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RESIDENTIAL NEIGHBOURHOOD CHARACTERISTICS IN THE CIVIL AREA OF JALANDHAR CANTONMENT

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Abstract

Residential space is the most discernible aspect of a city's morphology, which reflects social, cultural and historical lineage of the city, and changing norms of construction designs. The civil or bazaar area established by British in cantonment towns of India represents a unique planned residential-cum-commercial urban development within administratively controlled environment. With the Civil Area of Jalandhar Cantonment as a case study, this work examines the characteristics of residential areas through three attributes, viz. size of residential plots, intensity of residential buildings and annual rental value of residential buildings. Based on mohalla level analysis of data drawn from unpublished ownership and revenue records as well as field survey, this study reveals congruence between physical and socio-economic attributes in shaping the residential types. The residential neighbourhoods in the Civil Area of Jalandhar Cantonment show differentiation along socio-economic contours, with their spatial distribution characterised by low class residential mohallas in central locations and high class residential areas on the periphery.

Introduction

The traditional residential pattern in Indian cities which is drawn along religious, caste, occupational and linguistic associations; and the central parts forming the core of city being associated with prestige and status has been well documented (Mehta, 1968, Berry and Spodek, 1971). City-centre location has the locational advantage for commercial activities (Brush, 1986), and in traditional cities there is separation of residence from place of work, particularly for those who can afford the high land prices and at the same time enjoy high prestige. On the other hand, low class residential areas generally associated with physically inferior sites and low caste social groups are considered low prestige

neighbourhoods. In addition to these socio-cultural and economic attributes of population, structural condition of buildings has also been linked with the type of residential areas within Indian cities (Mehta, 1968; Bose, 1968; Berry and Spodek, 1971; Sharma, 1985). Generally, poor quality construction and a high density of houses correspond with low class residential areas (Taneja, 1971). Another important factor determining the type of *mohalla* / neighbourhood is the rental value of houses (Sharma, 1985), which reflects the land values in an area, and is positively influenced by economically lucrative functions such as commercial or mixed uses.

Among the different types of urban settlements in India, British established

cantonment towns since their initial setting-up in the late eighteenth century have embodied permanence of their original functional character as military enclaves and purposeful division into two functionally different parts—military and civil areas. Planned and spacious layouts, low population densities, spatial differentiation of land uses, institutional structures such as the clubs and race course are the distinctive facets of cantonments (Smailes, 1973; King, 1976). The cantonment towns are regarded as islands in urbanization stream (Sharma, 1993) and pockets of orderliness tidiness (Jacob, 1994). The distinct positioning of cantonment towns within the urban settlement system in India is also attributable to their unified system of governance under the Cantonments Act of 2006 (amended version of the Cantonments Act of 1924), primarily for regulating building activities and restricting change in functional use of land in their civil areas.

Unlike the *bazaar* areas of organically evolved towns in which land uses compete for favourable sites for location and are less constrained by regulations, the civil or *bazaar* area of cantonment towns is distinctly placed. It is a planned residential-cum-commercial area inhabited by permanently settled civilian population within the larger military space. It has multifarious functional units such as houses, shops, religious structures etc., whose locations were determined by the cantonment authorities through grants for specific uses, and therefore, contrary to a natural progression of similar functions getting located or concentrated in a place (Bali, 2013). Therefore, spatial pattern of residential areas in the civil area is an outcome of planned development rather than evolutionary ecological processes operative in cities in India. While several studies have highlighted the spatial pattern of residential areas of cities in India, limited work

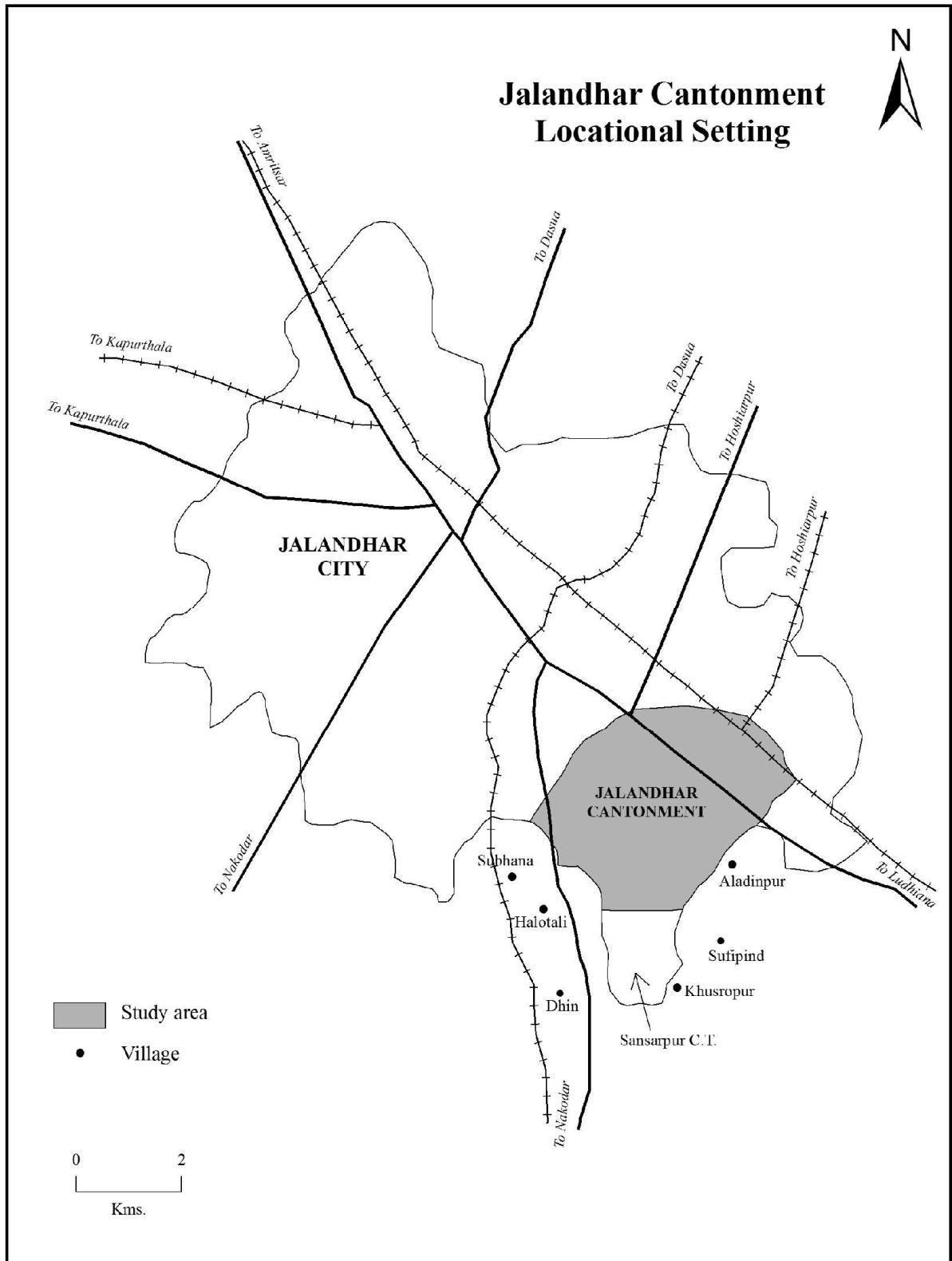
exists on similar attributes of the civil areas of cantonment towns. The studies on hill station cantonments of Kasauli and Sabathu (Sharma, 2000) and on Pune cantonment (Kalal, 2001) have highlighted class and profession based social patterning within the civil area of these cantonments rather than on religion, caste and cultural norms, which broadly conforms to the patterns observable in Indian cities. The present study derives its scope from a limited academic focus on explaining the residential pattern of civil area of cantonment towns by taking the Civil Area of Jalandhar Cantonment as a case study.

Objective of the Study

To examine the types and characteristics of residential neighbourhoods in the Civil Area of Jalandhar Cantonment is the major objective of the study.

Study Area

Jalandhar Cantonment was established in 1846 soon after the annexation of Jalandhar *Doab* by the British (Foreign Department, 1846). It is located in Jalandhar I Tehsil (sub district) of Jalandhar District, which occupies a near central position in the fertile *Bist* Jalandhar *Doab* of the Punjab. It lies 147 kilometres to the north-west of the State capital Chandigarh, with which it is connected by National Highway Number 21. It adjoins Jalandhar City to the south-east along the historic Grand Trunk Road, which also connects with Amritsar (77 kilometres) to its north-west, Ludhiana (58 kilometres), Ambala (167 kilometres) and Delhi (369 kilometres) to its south-east. Ferozpur city is located to its south-west at a distance of 151 kilometres. It is surrounded by Jalandhar city to its north, north-west and north-east; Census Towns Sufipind to its south-east, Sansarpur and Dhin to its south; villages Khusropur and Allahdinpur to its south-east,



Source: Punjab Administrative Atlas, 2001

Fig. 1

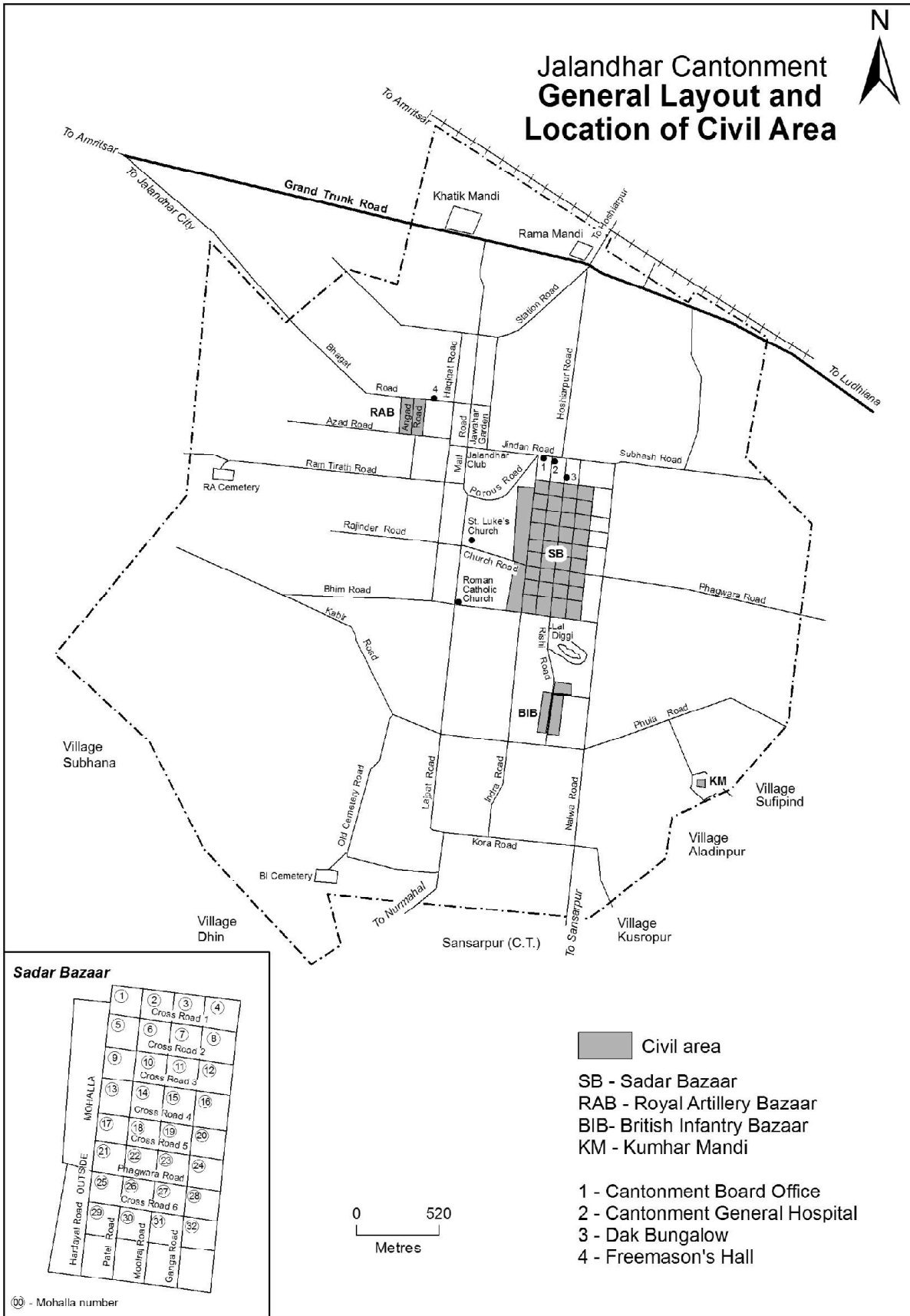


Fig. 2

and Subhana to its south-west (Fig. 1).

Jalandhar Cantonment is a Class III town with a population of 47,845 persons in 2011 (Census of India, 2011). It occupies an area of 15.21 km², with the Government of India being the holder of occupancy rights of the land upon which the cantonment was established. The notified Civil Area of Jalandhar Cantonment comprises four pockets located in different parts of the Cantonment- *Sadar Bazaar* (constituted by 33 *mohallas* - *mohalla* 1 to 32 and *Outside Mohalla*), *British Infantry Bazaar* (BIB) or *Lal Kurti Bazaar*, *Royal Artillery Bazaar* (RAB) or *Topekha Bazaar* and *Kumhar Mandi* (KM) (Fig. 2).

Sources of Data and Methodology

This study is a descriptive analysis of the characteristics and types of residential neighbourhoods of the Civil Area of Jalandhar Cantonment. These have been examined at the *mohalla* level in terms of three attributes which are representative of both the physical/built environment and economic aspects: size of residential plots, building intensity, i.e. number of residential buildings in a *mohalla* and average Annual Rental Value (ARV), i.e. the annual property tax assessed by the Cantonment Board and paid by the residence owners. ARV has been used to classify the residential neighbourhoods into four different types (high, upper middle, lower middle and low class). The criteria for a *mohalla* to be classified in any one of the residential types is based on the proportion of houses in a *mohalla* recording above average proportion of residential buildings of the Civil Area in the ARV slab identified in this study. Two unpublished records-the General Land Register (of 1939 and updated till 2006) pertaining to ownership of buildings and the Assessment Registers (2007-10) pertaining to assessment of rental value of individual houses have been

accessed for obtaining relevant data on these three attributes. The characteristics of socio-cultural affiliations of the residents such as caste and religion collected during field work are included in the discussions for providing a holistic explanation of the social status of different types of residential areas as well as to strengthen association exemplifying economic and social status. Average residential plot size, intensity of residential buildings in a *mohalla* and average ARV of residential buildings in a *mohalla* has been calculated and their respective spatial patterns at the *mohalla* level have been shown through maps.

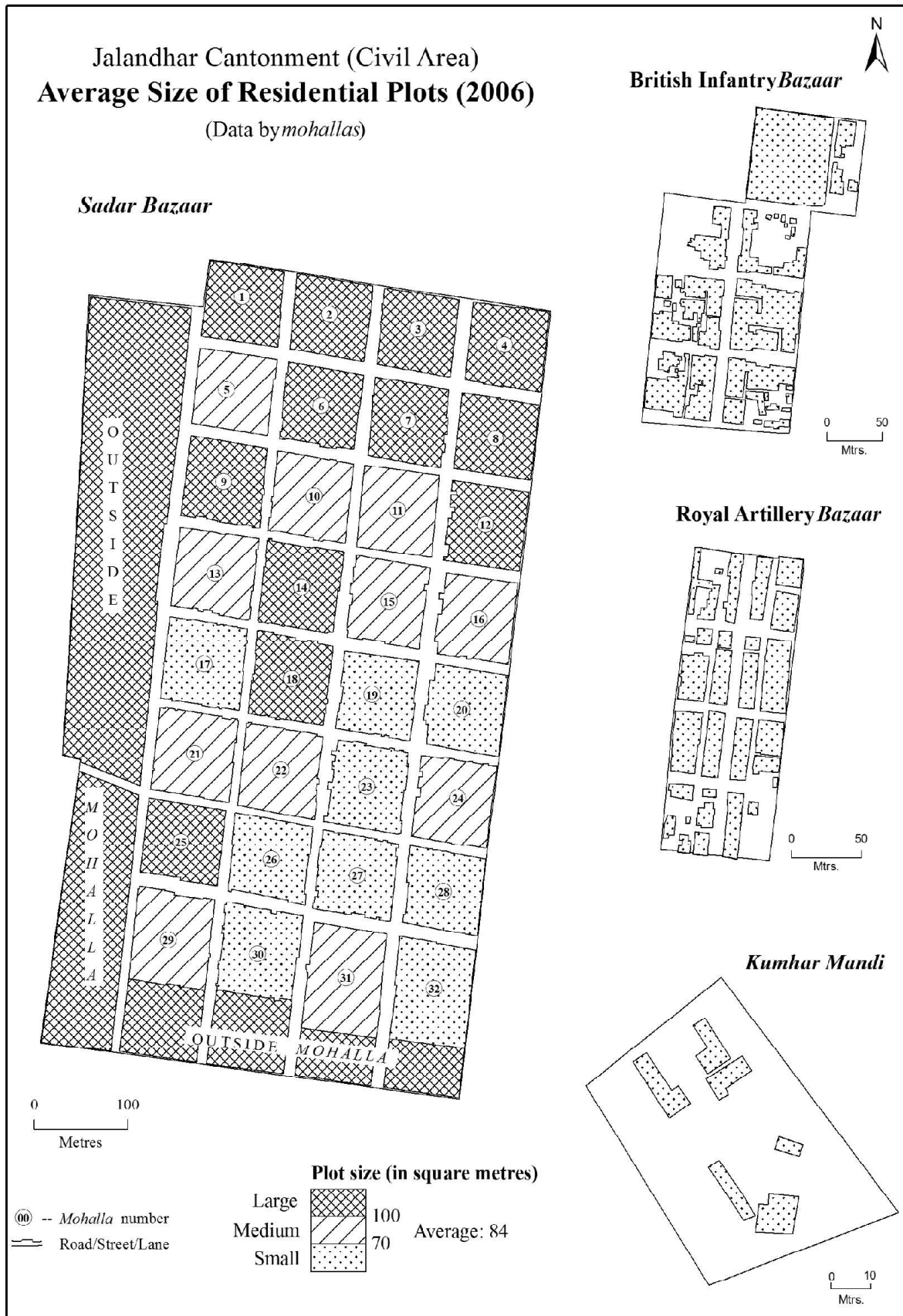
Results and Discussion

Characteristics of Residential Neighbourhoods

The Civil Area of Jalandhar Cantonment exhibits a predominance of residential land use with 58.24 per cent of all the buildings devoted to this use. Residential use primarily occupies inner areas of individual *mohallas* as well as street front locations in a few commercially important *mohallas*. It is spatially the most extensive land use since a majority of the *mohallas* (21 out of total 36) recorded more than half their area under this use. The characteristics of residential neighbourhoods in the Civil Area of Jalandhar Cantonment have been examined with respect to following three attributes:

i) Plot Size

The residential neighbourhoods in the Civil Area are characterised by residential plot size averaging 84 m², but with considerable variations in sizes of plots across individual *mohallas*, ranging between 34 m² in *Kumhar Mandi* and 923 m² in *Outside Mohalla*. Three categories of size of residential plots have been identified within the Civil Area (Table 1). Small sized residential plots measuring less than 70 m² are predominant in the Civil Area, forming



Source: Computed from data in General Land Register, 1939, updated till 2006

Fig. 3

Table 1
Jalandhar Cantonment (Civil Area): Size of Residential Plots, 2006

Average Size of Residential Plot(m ²)	Plots (%)	Mohallas in Size Category		General Attributes
		No. of Mohallas	Mohallas	
Large sized (> 100)	21.42	13	1, 2, 3, 4, 6, 7, 8, 9, 12, 14, 18, 25 and OSM	Size range between 100-923m ² ; mostly low intensity of residential plots in <i>mohallas</i> ; 23 <i>ahatas</i> in 9 <i>mohallas</i> ; spatial concentration in north, eastern parts of SB
Medium sized (70 - 100)	13.10	11	5, 10, 11, 13, 15, 16, 21, 22, 24, 29 and 31	Size range between 70-94m ² ; moderate to high intensity of residential plots in <i>mohallas</i> ; 14 <i>ahatas</i> in 6 <i>mohallas</i> ; spatial concentration in small clusters in north, central parts of SB
Small sized (< 70)	65.48	12	17, 19, 20, 23, 26, 27, 28, 30, 32, RAB, BIB and KM	Size range between 34-67 m ² ; high intensity of residential plots; 17 <i>ahatas</i> in 8 <i>mohallas</i> ; spatial concentration in southern, eastern periphery of SB, RAB, BIB, KM
Civil Area Total	100.00	36	-	Decreasing average size of residential plots from north to south and towards periphery

Source: Figures calculated from General Land Register 1939, updated till 2006

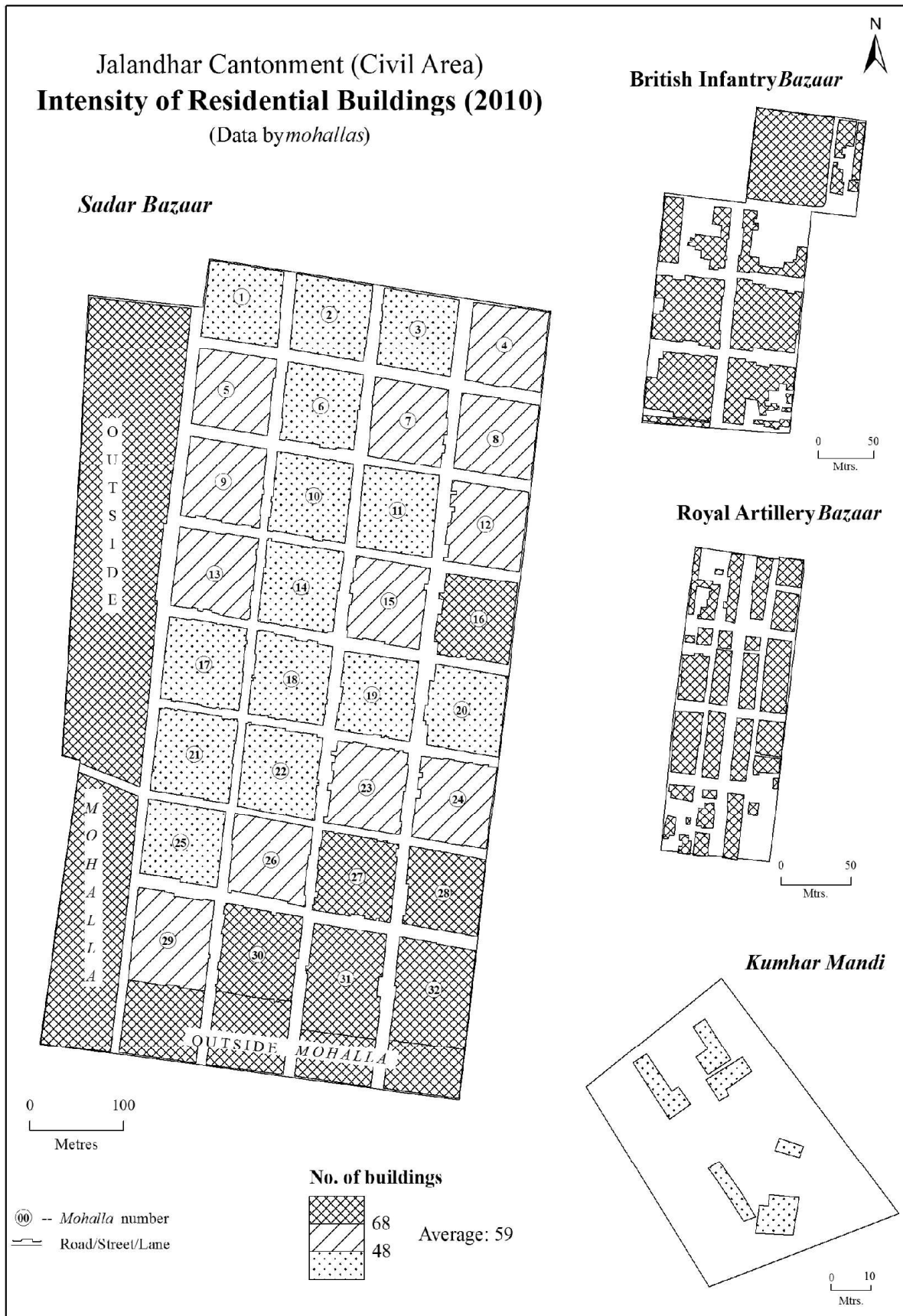
Note: Civil Area comprises *Sadar Bazaar* (SB) which includes *Mohalla* (M) 1 to 32 and OSM: Outside *Mohalla*, BIB: British Infantry *Bazaar*, RAB: Royal Artillery *Bazaar*, KM: *Kumhar Mandi*

Average size of residential plots within the Civil Area is 84m².

65.48 per cent of all the residential plots, and are spatially concentrated in *BI Bazaar*, *RA Bazaar*, *Kumhar Mandi*, and southern and eastern periphery of *Sadar Bazaar* (Fig. 3). This is followed by large residential plots (more than 100 m²) which constitute 21.42 per cent of all the plots, while medium sized residential plots measuring between 70 and 100 m² comprise the lowest proportion of 13.10 per cent. When spatially plotted, these data reveal a clear pattern of a distinctive north-south divide, as the average size of residential plots within the Civil Area decreases from north to south, with central *mohallas* of *Sadar Bazaar*

characterised by medium sized plots and southern *mohallas* having small sized residential plots (Fig.3). The size of residential plots is intricately linked with its intensity (number of buildings in a *mohalla*) and forms an inverse relationship. *Mohallas* comprising an overwhelming majority of small sized residential plots are, therefore, also the ones exhibiting high residential intensity.

An interesting aspect of the *mohallas* across plot size category is the presence of *ahatas*, comprising between 2 to 39, one or two room houses built around a common courtyard. In general, the common courtyard in these



Source: Computed from data in Assessment Register, 2010

Fig. 4

Table 2
Jalandhar Cantonment (Civil Area): Intensity of Residential Buildings, 2010

Intensity of Residential Units	Mohallas in Category		General Attributes
	No. of Mohallas	Mohallas	
High (> 68)	9	16, 27, 28,30, 31,32, BIB, OSM and RAB	Mostly comprising early occupancy <i>mohallas</i> ; spatial concentration of high intensity in southern and eastern parts of SB, besides BIB and RAB
Medium (48 - 68)	12	4, 5, 7, 8, 9, 12, 13, 15, 23, 24, 26 and 29	A mix of early and later occupancy <i>mohallas</i> ; spatial concentration of medium intensity in small clusters in eastern, western periphery of SB
Low (< 48)	15	1, 2, 3, 6, 10, 11,14, 17,18,19, 20,21,22, 25 and KM	A mix of early and later occupancy <i>mohallas</i> , many of which have predominance of commercial activities; spatial concentration of low intensity in northern and central parts of SB, besides KM
Civil Area Total	36	-	Mostly early occupancy <i>mohallas</i> are characterised by high intensity; increasing intensity of residential buildings from north to south and towards periphery

Source: Figures calculated from Assessment Registers, 2007-10 and Field Work

Note: Civil Area comprises *Sadar Bazaar* which includes *Mohalla* (M) 1 to 32 and OSM: Outside *Mohalla*, BIB: British Infantry *Bazaar*, RAB: Royal Artillery *Bazaar*, KM: *KumharMandi*

Average intensity of residential units per *mohalla* is 59.

ahatas has been used for accommodating incremental change in residential units over time. Shared utilities such as bathrooms and toilets characterise *ahatas* with a large number of individual residential houses, which is related to their evolution in the context of housing for the migrants. A few *ahatas* are named after their owners, viz. *Baiju Ka Ahata* in *mohalla* 16, *Natha Singh Ka Ahata* in *mohalla* 32. The former is now occupied by *Baij Nath's* descendants upon migration of Muslim tenants after the Partition. From one room houses, these were converted into two to three room houses upon consolidation of adjoining houses. On the other hand, *ahatas* in *mohalla* 1 and 2 remained sparsely built until the Partition, when new houses were constructed in the common courtyard.

ii) Intensity of Residential buildings

The intensity of residential buildings or the number of residential buildings in a *mohalla* averaged 59 buildings per *mohalla* in the Civil Area. *BI Bazaar* and *Mohalla* 19 respectively recorded the lowest (3) and the highest (292) intensity of residential buildings. Residential neighbourhoods in the Civil Area are characterised by three types of residential building intensity, viz. high intensity (more than 68 buildings), medium intensity (between 48 and 68 buildings) and low intensity (less than 48 buildings) (Table 2). A majority of the *mohallas* (15 out of 36 *mohallas*) recorded low intensity of buildings. The spatial distribution of intensity of buildings reveals an increase in the intensity of buildings from north and west towards south and east within the Civil Area

(Fig. 4). The intensity of buildings is associated with the size of residential plots, and is clearly evident in the spatial pattern of both these attributes of residential neighbourhood of the Civil Area (Fig. 3 and Fig. 4). Thus, concentration of small sized residential plots has contributed to a high residential building intensity (more than 68 buildings) in southern parts of the Civil Area. On the other hand, *mohallas* with large sized residential plots, particularly those in the northern parts are characterised by low intensity of residential buildings of less than 48 buildings per *mohalla*. Further, the intensity of buildings is linked to the occupancy of *mohallas*. Residential neighbourhoods with medium and high residential intensity are the early occupancy *mohallas*, which were settled upon at the time of establishment of Jalandhar Cantonment in 1846.

iii) Annual Rental Value (ARV)

The Civil Area is characterised by an average ARV of Rs.1685 per annum. However, this varies considerably in individual *mohallas*, from Rs.4495 per annum in *mohalla* 25 to Rs.140 per annum in *Kumhar Mandi*. High average ARV (more than Rs. 1950 per annum) is recorded in *mohallas* located along northern, western and north-eastern periphery, moderately high average ARV (between Rupees 1300 and 1950 per annum) in central *mohallas*, and moderately low average ARV (between Rs.650 and 1300 per annum) in southern *mohallas* (Fig. 5). Moderate to high average ARVs is found particularly in *mohallas* located along the main arterial roads, viz. Phagwara Road and Hardayal Road, which are an outcome of increased commercial and mixed land use activities. Lower than average ARVs in southern *mohallas* is associated with limited commercial activity, small plot size and old constructions. Overall, variations in the ARV across different *mohallas* of the Civil Area are

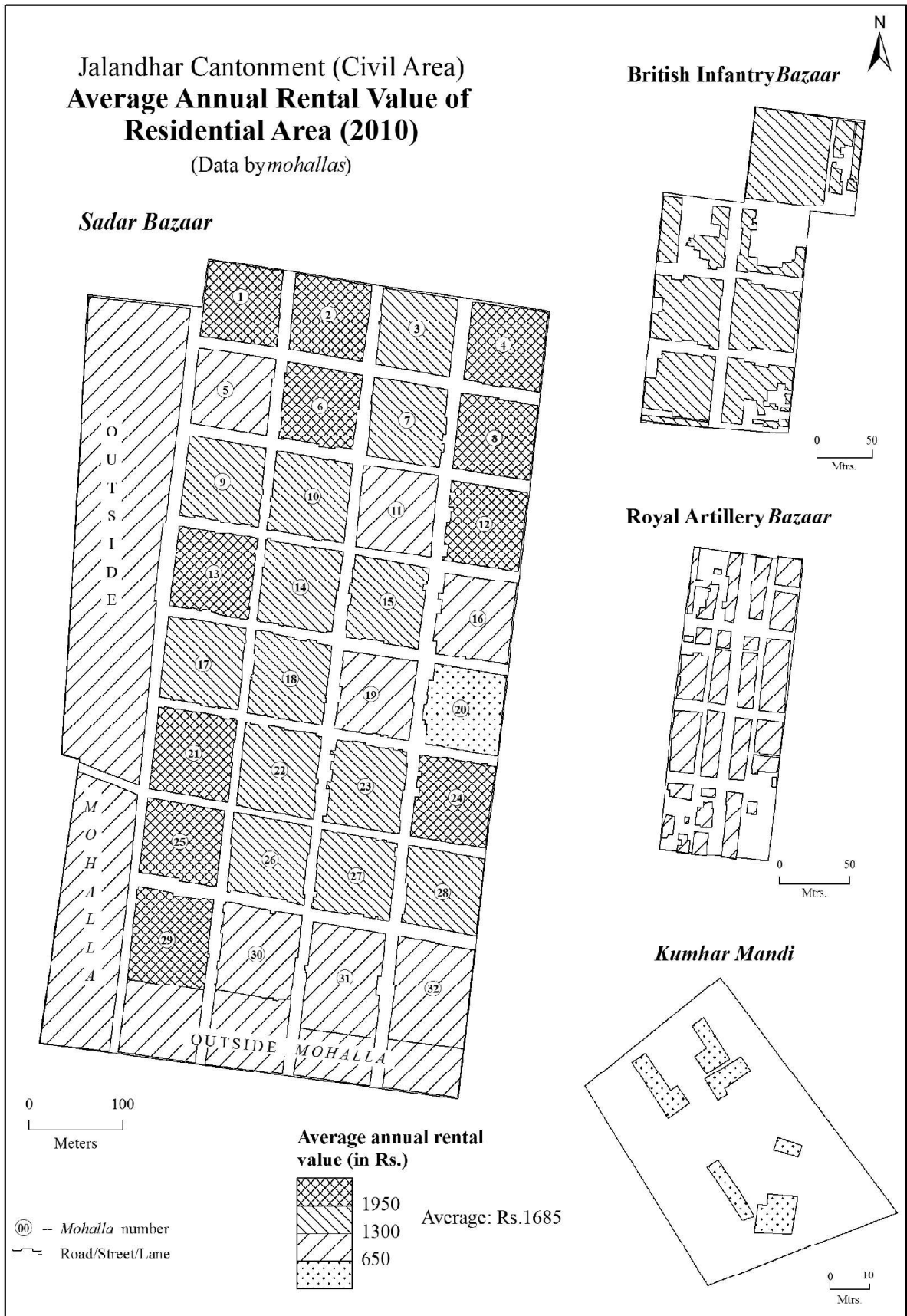
determined by economic factors such as market value of land and change in use from only residential use to either commercial or mixed use (residential-cum-commercial). In addition, physical factors such as the type of construction (old or new construction), size of plot, structural changes in building (partial renovation, rebuilding, vertical extension of building) are the other determinants of ARV assessed by the Cantonment Board.

Types of Residential Areas

The Civil Area of Jalandhar Cantonment is characterised by four types of residential areas, viz. high class, upper middle class, lower middle class, and low class residential areas (Fig. 6), which are distinguishable by their annual rental values (Table 3). The residential patterning of Civil Area is dominated by low and lower middle class *mohallas*, which together comprise an overwhelming majority (80.86 per cent) of the total residential buildings and cover 20 out of 36 *mohallas*. On the other hand, high and upper middle class areas have a limited extent, both in terms of the proportion of residential buildings (19.14 per cent) as well as the number of *mohallas* (16 *mohallas*).

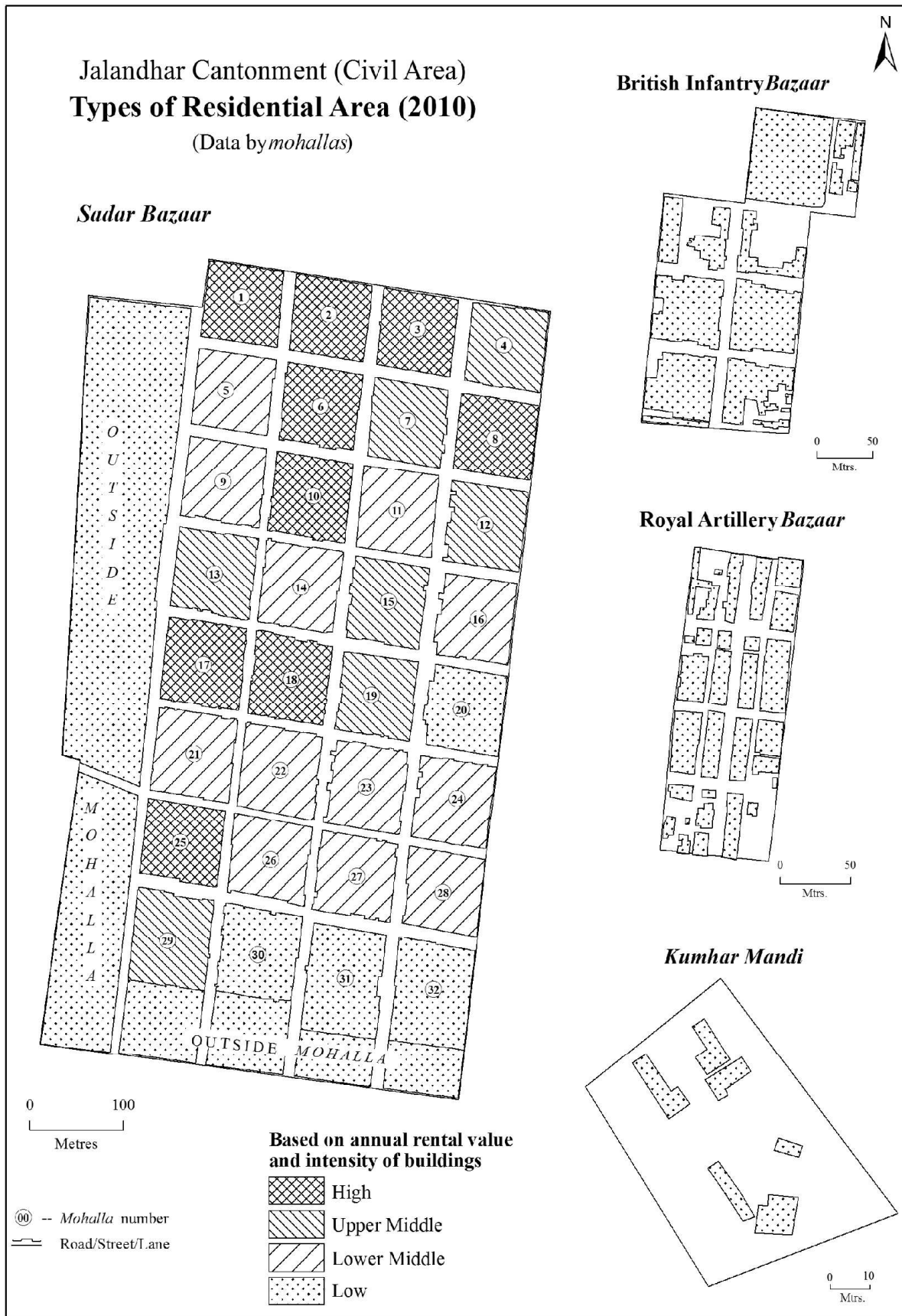
i) High Class Residential Area (ARV more than Rs.1950 per annum)

Nine *mohallas* of the Civil Area belong to high class residential area category, viz. *mohalla* 1, 2, 3, 6, 8, 10, 17, 18 and 25. A high proportion (up to 50 per cent) of their residential buildings recorded an ARV of more than Rs. 1950 per annum. The spatial pattern of high class residential *mohallas* reveals a conspicuous axial pattern of contiguously located *mohallas* in the northern parts of *Sadar Bazaar* along Cross Road 1 and Patel Road. In addition, two contiguously located *mohallas* in central parts and isolated pockets along western and eastern periphery (*mohalla* 8 and 25



Source: Computed from data in Assessment Register, 2010

Fig. 5



Source: Computed from data in Assessment Register, 2010

Fig. 6

Table 3
Jalandhar Cantonment (Civil Area): Types of Residential Areas, 2010

Residential Class	Characteristic Features of <i>Mohalla</i> in a Residential Type		No. of <i>Mohallas</i>	<i>Mohallas</i>	Residential Buildings in Category** (%)
	ARV* (Rs. per Annum)	Building Intensity in <i>Mohallas</i>			
High	More than 1950	Low	9	1, 2, 3, 6, 8, 10, 17, 18 and 25	12.82
Upper Middle	1300-1950	Medium	7	4, 7, 12, 13, 15, 19 and 29	6.32
Lower Middle	650-1300	Medium to High	12	5, 9, 11, 14, 16, 21, 22, 23, 24, 26, 27 and 28	18.47
Low	Less than 650	High	8	20, 30, 31, 32, OSM, BIB, RAB and KM	62.39

Source: Figures calculated from Assessment Register 2007-10

Note: Civil Area comprises SB: *Sadar Bazaar* which includes *Mohalla* 1 to 32 and OSM: Outside *Mohalla*, BIB: British Infantry *Bazaar*, RAB: Royal Artillery *Bazaar*, KM: *KumharMandi*

*ARV refers to Annual Rental Value. Average ARV of the Civil Area is Rupees 1685 per annum.

**Per cent figures represent the cut off for inclusion of a *mohalla* in a residential type category.

respectively) are also discernible (Fig. 6). The high class residential areas comprise *mohallas* which belong to late occupancy areas of the Civil Area, and are therefore, characterised by relatively large plots (more than 100m²), low intensity of residential buildings of less than 48 buildings per *mohalla* and two to three storied buildings. These *mohallas* are associated with mixed land use, which includes a significant proportion (upto 50 per cent) of commercial and residential-cum-commercial use. This has contributed towards recording of high to moderately high average annual rental values by these *mohallas*. The high class residential areas recorded a high concentration of joint

families, and are socially heterogeneous, viz. trading castes in northern *mohallas*, *Khatri*s and *Sikhs* in central and western parts, and low caste groups especially comprising *ahirs* (milk men) and *dhobis* (washer men) in *mohalla* 8. Broadly, the association of economic status by virtue of high ARV with that of social status of high class residential *mohallas* reflects a general consonance of economic status with social status, which has been largely recognized for cities in India.

ii) Upper Middle Class Residential Area (ARV between Rs. 1300-1950 per annum)

Seven *mohallas* which constitute the upper middle class include *Mohalla* 4, 7, 12, 13,

15, 19 and 29. This residential type comprises non-contiguous *mohallas* located along both the flanks of Ganga Road and two in the western periphery along Hardayal Road (Fig. 6). The upper middle class residential areas are spatially proximal to high class residential areas, and like them, comprise the late occupancy areas. These residential neighbourhoods recorded high to moderately high average ARV (Fig. 5). The upper middle class *mohallas* are characterised by a predominance of residential use, with medium intensity of residential buildings (between 68 and 48 buildings per *mohalla*). *Mohalla* 13 and *mohalla* 19 are the exceptions, as the former comprise of residential-cum-religious-cum-educational uses, whereas the latter recorded mixed landuse including commercial and residential-cum-commercial. The upper middle class residential *mohallas* recorded an almost equal concentration of joint and nuclear families. Their social composition is quite heterogeneous with a concentration of trading castes in *mohalla* 7, 13 and 15, *Brahmins* in *mohalla* 12 and 19, backward classes in *mohalla* 4 and *Khatri*s in *mohalla* 29. In fact, *mohalla* 4 and 29 had high concentration of Muslim population in the pre-Independence period, which were resettled by displaced families belonging to various caste groups after the Partition in 1947.

iii) Lower Middle Class Residential Area (ARV between Rs. 650-1300 per annum)

Located between the upper middle class and the low class residential areas are the *mohallas* which comprise the lower middle class residential areas (Fig. 6). They include twelve *mohallas*, viz. 5, 9, 11, 14, 16, 21, 22, 23, 24, 26, 27 and 28 which recorded nearly half the number of residential buildings with ARV between Rs. 650-1300 per annum. Lower middle class residential areas comprise two distinct pockets, viz. a conspicuous cluster of

contiguously located old occupancy *mohallas* along both the flanks of main arterial road, i.e. Phagwara Road, and *mohallas* in the northern parts between Cross Roads 1 and 3 (Fig. 6). Among these two clusters, *mohallas* located along the main arterial road recorded a predominance of commercial and residential-cum-commercial use. This contributed to their higher average ARV as compared to those in the northern cluster (Fig. 5). The lower middle class residential neighbourhoods reveal a less heterogeneous social composition as compared to the high class and upper middle class residential areas. Among these residential neighbourhoods, *mohallas* comprising the northern cluster have a concentration of trading castes and joint families. The Sikhs and *Khatri*s are mostly concentrated in central and southern *mohallas* along Phagwara Road, which is related to their rehabilitation in these erstwhile Muslim dominated *mohallas*. These areas are largely characterised by nuclear families.

iv) Low Class Residential Area (ARV less than Rs. 650 per annum)

As many as eight *mohallas* constitute the low class residential neighbourhoods of the Civil Area. These include *mohalla* 20, 30, 31, 32, Outside *Mohalla* which are located on eastern and southern periphery of *Sadar Bazaar*, *Kumhar Mandi*, RA Bazaar and BI Bazaar (Fig. 6). All the low class residential *mohallas* have an overwhelming predominance (between 73 and 100 per cent) of their residential buildings with ARV of less than Rs.650 per annum. These *mohallas* are primarily old occupancy residential sections of the Civil Area. They are typified by two and more than two storied houses built on small sized residential plots. Consequently, a high intensity of residential buildings as well as very high concentration of population is a feature of the low class residential neighbourhoods. The relative peripheral locations of low class

residential areas also reflect their social composition with a predominance of low caste groups (Scheduled Castes and Backward Classes). This is in consonance with the historical pattern of low caste social groups inhabiting peripheral locations and physically inferior sites within towns in India. These social groups have resided in the low class residential neighbourhoods as tenants during the pre-Independence period. However, in the post-Partition period, evacuee properties belonging to Muslims were purchased by the low caste group, which further contributed to their concentration in these *mohallas*.

Conclusions

This case study of residential patterning of the Civil Area of Jalandhar Cantonment shows that physical and socio-economic attributes are in tandem with each other in characterising the status of residential neighbourhoods. The differentiation of residential neighbourhoods by economic status and social hierarchy is evident in high caste groups residing in residential neighbourhoods having large sized plots, low intensity of buildings and high annual rental values. The spatial pattern of residential neighbourhoods in the Civil Area of Jalandhar Cantonment is unusual of the widely theorized high class residential area forming central or core area found in cities. The lower middle class residential neighbourhoods occupy central locations, whereas the high and low class residential areas occupy peripheral locations in the Civil Area of Jalandhar Cantonment. The two physical or built environment attributes, viz. size and intensity of residential plots and the economic attribute of average annual rental values are accordingly found congruent with this spatial pattern of types of residential neighbourhoods. This is expectedly related to the historical legacy of planned development of

the Civil Area of Jalandhar Cantonment characterised by defined size of plots, allocation of land uses to land parcels and location of land uses as decided by the cantonment authorities.

An interesting point of further inquiry would be to ascertain dynamism in the residential patterning of the Civil Area, if any. The growth of permanently settled civilian population within a static/non-expanding areal extent of the cantonment and its civil area is expected to lead to an increase in residential building intensity and intensification of commercial and mixed land uses. This would consequently result in changes in the annual rental values across different *mohallas*, and thereby, reshape the characteristics of residential neighbourhoods in the Civil Area of Jalandhar Cantonment.

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