economy.	54
Table 3.5	Aligarh urban fringe: household’s income generated from different sectors.	57
Table 3.6	Aligarh urban fringe: sector wise working age group.	59
Table 3.7	Aligarh urban fringe: share of women workers to total main working population	61
Table 3.8	Aligarh urban fringe: women work participation in the sampled villages	62
Table 3.9	Aligarh urban fringe: working population engaged in different economic activities	63
Table 4.1	Aligarh urban fringe: share of agricultural worker to main worker in sampled villages	70

Table 4.2	Aligarh urban fringe: growth of agricultural workers (1981–2011).	70
Table 4.3	Aligarh urban fringe: household engagement in different economic activities	71
Table 4.4	Aligarh urban fringe: type of cropping system	72
Table 4.5	Aligarh urban fringe: farm size among sampled households.	73
Table 4.6	Aligarh urban fringe: disposal of produced crop from sampled households.	75
Table 4.7	Aligarh urban fringe: land lease practice among the sampled households.	76
Table 4.8	Aligarh urban fringe: provisions of agricultural inputs	83
Table 4.9	Aligarh urban fringe: area under major crops in the farms of sampled households	84
Table 4.10	Dynamics in area under major crops	85
Table 4.11	Area under major crops: multiple comparisons	86
Table 5.1	Aligarh urban fringe: domesticated animals in sampled households.	98
Table 5.2	Aligarh urban fringe: purpose of dairying activity of sampled households	99
Table 5.3	Aligarh urban fringe: dairying activity among sampled households.	100
Table 5.4	Aligarh urban fringe: family size and dairying activity among sampled households	102
Table 5.5	Aligarh urban fringe: cultivation and dairying activity among sampled households	106
Table 5.6	Aligarh urban fringe: size of land holdings and household's consumption level	107
Table 5.7	Aligarh urban fringe: disposal of milk from the dairy households.	108
Table 5.8	Aligarh urban fringe: disposal and consumption of milk among sampled dairy households	109
Table 5.9	ANOVA: mean retail price of produced milk	109
Table 5.10	Tukey HSD test: mean retail price of produced milk	110
Table 5.11	Aligarh urban fringe: prevailing retail price	110
Table 5.12	ANOVA: milk production	112
Table 5.13	Tukey HSD: milk production	113
Table 6.1	Aligarh urban fringe: Place of work among sampled households.	118
Table 6.2	Aligarh urban fringe: Per capita income pattern among sampled households	119
Table 6.3	Aligarh urban fringe: Change in economic activity among sampled households	122

Table 6.4	Aligarh urban fringe: Population growth in the sampled villages	124
Table 6.5	Aligarh urban fringe: Relocation of settlement among sampled households	124
Table 6.6	Aligarh urban fringe: Relocation period of sampled households	125
Table 6.7	Aligarh urban fringe: Place of origin among sampled households	125
Table 6.8	Aligarh urban fringe: Type of family size of the sampled households	126
Table 6.9	Aligarh urban fringe: General status of living conditions among sampled households	130
Table 6.10	Aligarh urban fringe: Type of house construction among sampled households	133
Table 6.11	Aligarh urban fringe: Use of fuel type among sampled households	133
Table 6.12	Aligarh urban fringe: Source of drinking water among sampled households	134
Table 6.13	Aligarh urban fringe: Household quality of life index (HQLI) for the sampled villages	135
Table 6.14	Aligarh urban fringe: Frequency of city visit among sampled households	137
Table 6.15	Aligarh urban fringe: Purpose of city visit among sampled households	138
Table 6.16	Aligarh urban fringe: Sampled villages with Pucca roads	139
Table 6.17	Aligarh urban fringe: Means of transport for city visit among sampled households	140
Table 6.18	Aligarh urban fringe: Sampled villages with primary school	141
Table 6.19	Aligarh urban fringe: Sampled villages with junior high school	142
Table 6.20	Aligarh urban fringe: Sampled villages with higher secondary school	142
Table 6.21	Aligarh urban fringe: Sampled villages with mother-child centre	145
Table 6.22	Aligarh urban fringe: Sampled villages with family welfare centre	146
Table 6.23	Aligarh urban fringe: Distribution of fair price shop	147
Table 6.24	Aligarh urban fringe: Distribution of local market	147
Table 6.25	Aligarh urban fringe: Distribution of wholesale market	148
Table 6.26	Aligarh urban fringe: Electricity supply among the sampled households	148

Table 6.27	Aligarh urban fringe: Infrastructural facility index (IFI) for the sampled villages	149
Table 7.1	Major-components, sub-components and minor-components comprising the sustainable livelihood index (SLI) developed Aligarh's urban fringe	160
Table 7.2	Stages of Aligarh's urban fringe villages on the livelihoods ladder	163
Table 7.3	Stages of Aligarh's urban fringe villages in livelihood ladder	165

Introduction

Overview

Our planet is becoming a planet of cities as the share of global urban population has increased from 15 % to more than 50 % in the last century (Fazal 2013). Urban population around the world has grown 1.6 times more than rural population since 1950, driven both by migration from the countryside and by natural growth. The trend shows that urbanization process has now spread predominantly among rural developing countries (UNFPA 1996). The cities of developing countries will account for most of the urban growth while urban population in developed would remain more or less stagnant (Figs. 1, 2 and 3).

Rapid growth of urban population in Asian countries during a few decades in the second half of the last century has led to the speculation of urban explosion in the region. At the same time, the urbanization level has almost stabilized in developed countries. Researchers have indicated that the cities of developing countries will account for nearly 95 % of this growth. Asian countries will account for 55 % of the world's urban population.

Among the populous Asian countries, India and China alone will account for more than 64 % of the overall growth of urban populations in Asia and a 42 % share of global urban population growth from 2005 to 2025 (Sankhe et al. 2011) (Fig. 4). China, the most populous country of the world, will also have the world's largest urban population at triple the size of that of the United States; India, the second most populous country, also have an urban population double that of the United States (*ibid.*). In 2011, there were three 10 million plus cities in India, while in 1950 while there was none in 1950. This fact ensures an 'unprecedented urban growth' in India. Over the years there has been continuous concentration of population in class I towns. India shares most characteristic features of urbanization with the developing countries due to its large demographic weight and dynamics of urbanization during the last three decades, where the population increased from 161.6 million in 1981 to 388.3 million in 2011.

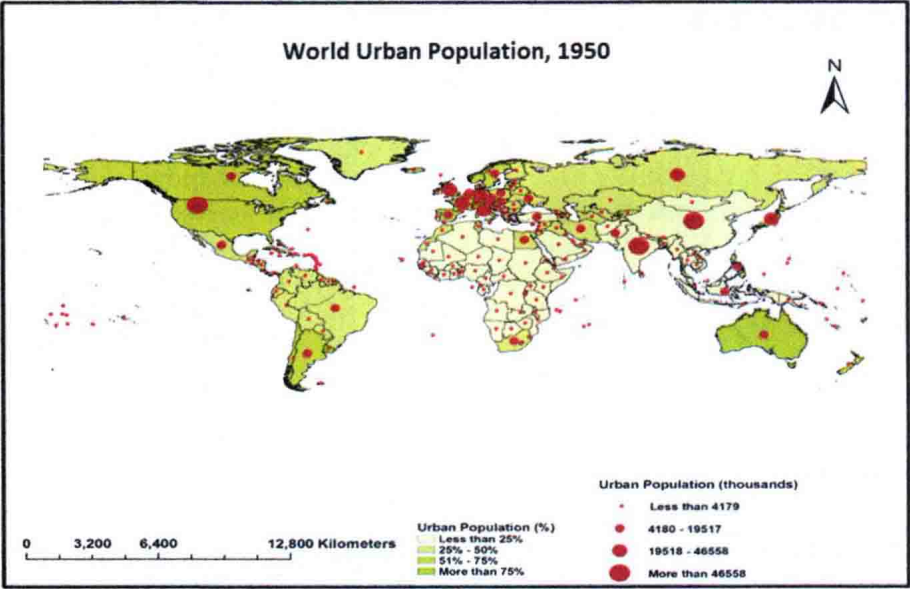


Fig. 1 Distribution of World Urban Population, 1950. *Source* Based on United Nations, Department of Economics and Social Affairs, Population Division

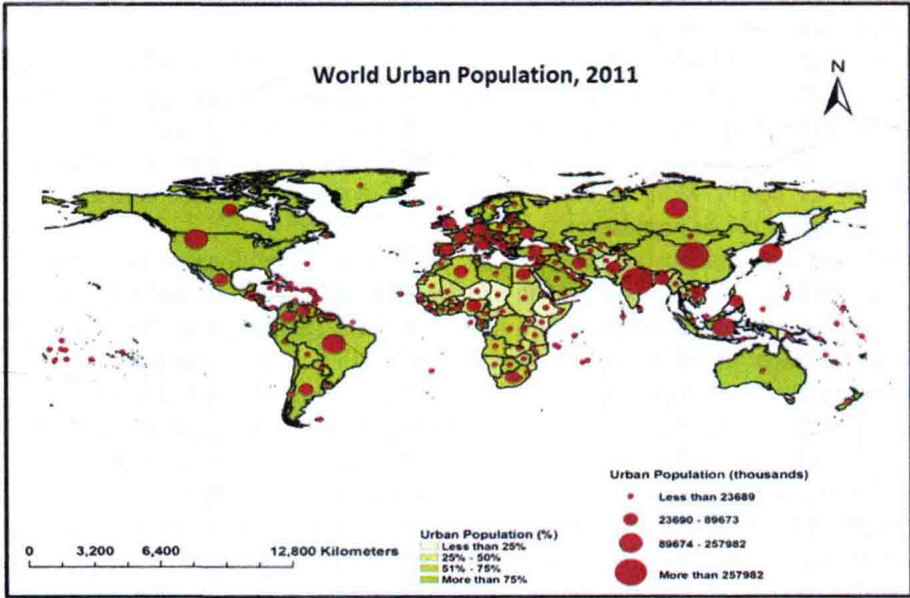


Fig. 2 Distribution of World Urban Population, 2011. *Source* Based on United Nations, Department of Economics and Social Affairs, Population Division

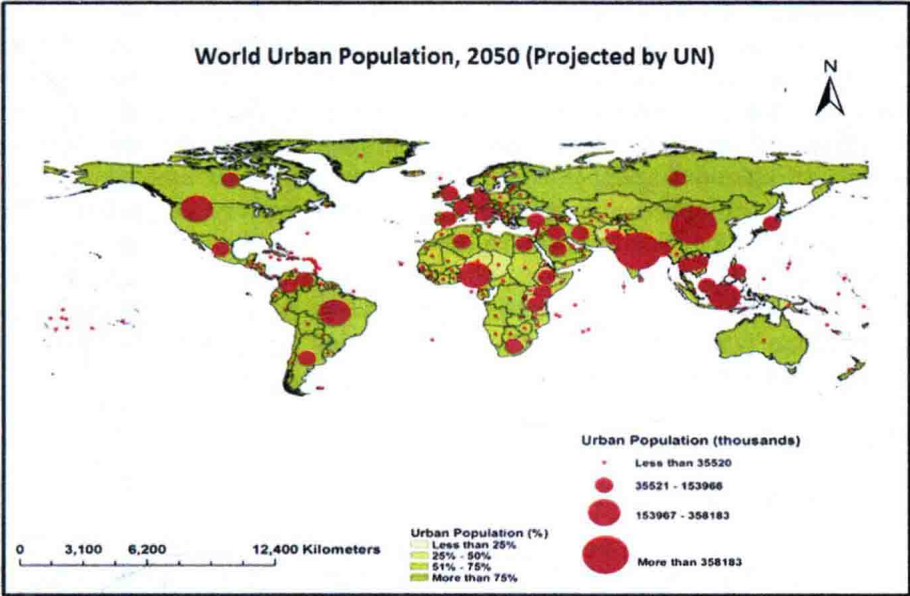


Fig. 3 Distribution of Projected World Urban Population, 2050. *Source* Based on United Nations, Department of Economics and Social Affairs, Population Division

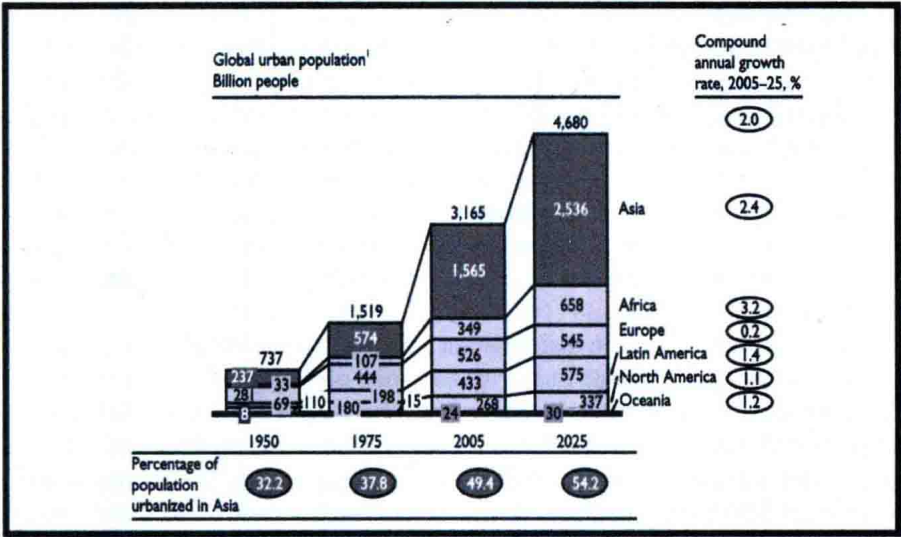


Fig. 4 Global urban population growth. *Source* United Nations; McKinsey Global Institute analysis

The process of urbanization has traditionally been understood as a natural byproduct of economic development. Urbanization takes a variety of forms. It used to be confined chiefly to a gradual expansion of cities. Improved transportation has altered the pattern to include rapid urbanization of land along arterial highways, encirclement of agricultural land, and an uneven diffusion of the urban uses over the countryside. This urbanization process in India is marked by increases in population and expanding of urban bodies by engulfing into their territory (Singh 2002). The spilling over of population from the city into the peripheral areas has been occurring quite rapidly since 1980s in almost all large cities in India (Shaw 2005). This process has resulted also in the emergence of Urban Fringe (UF) which is conceptualized as zone of transition in land use, social and demographic characteristics between continuously built-up urban areas and rural hinterland.

Background of the Study

The present study is undertaken on a relatively smaller city as they have not been given sufficient attention—both in terms of their needs for services and facilities, such as piped water supplies, provision for services and facilities and for measures to strengthen the basis for their livelihood. Urban fringe is considered as a transitional zone between built-up urban areas and rural hinterland. Urban fringe is found to be neither under the control of urban authorities nor under the control of rural authorities (Adu-Ampong et al. 2008).

Although Aligarh is a relatively small city, compared to the other cities for which literature is available (most of them are for metropolitan cities) it is also a fast growing city in India. The issues examined here are certainly not limited to Aligarh city and many of the features can be traced for other cities as well. Like many other cities in north India, Aligarh is expanding fast, moreover, it is surrounded by a populous rural area with productive and rich agricultural hinterland. Such conditions give rise to many conflicts between rural and urban economies, values and people. However, they can also generate mutually beneficial complementarities in the rural and urban spheres. The net outcome is highly selective for different groups and different locations.

The study of livelihood transformation in urban fringe is relevant for understanding the changes occurred in the urban fringe of Aligarh city over last two to three decades. It is important to understand the adaption by households in the changing economic-, social- and cultural environment of the urban fringe areas due to urbanization processes. The livelihood approach is not just a response to modernization perspectives, but it is also for analyzing the developmental process operating in the urban fringe since 1980s.

The expansion of the city strongly influences the villages in terms of land use and population, both physically and in a socio-economic sense. Its influence stretches far beyond the immediately adjacent area. This study concentrates on the livelihood of the villagers who have lived there for generations as well on that of the

migrants residing in the villages. Livelihood according to the *Oxford English Dictionary* refers to a 'manner of life' but also to 'the various means of maintenance'; it suggests that it is a method to acquire food, income, property or inherit resources. Thus this study considers livelihood as all the activities forming the means of generating a living; the notion of livelihood is narrowed down here to reflect social and economic household variables (during the course of sample survey one respondent used the term *Grahasthi*); of these, especially the occupational characteristics are studied thoroughly.

A fundamental characteristic of urban fringe livelihood in contemporary developing economies like India is their ability to adapt in order to survive. Thus the definition of livelihood also includes change over time and adaptation to evolving circumstances. The livelihood therefore is an ongoing process in which the elements do not remain static but varies from one season or from one year to the next. The assets can be built up, eroded or instantaneously destroyed as available activities and access to resource and opportunities may fluctuate seasonally and across the year.

With modernization and transformation of economic activities, the traditionally dominant agricultural activities are under increasing pressure, although new possibilities are emerging for market-oriented agriculture. There are great differences in access to resources and opportunities among villagers, leading to interesting new patterns of livelihood. For non-agricultural occupations, the villagers' options are enhanced by their proximity to the expanding city. Land use and occupational trends are highly interrelated. For example, Brookfield et al. (1991) found that in Kuala Lumpur's fringe there was migration of working population and the land acquires an aspect of neglect. Other sources emphasize the stimulating effects on agriculture (e.g. Mulay and Ray 1973; Hill 1986). This inspired us to investigate to what extent the transformation of agriculture in urban fringe has taken place. A number of other consequences of urbanization—namely the pace and direction of city expansion, land markets and environmental concerns—are also treated in this study.

In order to study the socio-economic impact, this work has used a more concrete operationalization in the view of the manifestation of urbanization at micro level. Some indications of its scope were derived from the various descriptions in the literature (e.g. Ramachandran 1989; McGee 1991; Nangia 1976 & Thakur 1991). But exploratory fieldwork was needed to find leads to relevant aspects of urbanization at the village level in the study area. For the villages near Aligarh city, it was necessary to translate terms with a profoundly 'Western' bias into their Hindi-equivalent. *Nagarikaran* (literally means urban development) proved to be the most appropriate term to explain the purpose of the study during the interviews, as it evoked references to the changes in the lives of households and their villages as a result of urbanization.

The following aspects are supposed to be directly or indirectly caused by urbanization: land use changes in favour of urban types of land use, value addition to the products, diversification in their economic activities, location of urban-related activities in or near the village; better access from the village to the urban areas and vice versa; and expansion of urban types of amenities and infrastructure. All these processes have far-reaching consequences for the livelihood of the urban fringe population, as they lead to a diversification of sources of income among the villagers, to different uses of the agricultural land, and to change in living conditions. A period of about 30 years, approximately one generation, was chosen as the time frame for two reasons.

- First, there are some relevant secondary sources that provide insight into local history and the situation in the 1980s.
- Second, this time span corresponds with the period of reliable 'recall' by most respondents and is manageable for the researcher.

The selected area encompasses a wide range of villages: from places that have remained relatively rural, deriving an income mainly from agriculture, to villages that have been entirely enveloped by urbanization. The distance from city, land use pattern and the transformation of the occupational structure are the most important criteria for clustering and selecting villages for further study. A basic household survey was conducted to describe the situation in 44 villages (Fig. 5).

Objectives

The present work on immediate urban centre has two main objectives. The first is to provide a better understanding of how urban force acts to shape or mould the urban fringe of Aligarh city over time, and their impact on economic activities and social development.

- General objectives
 - To evaluate the features of livelihoods and their transitions in the urban fringe of Aligarh city.
- Specific objectives
 - To identify the changes in livelihood activities and modified livelihood option.
 - To find the impact of city proximity on
 - Social environment in the urban fringe
 - Economic environment in the urban fringe
 - Status of infrastructural facilities in the urban fringe
 - Physical environment in the urban fringe