Urban conservation policy and the preservation of historical and cultural heritage

The case of Singapore

Sim Loo Lee

School of Building & Estate Management, National University of Singapore, 10 Kent Ridge Crescent, 119260 Singapore

In cities experiencing rapid economic growth, historic districts with rich cultural heritage are often demolished and replaced by modern high-rise buildings. This article shows the success of Singapore's urban conservation policy in preserving its historic districts in the face of a fast expanding economy and rapid urban development. A survey in the conservation areas shows that the policy has succeeded in preserving the historic old shophouses to a large extent. An analysis of the use of shophouses shows that the policy has also succeeded in retaining the activities which reflect the community life in the core areas of Chinatown, Kampong Glam and Little India. This is because the policy allows for the operation of market forces which makes preservation and restoration of the old shophouses viable. Copyright © 1996 Elsevier Science Ltd.

Introduction

Few cities are static; most will change physically as their economies undergo transformation (Harvey, 1985). As a result, conflict between revitalization and conservation may arise (Naidu, 1990; Mehra, 1991; Tiesdell, 1995). The conservation of historical and cultural heritage is often accorded low priority; recent urban policy tended to be that of regeneration through property development (Turok, 1992; Imrie and Thomas, 1993). The supply of commercial space to meet the needs of users often necessitates urban renewal and redevelopment which inevitably requires the demolition and replacement of historical districts by high-rise office blocks, shopping centres, hotels and other modern buildings.

Singapore faced this dilemma in the 1970s as the restructuring of the economy resulted in rapid growth and an insatiable demand for commercial space. This was compounded by the problem of land scarcity, which made it impossible to adopt the twin city paradigm of other cities (Heng, 1995). The problem of land shortage was particularly acute in the Central Area, the heart of commercial activities.[1] While there was an urgent need to cater to the needs of the fast expanding economy, it was also necessary to preserve the historical and cultural heritage.

In the Central Area of Singapore, shophouses were the main land use form. These shophouses, which usually comprised two or three storeys, allowed the occupiers (mainly wholesalers, retailers and service traders) to trade on the entry level, ground floor (Ho and Sim, 1980). The upper levels were mainly used for residential purposes. After the Second World War, due to an acute shortage of housing, rent control was introduced; many of these shophouses thus had long-standing tenants (Khublall and Yuen, 1991). Through inflation, the rental return was eroded and maintenance was neglected, resulting in dilapidation.

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[1] Prior to urban renewal, about 80% of Singapore's population and economic activities were heavily concentrated in about 20% of the land area in the south-eastern sector of the island, resulting in extreme overcrowding and congestion.
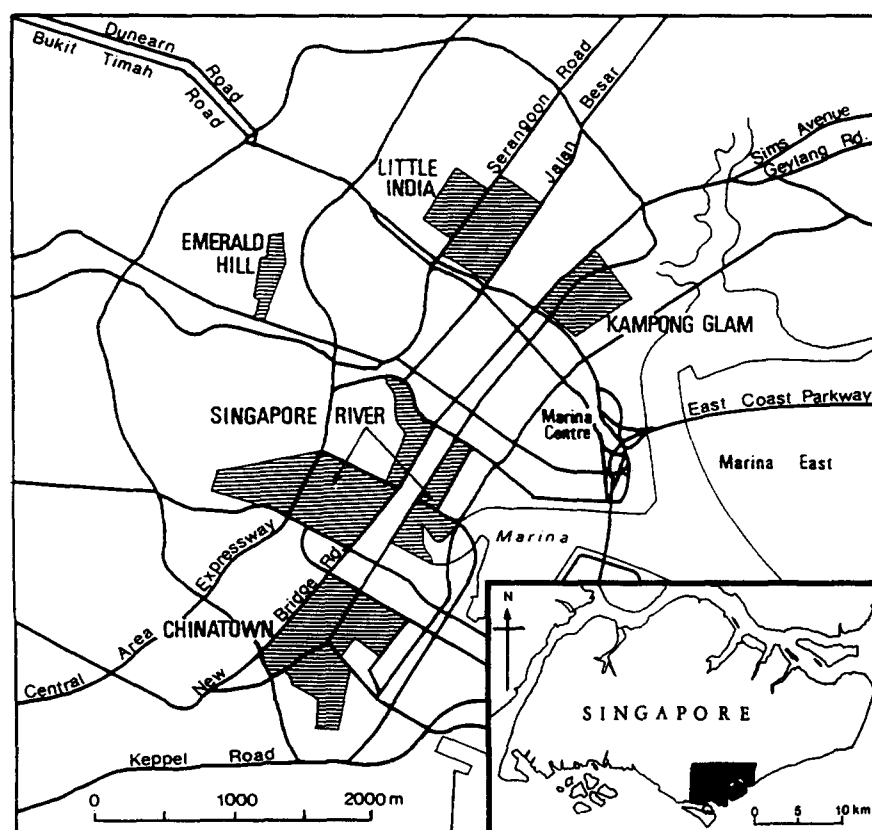
Figure 1 Historic districts under conservation
Source: URA

In the early 1970s, blighted areas occupied by these dilapidated shophouses were demolished in the process of urban renewal to make way for modern high-rise buildings. By the late 1970s, there was a shift in policy from redevelopment to conservation, and feasibility studies on conserving the historic districts were undertaken. However, it was only in 1986 that the Urban Redevelopment Authority (URA), which is the national planning authority, revealed its Conservation Master Plan. Under this Plan, several historic districts in the Central Area were gazetted as conservation areas. Among the districts are Chinatown, Kampong Glam and Little India (Fig. 1).

Under the Conservation Plan, historic buildings of architectural and aesthetic value are to be conserved. Most significant are the old shophouses in Chinatown, Kampong Glam and Little India. These were gazetted for conservation as "the shophouse is one of the most significant building types in Singapore's architectural heritage, reflecting much of the island's history and development" (URA, 1995a, p 35). Apart from their historical and aesthetic value, the shophouses "create a sense of human scale, rhythm and charm not found in much of our modern architecture" while the "variety of building facades exhibit . . . creative use of the multi-cultural resources", providing relief from "the monotony of a

high-rise environment" (URA, 1985, pp 13, 15). In addition to the shophouses, other historic buildings of significance are to be preserved, as discussed in the section on key conservation features.

The objective of this paper is to show how Singapore's urban conservation policy has been timely in preserving the old shophouses in the historic areas and retaining the ethnic-based activities which reflect the community life in the face of rapid urbanisation. The paper begins with a discussion of the main objectives and key features of the urban conservation policy. In this discussion, unique characteristics of the historic districts of Chinatown, Kampong Glam and Little India are highlighted. The research methodology is then explained. This is followed by an analysis on the use of shophouses. Such a study may provide useful lessons on how cities experiencing rapid economic growth and urban development can cater to the need for commercial space and at the same time preserve historical and cultural heritage.

Conservation objectives and key features

This section highlights the main objectives of Singapore's urban conservation policy and key features which are relevant to the study.
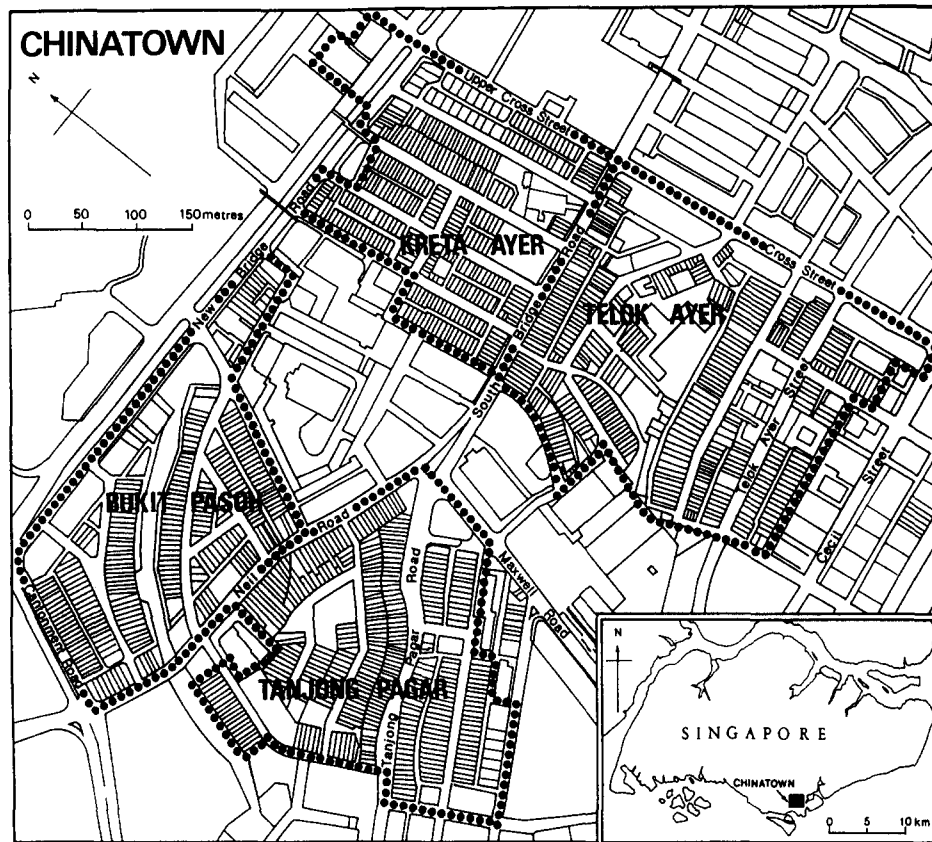
Figure 2 Districts of Chinatown

Conservation objectives

Chinatown, Kampong Glam and Little India are historic areas rich in the cultural heritage of the three major ethnic groups of Singapore's population (URA, 1995a–c). Besides possessing buildings of great historical significance and architectural values, the activities in these areas reflect the various ethnic groups' community life.[2] However, these areas face a range of common problems: fragmented land-ownership, dilapidated structures of good architectural value, tenanted properties under rent control and declining traditional trades (URA, 1988a, p 44).

Two of the main objectives of conserving these areas as set out by the URA and relevant to this study are: (i) to retain and restore buildings of historical and architectural significance; and (ii) to retain and enhance ethnic-based activities while consolidating the area with new and compatible industries.
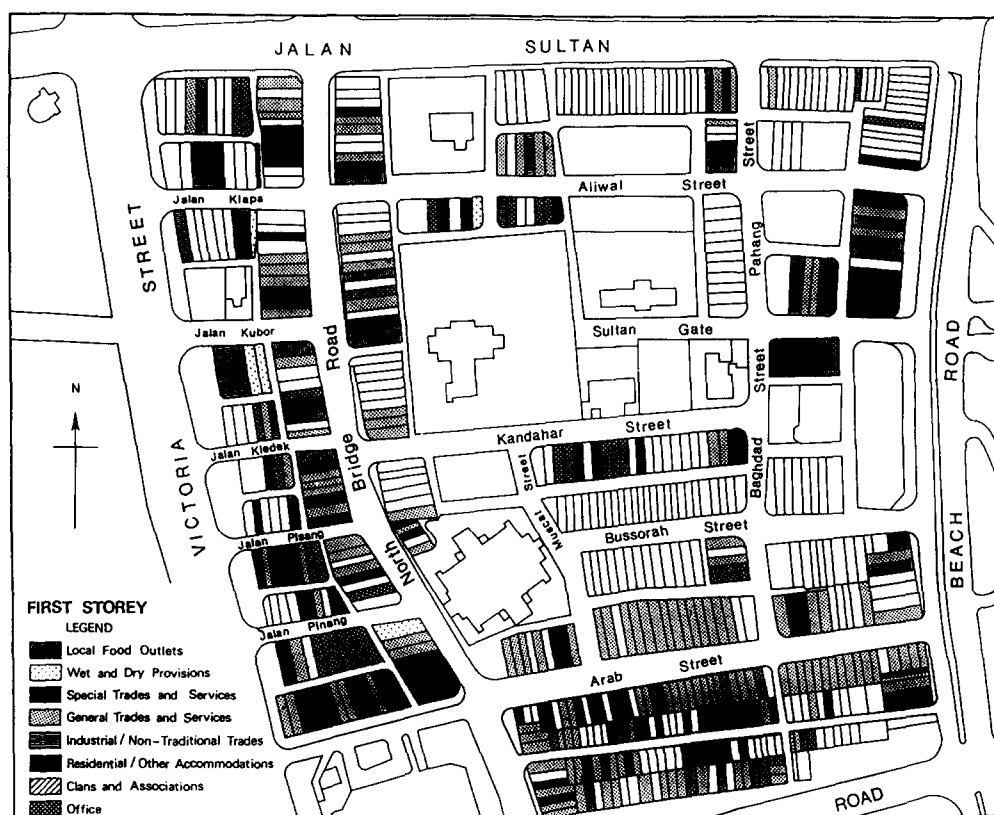
Key features of conservation

In each of the conservation districts, a core area is identified. In Chinatown, Trengganu Street and Temple Street constitute the centre of traditional

[2]For a full account of the racial distribution, see Hodder (1953).

activities in Kreta Ayer (Fig. 2). These focal points of traditional activities are to be revitalised. Street activities could be re-introduced. Traditional ethnic trades such as tea shops, grocery shops, wine shops etc. restaurants and a show house will be introduced, and the old theatre at Trengganu Street will be reconstructed (URA, 1988a, p 46).

Telok Ayer, an historic street, will also be revitalised. Religious and festival-related paraphernalia such as joss stick and paper shops, antique and art shops will be encouraged as these will blend with the preserved monuments (URA, 1988a, p 46). Some of the buildings and monuments to be preserved include the Thian Hock Keng Temple, Al-Abrar Mosque and Nagore Durgha at Telok Ayer Street; Jamar Mosque and Sri Mariamman Temple at South Bridge Road, Lai Chun Yuen Theatre at Trengganu Street and Jinrikisha Station at Tanjong Pagar Road.

In Kampong Glam (Fig. 3), the core area contains the greatest density of Islamic and other trades as well as buildings of historic importance. In Arab Street and Bussorah Street, traditional trades will be retained and new, compatible ones will be introduced to define more clearly the distinctive ethnic characteristics of Kampong Glam (URA, 1988b, p 28). Besides the ubiquitous shophouses of various styles, other historic buildings to be preserved are

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Figure 3 Historic district of Kampong Glam
Source: URA

the Sultan Mosque, the Sultan's Palace, No 73 Sultan Gate and Pondok Java.

In Little India, the core area is the area along Serangoon Road and the surrounding streets, which contain the greatest density of Indian trades (Fig. 4). This will be consolidated by retaining the existing ethnic trades and the introduction of new, compatible ones. The distinctive ethnic characteristics of Little India[3] will be thus reinforced (URA, 1988c, p 28). The historic buildings of importance to be preserved besides the ubiquitous shophouse are the Sri Veeramakaliman Temple, the Sree Lakshiminarayan Temple at Chander Road, the Kampong Kapor Methodist Church and the Abdul Gaffoor Mosque.

The URA, the national planning authority, sets the physical framework for the private sector to be actively involved in conserving Singapore's heritage.[4] Detailed guidelines on the restoration of the shophouses and other buildings are provided (URA, 1995a–c). In terms of the activities, traditional trades have been encouraged in the core areas with the first floor being retained for retail shops or

[3]For a more comprehensive account of the history and future of Little India see Siddique and Shotam (1982).
[4]For more details of this aspect, see Urban Redevelopment Authority (1994).

eating establishments. Outside the designated core areas, commercial use will be allowed, except for pollutive trades. By not dictating the trades or uses within the conservation areas, the land use patterns in these areas will be determined to a large extent by market forces.

Thus, the underlying philosophy of the URA in conservation emphasizes the restoration of buildings; trades and other activities would generally be left to market forces and free competition.

Methodology

To analyze the changes in land use, data from 1978, 1983 and 1994 are grouped into eight basic use classifications. The proportion of different uses, when compared over time, reflects the changes in user demand.

To establish accurately and comprehensively the change in use, six different areas comprising the four sub-districts of Chinatown, Kampong Glam and Little India are isolated and comparative analysis of the change in use is made for the individual floor levels of the shophouses.

Field survey

A field survey on the nature of use was conducted in

Figure 4 Historic district of Little India
Source: URA

November 1994.[5] Historical data were obtained from field surveys of land use undertaken by the URA. The data were collated and classified by districts. As the availability of accurate information is substantially limited, the total number of observations for each area varies for different periods. At the time of the survey, some of the shophouses were undergoing restoration, some have become dilapidated and some were vacant. Nonetheless, comparison can be made over time. A breakdown of the sample size is shown in Table 1.

The shophouses as whole units were inspected and classified by the current stage of restoration by

[5]The field survey covers other conservation areas and was carried out as part of a joint research project between the National University of Singapore and the URA.

Table 1 Breakdown of surveyed units by area over time

Area	Number of units in the area			Overall percentage		
	1994	1983	1978	1994	1983	1978
Chinatown:	1111	779	923			
Telok Ayer	324	273	261	12.7	16.6	9.3
	(29.2)	(35.0)	(28.3)			
Bukit Pasoh	220	133	191	8.6	8.1	6.8
	(19.8)	(17.1)	(20.7)			
Kreta Ayer	276	228	209	10.8	13.9	7.5
	(24.8)	(29.3)	(22.6)			
Tanjong Pagar	291	145	262	11.4	8.8	9.4
	(26.2)	(18.6)	(28.4)			
Kampong Glam	557	491	447	21.9	29.9	16.0
Little India	878	374	501	34.5	22.8	17.9
Total	2546	1644	2794	100	100	100

Table 2 Building condition as at November 1994 (%)

District/Restoration stage	Telok Ayer	Bukit Pasoh	Kreta Ayer	Tg Pagar	Kg Glam	Little India	Total (%)
1. Dilapidated	0.1	0	0.2	0	0	0	0.3
2. Unrestored	3.2	2.2	1.8	0.2	11.2	20.5	39.0
3. Undergoing restorations	1.0	1.2	0.9	1.0	1.7	1.6	7.5
4. Restored and redeveloped	4.3	3.5	4.3	7.1	3.2	7.4	29.8
5. Dilapidated and vacant	1.5	0.5	1.1	0	0.1	0.1	3.3
6. Unrestored and vacant	0.8	0	1.0	2.1	4.3	2.2	10.4
7. Restored and vacant	1.9	1.1	1.5	1.1	1.4	2.7	9.7
Total	12.7	8.8	10.8	11.4	21.9	34.5	100

inspection. The stages of restoration are: dilapidated; unrestored; undergoing restoration; restored and redeveloped; dilapidated and vacant; unrestored and vacant; and restored and vacant. It must be noted that the term 'vacant' here is used with reference to the shophouse as a whole unit rather than on a floor basis. Where the term 'vacant' is not attached to the classification description, 'occupied' status is implied. Subsequent analysis of the use of the building is based on the two classifications of: (a) unrestored; and (b) restored and redeveloped, which are occupied.

The data were divided into eight broad groups of use and on some 100 sub-categories, examples of which are given in parentheses below.[6] The basic classifications were:

• Local food outlets (e.g. Chinese, Indian, Malay and coffee shops);
• Wet provisions (e.g. butchers, vegetable and wet spice stalls, etc.);
• Dry provisions (e.g. general provisions, traditional medical etc.);
• Special trades (e.g. Chinese, Indian, Arab traditional trade shops);
• General trades (e.g. barber, pawnshops, clinics, tailors, etc.);
• Non-traditional trades (e.g. Western fast food, Western or other Asian restaurants, pubs etc.);
• Residential (e.g. dwellings, boarding houses, etc.); and
• offices (e.g. banking, finance, insurance, professional, services, etc.).

The analysis was undertaken on the broad classification of uses with specific reference to sub-categories of uses, where appropriate.

Restoration of the shophouses

Table 2 shows the physical state of the shophouses for each district. This table shows that large proportions of shophouses in these areas are already restored (39.5%) with a further 9.7% restored but

vacant at inspection, and 7.5% undergoing restoration. Only 16.92% were unrestored with the larger proportions located in the Telok Ayer and Bukit Pasoh districts. As the Tanjong Pagar district was one of the first to undergo restoration the largest proportion of the restored and redeveloped shophouses are in this district.

Table 3 shows the distribution of restoration status by conservation area. Chinatown has made the most progress in the restoration of the old shophouses. Of the four sub-districts of Chinatown, Tanjong Pagar, ear-marked by URA for its pilot conservation project, has the highest proportion (97.83%) of restored shophouses. Kampong Glam has the lowest proportion of restored premises, despite the fact that all six areas were designated as conservation areas at the same time.

Two main reasons account for the difference in the rate of progress in restoration work. The first reason is the degree of direct involvement by the public sector, notably the URA in individual areas; for example, in Tanjong Pagar. Another plausible explanation is the different appeal factors that draw private investors to a specific area. As Tanjong Pagar, Kreta Ayer and Telok Ayer are just outside the CBD, the returns (both in terms of rents and capital values) for restored shophouses are much higher and this could be responsible for the faster rate of restoration.

Change in use of the shophouses

The change in use of the shophouses is presented for each individual district in order to draw out the

Table 3 Distribution of restoration status by conservation areas

Conservation area	Restored (%)	Unrestored (%)	Total (%)
Telok Ayer	57.07	42.93	10.90
Bukit Pasoh	61.22	38.78	8.39
Kreta Ayer	70.78	29.22	8.78
Tanjong Pagar	97.83	2.17	10.50
Kampong Glam	22.34	77.66	20.94
Little India	26.62	73.38	40.50
Total	43.30	56.70	100.00

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[6]The final classification of uses was obtained from the classifaction of trades from URA (1988a) and the field survey.

Table 4 Telok Ayer

Types of trades	Floor 1			Floor 2			Floor 3			Floor 4		
	1994	1983	1978	1994	1983	1978	1994	1983	1978	1994	1983	1978
Vacant	2.09	2.20	0.38	16.23	2.20	1.15	43.41	15.71	8.20	62.50	27.27	0
Food outlets	13.62	4.40	6.12	5.76	0	0	4.65	0	0	0	0	0
Dry provisions	1.05	0.73	0.77	0	0	0	0	0	0	0	0	0
Wet provisions	1.05	4.76	3.83	0.52	0	0	0	0	0	0	0	0
Traditional trades	5.24	4.76	3.07	2.09	0	0	1.55	0	0	0	0	0
General	20.94	15.75	19.16	2.09	0.73	0.77	1.55	0	0.55	0	0	0
Non-traditional	12.04	20.15	19.54	10.47	8.06	5.75	0.78	1.57	3.83	0	0	0
Residence	16.75	22.34	26.05	30.36	76.92	73.95	21.70	74.35	80.87	6.25	54.55	60.00
Offices	26.18	24.18	18.39	28.27	12.09	18.39	24.81	8.38	6.56	31.25	18.18	40.00
Others (hotels)	2.09	0.73	2.69	4.21	0	0	3.1	0	0	0	0	0

unique characteristics of each. This is because the four sub-districts of Chinatown were developed at different periods of time: Telok Ayer (developed in the 1820s), Bukit Pasoh (1900s), Kreta Ayer (1830s) and Tanjong Pagar (1920s). Moreover, their characteristics have been derived from the various Chinese dialect groups each represents, and are therefore different.

Telok Ayer

Telok Ayer, one of the oldest districts of Chinatown, was often associated with the hilly residential and clubhouse atmosphere of Ann Siang Hill, and the long rows of shophouses and religious buildings along Telok Ayer Street. In this district, South Bridge Road and Cross Street have been the scene of business activities throughout the nation's history. Therefore, the rich commercial activities still lingered within this district. However, with the introduction of the Area Licensing Scheme (ALS)[7] and the development of quality high-rise buildings, many traditional trades and occupants had moved out owing to the rising operating costs and, perhaps, the problem of finding successors for the trades. These have been replaced by more profitable land use activities, such as offices and food outlets. In addition, the movement of traditional trades out of the district could be due to de-control measures i.e. Controlled Premises (Special Provisions) Act 1969 as well as land acquisition and clearance.

Table 4 shows that first level uses by offices and food outlets have increased. Non-traditional trades, wet provisions and residential use have fallen substantially. The rest have been relatively stable. The increase in office use is particularly prevalent along Amoy Street. Food outlets have also increased around the South Bridge Road/Ann Siang Road area. The change in second level uses is relatively

[7]The Area Licensing Scheme was introduced in 1975 to relieve traffic congestion in the Central Area. Under the present scheme, motorists have to display entry coupons costing $3.00 for peak periods and $2.00 for non-peak periods in order to enter the Central Area.

similar to the first, except for the rise in non-traditional trades and a sharp fall in residential use. This is due to the increase in Western restaurants and drink establishments. Offices have replaced residential use, especially along Amoy Street, Ann Siang Road and Club Street. Considerable change in use also occurred in the third and fourth levels. Offices have increased while residential use has decreased.

In Telok Ayer, residential use has been giving way to commercial activities. The increase in office use can be attributed to its proximity to the CBD. Being at the fringe of the CBD, Telok Ayer has been affected by the demand for office space by firms requiring a central location. Retail activities, on the other hand, have thrived on an established local clientele and a growing tourist market.

Bukit Pasoh

Bukit Pasoh, further from the commercial hub, has been dominated by residential and institutional uses. Although the residential ambience still exists, it is gradually being invaded by commercial activities.

First level activities show an increasing presence of offices and non-traditional trades (Table 5). Residential uses and general trades have decreased. Offices have been replacing residential use along Cantonment Road, Bukit Pasoh and Teo Hong Road and at the junction of Neil Road/Kreta Ayer Road (Fig. 2). This trend is expected owing to the rising popularity of commercial offices which can fetch higher rents. General trades have been decreasing due to higher operating costs. The decrease of residential use on the second level is drastic, as it has fallen nearly 50%, while office use has risen nearly 15-fold. There is also an increase in food outlets and non-traditional trades. Third level activities also show a sharp increase in offices and non-traditional trades, with a reduction of residential use. Fourth level uses show an increase of more offices and non-traditional trades, while residential use has fallen drastically. Generally, this district is less commercial than the other three districts of Chinatown. Residential use and institutional use

Table 5   Bukit Pasoh

Types of trades	Floor 1			Floor 2			Floor 3			Floor 4		
	1994	1983	1978	1994	1983	1978	1994	1983	1978	1994	1983	1978
Vacant	1.36	0	4.71	4.08	0.75	1.05	7.87	27.27	15.87	36.36	50.00	20.00
Food outlets	9.52	9.02	5.24	1.36	0	0	0	0	0	0	0	0
Dry provisions	0	0	0	0	0	0	0	0	0	0	0	0
Wet provisions	1.36	0	0.52	0.68	0	0	0.79	0	0	0	0	0
Traditional trades	5.44	0	2.09	2.04	0	0	0	0	0	0	0	0
General	2.04	12.78	10.47	0.68	0	0	0.79	0	0	0	0	0
Non-traditional	19.05	4.51	11.52	7.48	1.50	2.62	9.45	0	0	27.27	0	0
Residence	27.89	60.15	52.36	45.58	90.22	92.15	45.67	66.24	76.19	9.10	50.00	60.00
Offices	33.03	12.78	11.52	38.10	3.76	2.62	35.43	0	5.56	27.27	0	20.00
Others (hotels)	0.31	0.76	1.57	0	3.77	1.56	0	6.49	2.38	0	0	0

(i.e. clan associations) still dominate in this district. However, the growing demand for offices is gradually changing the character of the area.

Kreta Ayer

Kreta Ayer, considered the heart of Chinatown, still exhibits a rich traditional Chinese character. Commercial activities have dominated this district through the decades with its bustling street atmosphere and festive streets. The growing popularity of tourist patronage has brought back traditional trades to the restored shophouses (Low, 1992).

First level movements show a substantial increase of food outlets and traditional trades (Table 6). Non-traditional trades and residential use have fallen. The rest of the trades have been relatively consistent. Special trades have increased considerably along Temple Street and Smith Street. There is also a slight increase along Mosque Street and Upper Cross Street. Food outlets have increased along Pagoda Street and Smith Street. Second and third level movements show a reduction for residential use. There is a slight increase in traditional, general and non-traditional trades, but a substantial increase in office use. Residential use has given way to food outlets along Mosque Street and offices along Smith Street. Fourth level uses show a reduction in residential use. This is countered by a slight increase in offices and general trades.

The general character of this district is still commercial, namely retailing. There has been a slight increase in traditional trades and offices. Residential use, as in the other districts, has declined.

Tanjong Pagar

The Tanjong Pagar district was one of the pioneer conservation areas, initially undertaken by the URA. Formerly an area with winding streets and a mixture of residential, association and commercial activities, it has evolved into an area of commercial use. Residential use barely exists today, having been replaced by non-traditional establishments and offices. Table 7 shows that first level activities are dominated by offices, and non-traditional western restaurants, entertainment establishments and general trades. Residential use has fallen drastically, while retail trades, such as wet and dry provisions, have remained stable. The increase in offices and non-traditional western food outlets is found mainly along Neil Road, and around Duxton Plain. Second level uses show a considerable increase in offices, while residential use has fallen sharply. Although residential use has been replaced mainly by office use, it has also given way to local and western food and drinks establishments, around Duxton Plain. Due to fewer observations, the change in third and fourth level uses is not so apparent. Nevertheless, a basic trend of falling residential use is still obvious.

Table 6   Kreta Ayer

Types of trades	Floor 1			Floor 2			Floor 3			Floor 4		
	1994	1983	1978	1994	1983	1978	1994	1983	1978	1994	1983	1978
Vacant	4.55	2.19	1.44	12.34	2.63	1.05	20.00	9.38	2.23	30.00	18.52	41.67
Food outlets	22.08	11.83	5.74	5.19	0.44	0	3.08	0	0	0	0	0
Dry provisions	0	0.88	0.96	0	0	0	0	0	0	0	0	0
Wet provisions	3.25	5.26	5.74	0	0	0	0	0	0	0	0	0
Traditional trades	16.88	11.40	9.57	6.49	0.88	1.91	3.85	0.52	0	0	0	0
General	40.26	46.05	38.28	7.14	1.75	1.91	4.62	0.52	0	3.33	0	0
Non-traditional	7.14	11.4	14.35	6.49	2.63	1.91	8.46	0	0.56	0	0	0
Residence	0.65	5.70	8.13	42.86	89.91	90.91	40.77	89.58	96.65	53.33	81.48	58.33
Offices	1.95	1.75	3.35	16.88	1.75	2.31	16.92	0	0.56	13.33	0	0
Others (hotels)	3.24	3.54	12.44	2.61	0	0	2.3	0	0	0	0	0

Table 7 Tanjong Pagar

Types of trades	Floor 1			Floor 2			Floor 3			Floor 4		
	1994	1983	1978	1994	1983	1978	1994	1983	1978	1994	1983	1978
Vacant	2.72	0	0.76	16.30	0	0	55.43	43.08	3.5	100.0	0	48.39
Food outlets	13.04	71.00	5.34	5.98	8.96	0	1.09	1.54	0	0	0	0
Dry provisions	0	0	0	0	0	0	0	0	0	0	0	0
Wet provisions	0.54	0	1.53	0	0	0	0	0	0	0	0	0
Traditional trades	4.35	0	4.96	0.54	0	0	0	0	0	0	0	0
General	17.93	1.38	22.14	5.98	0.69	0	1.09	0	0	0	0	0
Non-traditional	29.35	11.03	16.79	9.78	3.45	8.02	1.09	0	6.29	0	0	0
Residence	0.55	2.07	29.77	0.55	4.83	85.11	0	4.62	86.01	0	0	48.38
Offices	28.80	11.72	15.65	58.7	74.48	6.87	36.96	50.77	2.10	0	100.0	3.23
Others (hotels)	2.72	2.8	3.06	2.17	7.59	0	4.34	0	2.1	0	0	0

This district portrays a relatively mature conservation area. Rising costs of operation and changing consumption patterns have gradually altered the initial low-end activities to higher profit margin operations. This change to a higher order of use has contributed to the economic viability of restoring the old shophouses (Tan, 1988). Although the uses of shophouses for each of the sub-districts of Chinatown show substantial differences through time, generally the use pattern is moving towards commercial activities, with retailing on the first level and offices on the upper floor levels. Residential use has been giving way to these commercial activities.

Kampong Glam

This area consists mainly of two-storey shophouses with less than 20% having a third storey and even fewer with a fourth storey. Table 8 shows a fairly consistent picture throughout the three periods in that general trades were the predominant activities on the first level while residential use occupied the upper storeys. However, at least 40% of the third storeys were vacant during the survey and the drop in office use over time suggests that these premises have yet to find suitable alternative uses.

A wide range of uses occupied the first level of all the premises in the 1994 survey. Whilst the main activity seems to be general trades, this has decreased gradually and is being overtaken by office,

food outlets and traditional trades. In particular, traditional trades have risen sharply since 1983 and this is indicative of the success of the URA's policy to encourage ethnic trades in the core areas. It is noted that residential use which took up 10% of the premises in 1978 has been reduced by half over time.

The same trend is also observed in the second level for residential use. This use took up almost 90% of the premises in 1983, but has reduced to about 45% in 1994. General trades and food outlets seem to displace office use which has not changed very significantly (about 5%) over the years. More than 65% of the third storey premises were vacant in the 1994 survey, a sharp rise from the previous 40% noted in the earlier years. This is compensated by a fall in residential use. Together with the distribution of general trades, food outlets and office use, it seems likely that these trades may become the occupants of the vacant premises in time to come. Although the findings for the fourth storey are constrained by the limited number, nevertheless, the displacement of residential use by office and food outlets is still discernible.

Little India

The data for 1978 show that the area was highly residential in nature, especially for the second and third storeys where over 90% and 60%, respectively, were occupied as residential use. Unlike other con-

Table 8 Kampong Glam

Types of trades	Floor 1			Floor 2			Floor 3			Floor 4		
	1994	1983	1978	1994	1983	1978	1994	1983	1978	1994	1983	1978
Vacant	0	0.2	0	24.8	1.43	3.35	65.45	41.79	39.29	16.67	0	25.0
Food outlets	10.35	2.64	4.92	5.45	1.83	1.12	1.82	0	0	16.67	0	0
Dry provisions	0	0	0	0	0	0	0	0	0	0	0	0
Wet provisions	0.27	3.05	1.79	0	0	0	0	0	0	0	0	0
Traditional trades	15.8	2.24	4.92	1.36	0	0	0	0	0	0	0	0
General	40.33	38.09	43.85	11.17	0.2	1.56	3.64	0	0	0	0	0
Non-traditional	11.17	24.44	22.15	1.91	3.87	7.81	0	0.49	0	0	0	0
Residence	4.63	12.63	13.65	48.23	85.13	82.59	25.45	47.27	51.79	50.0	75.0	75.0
Offices	15.26	11.81	8.05	6.27	7.54	3.57	3.64	10.45	8.93	16.67	25.0	0
Others (hotels)	2.19	4.9	0.67	0.81	0	0	0	0	0	0	0	0

Table 9 Little India

Types of trades	Floor 1			Floor 2			Floor 3			Floor 4		
	1994	1983	1978	1994	1983	1978	1994	1983	1978	1994	1983	1978
Vacant	0.42	0.27	0	1.55	2.13	1.0	64.62	57.58	35.9	16.67	40.0	75.0
Food outlets	11.26	8.27	4.98	0.28	0.53	0.6	0	0	0	0	0	0
Dry provisions	0.54	0.8	0.2	0	0	0	0	0	0	0	0	0
Wet provisions	4.35	2.4	5.18	0.84	0	0	2.31	0	0	8.33	0	0
Traditional trades	5.63	1.07	1.79	0.7	0.27	0.6	0.77	0	0	0	0	0
General	27.99	18.67	19.72	4.64	2.93	0.6	1.54	0	0	8.33	0	0
Non-traditional	17.44	20.27	21.91	7.03	6.4	2.59	0.77	4.55	0	0	0	0
Residence	23.63	24.0	41.04	78.33	81.87	91.63	23.84	36.36	61.54	66.67	60.0	25.0
Offices	8.02	5.87	4.58	5.63	5.07	2.99	4.62	0	2.56	0	0	0
Others (hotels)	0.72	18.38	0.6	1.0	0.8	0	1.53	1.51	0	0	0	0

servation areas, residential use, though decreasing, has managed to maintain its proportion against competing uses, in particular for the second and fourth storeys. A more drastic drop is noted in the first and third level (Table 9).

Other uses that are increasing are general trades and office use on the first level, with the former increasing more rapidly Traditional trades on the first level have also grown over time, attesting to the effectiveness of the policy in preserving traditional activities in parts of the conservation area. It is interesting to note that there has been a substantial drop in food outlets from 30% to 10% between 1983 and 1994. This can be attributed to several reasons, one of which could be the shortage of workers in the more traditional food outlets or could be de-control measures and clearance following acquisition, as mentioned earlier.

The second level shows very little change over the years. The fall in residential use appears to be compensated by the rise in general trades and non-traditional trades during the period 1978 to 1983. Judging from the high vacancy rate in the premises on the third level, this seems to be undergoing a transition. If the slight rise in office use (the second largest user after residential use, which had dropped substantially) is taken into consideration, office use can be expected to be the main use of the vacant premises in the future. No conclusive findings can be made on the current demand of the fourth level due to the lack of data for comparison. However, as noted earlier, residential use appears to be most prevalent and it has not suffered significant decline as yet.

Conclusion

The field survey has shown that 39% of the shophouses in the six districts were occupied but unrestored or undergoing restoration. A further 14% were dilapidated and vacant, or vacant and unrestored. Hence, 47% of the shophouses have undergone, or were in the process of, restoration. Amongst the three main conservation areas, namely

Chinatown, Kampong Glam and Little India, Chinatown has the highest proportion of units restored and redeveloped (19.2%), followed by Little India (7.4%) and Kampong Glam (3.2%). Thus, it can be seen that Chinatown has made the most progress in conservation.

The distribution of shophouses according to restoration status shows that about half of the old shophouses had been restored to their original fabric as at the end of 1994. This shows that the first objective of conservation, namely retaining and restoring buildings of historical and architectural significance, has been achieved to a large extent. As a great deal of restoration work is progressing in Kampong Glam and Little India, more of the old shophouses will be restored in the near future. Apart from the old shophouses, many other buildings of historic and architectural significance have also been restored. Examples are the Jinrikisha Station and Lai Chun Yeun Theatre in Chinatown.

The analysis on change-in-use shows that most of the shophouses have turned from wholly or partially residential use to commercial use, with retailing on the first level and offices on the upper levels. The use pattern of the third and fourth floor appears to be transitional in character due to the large number of vacant units. Here, the main users of occupied units are either office or residential. The conservation policy has been quite effective in retaining and enhancing ethnic-based activities while consolidating the area with new and compatible trades in the core areas of the historic districts. In Kreta Ayer, the heart of Chinatown, traditional trades have been increasing considerably along Temple Street and Smith Street. Many of the traditional trades in the restored shophouses enjoy a high tourist patronage. In Arab Street (the core of Kampong Glam) and Serangoon Road (the core of Little India) many traditional trades have also been retained, even though the trend is moving towards office use.

The successful retention of traditional trades and ethnic-based activities in the core areas in the light of a strong demand for office space in the Central Area of Singapore can be attributed to the URA's policy

of encouraging these trades in the core areas, with the first floor being retained for retail shops or eating establishments. Without this policy, it is likely that the traditional trades and ethnic-based activities will be replaced by office use. Outside the designated core areas, general commercial use (comprising office, general trades, food outlets and non-traditional trades) has been allowed, except for the pollutive trades. By not dictating the trades or uses within the rest of the conservation areas, the uses of the shophouses have been determined to a large extent by market forces. As a change in use from residential to commercial is allowed, market forces have resulted in a change to a higher order of land use, from residential to commercial use.

Singapore's urban conservation policy has been timely; it has succeeded in preserving its historic and cultural heritage to a large extent in view of fast economic growth and rapid urban development. This is due mainly to the fact that the policy has allowed for the operation of market forces, which makes preservation and restoration of the old shophouses viable. The Singapore experience can therefore be useful for the conservation of historical and cultural heritage in other cities facing rapid urbanisation.

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