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The Spatial Distribution
of Organizations in Kwun Tong

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IN KWUN TONG

by
Y.K. CHAN

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REFERENCES

I. Introduction

Knowledge of collective life pattern in a community requires intensive studies in different aspects: the population, the organization, the cultural background, the physical environment and the psychology of the people. In our Kwun Tong Industrial Community Research Programme*, projects studying organizations, families, and life quality etc. have been carried out; in this paper we will limit our scope of study to formal organizations in spatial aspects.

1. Objectives of the study

In Kwun Tong, as in other urban areas, organizations of different characteristics grow in different manners and each kind of organization forms its own distribution pattern. Undoubtedly, there are many factors affecting the spatial arrangement of these organizations. The main purpose of this study is to sketch out the spatial structure and pattern of organizations in the district, so as to explain and analyse their different arrangements and interactions.

Obviously, the spatial interaction between organizations and population of the district plays a very important role in the determination of social structure. This study is expected to be helpful in understanding the collective life pattern of the people in the district, and be complementary to other studies undertaken in the same Research Programme. Furthermore, it may indicate the degree of urbanization and industrialization in the district, and give information to define the limit of the "Kwun Tong Community" as well.

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2. Sources of data

For the study of spatial pattern of organizations, data have been collected from various Government departments: Public Works Department, Labour Department, Education Department, and Kwun Tong City District Office etc. Information from these Government departments indicates the exact location of organizations in Kwun Tong¹ as well as the number of workers actually employed by them.

In the Kwun Tong Industrial Community Research Programme, projects in studying organizations have been carried out, and surveys like the Factories Survey, Health System Survey, Social Welfare Agencies Survey, Political Organizations and Religious Organizations Surveys also supply us with information on the spatial distribution of organizations in the quantitative aspect.

But from a ecological point of view, these data are still inadequate. Therefore, a Landuse Survey in the Kwun Tong District was carried out in summer 1971 by the staff of the Social Research Centre, in order to obtain more up-to-date information of spatial structure of organizations -- particularly the commercial undertakings in the district.

3. Method of procedure

First, we are going to envisage the spatial pattern of each kind of organizations (institutional system) separately and in detail. Then, in a later part, we will discuss and compare the spatial patterns of various kinds of organizations, to see whether there is any inter-organization spatial relationship, and how the spatial pattern of organizations can be related to the local population and environment, hoping that a relatively clear picture of the spatial structure of organizations in the district can be generated.

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The area under study coincides with the Government planning unit 2.9 except that the uninhabited area lying outside of the New Kowloon Boundary has been excluded.

II. Factories

The manufacturing industrial sector of the Kwun Tong District is now (June 1971) employing 95,896 persons, of whom 87.8% are manual workers, with a sex ratio of 100 males to 140 females. (see Table 1) The factories in Kwun Tong are concentrated in producing plastic products, textiles, wearing apparel, metal products, machinery and equipment manufacturing. But factory buildings are mainly of the flatted types, which means that groups of factories share the same building. Among the 1,552 factories, only a few can afford to erect individual buildings. According to statistics of the Labour Department, there are only 26 factories in Kwun Tong employing 500 persons or more. They are mainly factories manufacturing textiles, wearing apparel, machinery and equipment etc. 86.1% of factories in Kwun Tong are small factories employing less than 100 employees; and 33.3% of factories employ only 1 to 9 persons. (see Table 2) .

Over 80% of factories in Kwun Tong are located in Kwun Tong Town, the rest are scattered in other districts except Ping Shek which is purely a residential area. In Cha Kwo Ling and Lei Yue Mun, factories are also rare. (see Fig. 1, also Table 11) In fact Kwun Tong Town can be sub-divided into two parts:² the commercial/residential zone located north of Kwun Tong Road and bounded by Hip Wo Street, Wan Hon Street and Luen On Street, and the industrial zone situated south of Kwun Tong Road, extending from King Yip Street to Kowloon Bay. Though there are nearly 400 factories manufacturing various categories of products scattering in the commercial/residential zone of Kwun Tong Town, there are all small factories employing less than a hundred workers. In fact buildings in this commercial/residential zone are not buildings for industrial usage, and factories are always of the home-factory type.

But in the industrial zone, except some public facility structures, nearly all buildings are purely for industrial purpose, here we can find factories of every manufacturing category and of

² For more detailed information, see the paper "Kwun Tong-The Settlement", a research report by Y.K. Chan, Social Research Centre, 1972.

every size. Some small ones may rent only industrial units in flatted (multi-storey) buildings, while some large ones may occupy the whole structures. All the 26 factories having more than 500 employees are all located in this industrial zone. Now factories are continuing to grow in this zone, particularly along Kwun Tong Road towards Kowloon Bay Reclamation Area.

In Ngau Tau Kok, factories of large and moderate size are located by the side of Kwun Tong Road -- for the sake of transportation facilities and available flat land perhaps. Here the Amoy Canning Cooperation was established a long time ago, even before the development of the Kwun Tong District. In addition, several plastic and machinery/equipment factories are also located here. Though the Ngau Tau Kok Resettlement Estate is supposed to be a pure residential estate, some small home-factories can be found.

At the entrance of Jordan Valley, a resettlement factory was built in 1963. Manufacturing units situated there are all relatively small, the same as in the Jordan Valley Resettlement Estate Blocks.

By the side of Kwun Tong Road, on the reclaimed land, about 40 factories of moderate and small sizes have been built. These are factories of the cottage type, which means that they are not concrete permanent structures. Most of them manufacture wood products and furniture, metal and machinery as well as fabric metal and non-ferrie basic products.

In the Resettlement Estates of Kwun Tong, Sau Mau Ping, Lam Tin and Yau Tong, there are always small, home-factories scattering about; these factories manufacture products of various categories, but are all of small size and not concentrated in one location.

Cha Kwo Ling is the only place in Kwun Tong where mining can be found. Here locates the best quality -- also the only one, Kaoline mine in Hong Kong. In the village facing the water front, industries are rare.

In Yau Tong, the flat land facing Kwun Tong Tsai Bay is also an industrial zone, here lies the major area for wood products and furniture manufacturing, as well as machinery and equipment production -- particularly ship-building industry. These factories are also of moderate size. (see also Fig. 1).

Lei Yue Mun is famous for its sea-food, but industries are lacking.

In low cost housing estates, no factories are allowed to set up. Besides, in all resettlement cottage areas and resite licensed areas, no factories are found. Though resettlement estates are public housing estates used for residential purposes, we can still find home factories established. However, the number is insignificant.

III. Commercial Undertakings

Under this heading, we will concentrate on studying the spatial pattern of retail businesses, entertainments, restaurants and cafes, personal services etc., since they are more concerned with the daily life of residents in the district.

As can be expected, retail businesses are concentrated in Kwun Tong Town, the commercial/residential zone;³ besides, in Sau Mau Ping, Kwun Tong Resettlement Estate and Ngau Tau Kok, large number of retail shops are registered. The number at Ping Shek is the least. Personal services have the same distribution pattern as that of retail shops, though they are less in number (see Fig. 2). Both retail businesses and personal services are supposed to serve residents of the area, but in Kwun Tong Town, shops are in general bigger in size than those located in Public Housing Estates, and they serve not only the commercial/residential zone in Kwun Tong Town, but the industrial zone and other sub-districts of Kwun Tong as well.

Though cafes and restaurants are scattered in every sub-district, the biggest restaurants are located in the Kwun Tong Commercial Centre, and also in Lei Yue Mun. Cafes and restaurants in other sub-districts mainly provide services to their vicinity, but those in Kwun Tong Town serve a much larger area. In Lei Yue Mun, sea-food is famous. Sea-food specialties served in restaurants there attract quite a number of visitors. Geographically speaking, the restaurants in Lei Yue Mun may be said to serve an area much larger than those in Kwun Tong Town.

As for entertainments, there are only three cinemas, all of which are located in the Kwun Tong Town Centre; if we also take Mahjong Schools into account, there are three in Kwun Tong Resettlement Estate and four in the Kwun Tong Town Centre.

³ The characteristics of the commercial/residential zone will be discussed in Appendix I.

While we group the commercial undertakings by type of housing (see Table 3) the resettlement estates will account for the highest number and proportion in retail shops, restaurants and cafes, and personal services. It is not surprising since these kinds of businesses are providing services mainly to population nearby, and the population in resettlement estates forms the majority (over 58%) of the Kwun Tong population. Though the low cost housing estates house more than 19% of the Kwun Tong population, the percentage of the above-mentioned three categories of businesses located in these estates are relatively low. In fact less space is provided for commerce in low cost housing estates. The private multi-storey buildings give dwelling to less than 13% of the population in Kwun Tong, but the degree of concentration of retail businesses, restaurants and personal services is high. These categories of businesses are not only numerous and related to the population size of the area, at the same time they also occupy larger spaces in general as compared with those in public housing estates.

We must also mention that there are only 8 import and export companies and 19 banks in the whole Kwun Tong District. These establishments are nearly all located in Kwun Tong Town, or more specifically, the Commercial Centre.

In Kwun Tong District, there is no wholesale business sector around the Commercial Centre, as can usually be observed in an independent community from the point of view of urban structure. In fact, the commercial centre of the Kwun Tong District is more a service centre for the District rather than a convergent point of businesses between the District and other parts of the Colony.

IV. Schools

Schools also tend to concentrate in the Kwun Tong Town Centre, the sub-districts of Kwun Tong Resettlement Estate, Ngau Tau Kok and Jordan Valley. But in general, schools in the Town Centre are small in size, and many of them are combining kindergarten with primary school or even secondary school. Large schools are nearly all located in resettlement estates and low cost housing estates, e.g. in the sub-districts of Sau Mau Ping, Lam Tin and Ngau Tau Kok (see Fig. 3 and Table 4).

In the sector of nurseries and kindergartens, establishments and enrollments are largest in number in the Kwun Tong Town Centre. Then come the sub-districts of Kwun Tong Resettlement Estate, Jordan Valley and Ngau Tau Kok.

Primary schools are also numerous in the Kwun Tong Centre. However, the number of enrollments in these primary schools are much lower than those in Sau Mau Ping, Ngau Tau Kok, Lam Tin and Kwun Tong Resettlement Estate, though schools in these sub-districts are less in number. It is quite natural since the capacity of schools in these latter-mentioned sub-districts are much larger.

Evidently, resettlement estates always have a larger population than that of private multi-storey buildings and Kwun Tong Town. Since poor working class parents would most likely send their children to schools nearby so as to reduce travelling expenses and save time in accompanying their small children, primary schools within the estate would usually be their preference. Naturally, schools in public housing estates, particularly in newly built and densely populated resettlement estates, have a comparatively greater capacity. Here we do not exclude the probability that some parents, especially those coming from the middle class, prefer to send their children to a higher ranking school outside Kwun Tong. But in the case of primary school education, these cases would not count for a high proportion.

In the sector of secondary schools, besides the technical college in Jordan Valley and another grammar school in Ngau Tau Kok, the rest are nearly all situated within the boundary of the Kwun Tong Town. In total, the number of students enrolled in secondary schools in Kwun Tong Town alone is higher than in all other sub-districts adding together (3730 to 3428), but the two schools in Jordan Valley and Ngau Tau Kok are largest in size.

Before we terminate this section, we must note that in Garden Estate, Wo Lok Estate and Kwun Tong Government Low Cost Housing Estate, which are physically closer to the Town Centre, no schools are found except a few kindergartens.

V. Social Welfare Agencies

There are now more than 40 social welfare agencies in the Kwun Tong District. These organizations vary much in size in terms of clients and staff. The number of staff ranges from under 5 to over 50 persons, and the number of clients served daily may range from less than 50 people to over 500.

In Fig. 4, it is clearly shown that nearly all social welfare agencies are located in resettlement estates or the Kwun Tong Town Centre, with only one exceptional case that no social welfare agency is found in Jordan Valley. They are absent in low cost housing estates (except one recreation/youth centre in Garden Estate and a neighbour service centre in Wo Lok Estate).

Social welfare organizations in Kwun Tong include recreation and youth centres, family welfare services and child-care service, probation centres, rehabilitation centres, vocational trainings, health trainings and even clinics. These organizations may be of different sponsorship, but most of them are sponsored by religious or voluntary bodies; only eight of them are government agencies (four in Kwun Tong Town, one in Sau Mau Ping, two in Lam Tin, and one in Kwun Tong Resettlement Estates). Many social welfare organizations in Kwun Tong have only one single function, though some larger ones may have multiple functions and coordinate several kinds of activities in their locality.

The staff-client ratio varies according to what kind of services a particular organization is providing. For example, rehabilitation centre and family welfare service centre would need more staff than a recreation and youth centre. But the latter may serve a much larger number of clients per day (see Fig. 4).

Probation and institutional residence centres as well as rehabilitation centres are more concentrated in the Kwun Tong Town Area, while recreation and youth centres disperse out in resettlement estates. Besides, family welfare services are also distributed more evenly.

If we compare the distribution pattern of social welfare organizations in the old type Kwun Tong Resettlement Estate with the newly built Lam Tin, Sau Mau Ping and Ngau Tau Kok Resettlement Estates, we will surely find that in Kwun Tong Resettlement Estate, social welfare organizations are scattered in many blocks, either on roof top or at the ground floor, but in the latter-mentioned estates, these organizations usually concentrate at one point, in the welfare buildings specially built for this purpose which is lacking in old type resettlement estates.

In Kwun Tong Town also, social welfare organizations are nearly all located round the junction of Kwun Tong Road and Tsui Ping Road; with another two in and near the Kwun Tong Government District Branch Offices Building, and the rest are scattered in other private buildings.

In brief, social welfare buildings are rather evenly distributed in the Kwun Tong District, with preference on sites within densely populated resettlement estates. In that way they can provide services to lower class people, with good accessibility in physical distance.

VI. Medical and Health Organizations

Up to now, in the District of Kwun Tong where more than 450 thousand people live, no one single hospital has been established. The health of residents is being taken care of by 101 western medical and health organizations and 188 traditional Chinese doctors.⁴

Among Western medical organizations, most are clinics of private practitioners and voluntary clinics. Government clinics are rare. Only two are located in Kwun Tong Town and another one in Lei Yue Mun. Private practitioners, dental clinics, laboratories and maternity homes all are concentrated in Kwun Tong Town (see Fig. 5 and Table 6). In Hong Kong, many private medical practitioners and dentists commercialize their career; it is understandable why so many of them have their clinics located within or near commercial streets which are most accessible to people. But the spatial pattern of religious voluntary clinics and secular voluntary clinics is different, they are more evenly distributed in every sub-district, and particularly in resettlement estates.

Herbalists and Bone-setters dominate in the sector of traditional Chinese medicine, while there are also some acupunctureists and hemorrhoid specialists. Herbalists are numerous in Resettlement Estates of Lam Tin, Sau Mau Ping, Kwun Tong, and Ngau Tau Kok, and also in the Kwun Tong Town Centre. In recent years, the price of Chinese medical herbs has been rising continually, thus the business of traditional Chinese medical service is being affected. Bone-setters are always welcomed by Chinese. Besides Kwun Tong Town, there are quite a number of them in resettlement estates where lower working class people and many manual labourers live.

⁴ Figures not including Ping Shek Estate.

Apart from clinics and medical practitioners, drug stores are also numerous in the District, and most of them sell both Chinese and Western medicine. Many of these stores even have Chinese herbalists affiliated to. Drug stores are distributed in every sub-district, but are more numerous in densely populated areas of Ngau Tau Kok, Sau Mau Ping and Lam Tin.

If we consider gymnasiums and Herb-tea shops as medical and health organizations too, the former would be six in number (three in Kwun Tong Town) and there are only three of the latter in the whole district.

VII. Government Offices

Government offices are concentrated in the Kwun Tong Town Centre, particularly in the Kwun Tong Government District Branch Offices Building located at Tung Yan Street. In this building, 11 government offices including the City District Office, Labour Department Office, Urban Services Department Office and Magistracy can be found. The Police Station is also situated near the Town Centre, at the junction of Junk Bay Road and Lei Yue Mun Road. There is one estate office in each low cost housing or resettlement estate. If we take these public housing offices into account, it will add a total of 11 offices to the category of government office. Then we can see that government office are scattered in all public housing estates round the Town Centre (see Fig. 6 and Table 7).

VIII. Civic Organizations

1. Kaifong Associations.

Practically, the Kwun Tong District can be sub-divided into 11 sub-districts with different characteristics.⁵ In every sub-district, at least one Kaifong Association can be found (except in Kowloon Bay where reclamation is still in progress). In some sub-districts, there are more than one Kaifong Association -- such as in Ngau Tau Kok, Kwun Tong R/E and Sau Mau Ping (see Table 8 and Fig. 6). In Ngau Tau Kok, one Kaifong Association is located in the Fuk Wah Tsuen Cottage Area and another one in Ngau Tau Kok Resettlement Estate. In the Kwun Tong Resettlement Area, one Kaifong Association is established by residents of the Resettlement Estate and another one by cottage dwellers of Kai Liu. The only overlap is in Sau Mau Ping where two Kaifong Associations under different joint unions and different managements were established.

2. Trade Unions.

Though Kwun Tong is an industrial district, trade unions or even branches of trade unions are rare. In the Kwun Tong Town Centre, six trade unions (five for industrial workers and one for Chinese employees in Armed Forces) have been established. Absence of various trade unions in Kwun Tong does not mean that workers in Kwun Tong are not interested in joining this kind of associations, in fact they may be members of trade unions having their locality in other districts of the Colony.

3. Multi-storey Building Associations.

There are more than 150 private multi-storey buildings in Kwun Tong Town, but not every one of them has an owners/residents association. Anyway, multi-storey building associations are all (24 in total) located in the Kwun Tong Town Centre, since all pri-

⁵ Y.K. Chan op. cit. P.3.

vate multi-storey buildings are situated in this zone. Among all multi-storey building associations, only one of them is organized by residents in public housing estate -- the Kwun Tong Garden Estate Tenants' Association. However, it also lies within the boundary of Kwun Tong Town.

IX. Religious Organizations

In Kwun Tong, western religious denominations form the majority of religious organizations. Over 50% of the total number of religious organizations belong to various branches of protestant religious bodies, though the number of members of each of them is not to be compared with that of Catholic churches which are more centralised in administration.

Catholic churches and chapels are evenly distributed in sub-districts in Kwun Tong (see Fig. 7), each church has its parish well defined and not overlapping with another catholic church. According to their boundary, Ping Shek is not lying within the Kwun Tong Area. It is combined with the Choi Hung Area forming another parish.

Protestant churches belong to many independent denominations, and each one of them has its own administrative system and boundary division (practically some are not well defined). Some denominations such as the Baptist and Assemblies of God have chapels scattered in many sub-districts while some other denominations may have only one chapel in the whole Kwun Tong Area, thus preference in choosing their site may be given to the Kwun Tong Town Centre. Generally speaking, protestant churches are more numerous in the Kwun Tong Town Centre than in other sub-districts (see Fig. 7).

Buddhist and Taoist organizations are rare in Kwun Tong, totally there are only six of them. There are temples and Ching Sairs (精舍) in Ngau Tau Kok, Lam Tin and Kwun Tong Town (see Table 9).

Churches, chapels and temples are places of worship. The major function of religious organizations or branches in a physically rather isolated district like Kwun Tong is to provide places of worship to people in the district; and therefore, members of these organizations in Kwun Tong should comprise mainly residents in Kwun Tong. In our survey, among 42 organizations being interviewed, 25 show that more than 95% of their members come from the district (see Table 10). Some others show a rather high percentage of members not residing in Kwun Tong; but these figures may include those employees of the office and certain sponsors as well.

X. Summary and discussions

Based on information and analyses in the preceding pages, we can now put our findings to rights and dig deep into some special issues worth noticing.

1. Spatial pattern of organizations: Concentration or dispersion

The spatial distribution pattern of different kinds of organizations varies according to their characteristics; some organizations show a central tendency but others tend to disperse. From simple statistics as shown in Table 11, we can find that factories tend to concentrate in one sub-district -- the industrial zone of the Kwun Tong Town Centre, while other organizations like schools, Kaifong Associations, religious organizations, health care units, and commercial undertakings are more evenly distributed. Besides, many social welfare agencies and most government offices are concentrated in the Kwun Tong Town Centre, though the degree of concentration may be different. The Kwun Tong Town Centre always has the largest number of every kind of organizations among the 11 sub-districts.

If we take sub-districts as spatial units and analyse the coefficient of concentration⁶ of organizations (number of organizations in the unit against the surface), we will find that factories have a higher coefficient of concentration than any other organizations (R = 0.84, see also Fig. 8), Government offices and social welfare agencies also record rather high coefficients of concentration, (R = 0.61 and 0.54 respectively) while other kinds of organizations like schools, religious organizations, Kaifong Associations and commercial undertakings are more evenly distributed and have low coefficients of concentration (R = 0.30, 0.28, 0.36, 0.34 respectively).

$${}^6 \text{ Coefficient of concentration } R = \frac{\sum_{i=1}^n \frac{y_i^2}{x_i}}{\sum_{i=1}^n x_i} (X-Y)$$

X = accumulative % of surface

Y = accumulative % of organizations

After: Wright J.K. - "Some measures of distributions" Ann. Asso. Amer. Geographers. Vol. 27, 1937, p. 177.

De Smet R.E. - "Degré de Concentration de la population" Revue Belge de Géographie. Vol. 86, 1962, p. 39.

Organizations not only show different coefficients of concentration as related to the surface of sub-districts; within one kind of organizations, variation in number of employees according to the location of organizations can also be observed. In Fig. 9, numbers of employees are plotted against numbers of establishments by sub-districts for four selected kinds of organizations. The Lorenz curves clearly show us that large factories are concentrated in one or two areas, ($R = 0.79$) while small ones are scattered in other sub-districts. Size of business firms⁷ and restaurants also reveals slight variations with regard to the sub-districts where they are located, but not to an extent like that of factories ($R = 0.49$ and 0.32 respectively). But for schools, there is no significant difference in size wherever they are located ($R = 0.20$).

2. Organizations and the population

Since the population density differs in every sub-district, and the interdependancy between different kinds of organizations and the local population varies; it will make more sense to compare the coefficients of concentration of organizations based on the population size of sub-districts (as shown in Fig. 10). Again, the factories rank first among all kinds of organizations in terms of coefficient of concentration (based on population size), but the coefficient is a little lower than that based on surface of sub-districts ($R = 0.74$). Anyway, it means that factories are not distributed in proportion to the population size of spatial units, they are concentrated in one or two units where the population size is not significantly larger than in the others.

Coefficients of concentration calculated in the same way show that Government offices also tend to concentrate without being affected much by the population size of the Town Centre ($R = 0.66$), while organizations which are supposed to provide services to the local residents like schools, commercial undertakings, medical and health organizations, all are distributed evenly with regard to the population, and all mark very low coefficients of concentration

⁷ Including Import/Export businesses and banks.

($R = 0.18, 0.15, 0.17$, respectively). Kaifong Associations are evenly distributed but the locations have nothing to do with the population size of each sub-district. Scores for social welfare agencies and religious organizations are a little bit higher; ($R = 0.36, 0.32$, respectively). Though they are implanted in every sub-district, there exists a tendency of concentration of activities in districts not so densely populated.

The variation in coefficients can also be explained by the different degree of correlation between organizations and the local population.

In Table 12 we can observe the different spatial correlations between organizations and the population. When we take sub-districts as spatial units and calculate the coefficient of correlation for each kind of organizations and the local population, we will find that in spatial aspect, the numbers of commercial undertakings, schools, social welfare agencies, medical and health organizations, etc., are closely related to the size of the local population, and the coefficients of correlation are very high ($r = 0.91, 0.81, 0.80, 0.93$ respectively). Kaifong Associations, religious organizations and Government offices are spatially related to the local population, but the population size of sub-districts does not affect much the number of these organizations in the local area. Though their spatial correlation with the population size is still strong, the coefficients are lower ($r = 0.60, 0.61, 0.62$ respectively). Factories have the lowest coefficient ($r = 0.54$) among the others, but still we cannot say there is no strong spatial relationship between factories and the local population since the coefficient is above 0.50. However, we must note that when the coefficient of concentration is calculated the commercial/residential zone and the industrial zone are regrouped into one unit -- Kwun Tong Town, thus the coefficient has been raised since in the commercial/residential zone, 1/5 of the Kwun Tong population are housed; if we can segregate the industrial zone and the commercial/residential zone of Kwun Tong Town, the result will be different.

However, findings are consistent as we analyse the relationship between organizations and the local population by adopting the method of plotting the Lorenz curve or calculating the coefficient of spatial correlation. And now we are clear to what degree the local population affects the spatial pattern of each kind of organizations in the Kwun Tong District.

3. Organizations and the environment

In any community, organizations different in functions usually have different spatial arrangements, depending to what degree they are affected by various factors in the environment, such as the population, government planning, land value, physical setting and inter-organizational linkage, etc. We have discussed the relationship between the population and organizations in spatial aspect in the preceding section, hereafter, we are going to study the other factors.

In a district like Kwun Tong where Government town planning schemes have been in operation, clear zoning of various landuse and segregation of urban functions can surely be observed. For example, industrial, commercial and residential areas are clearly zoned. Thus, manufacturing industries (factories) are actually concentrated in a few industrial areas, particularly the reclaimed industrial lands in Kwun Tong.

It is also due to Government planning that residential areas composed by resettlement estates are erected in the outer zone of the district. These resettlement estates are all densely populated, and therefore, organizations which have to be closely located to the local population disperse to the outer zone of the district. This can also explain, at least partly, why schools, social welfare agencies, or medical/health organizations are not highly concentrated in Kwun Tong Town where the population is not so dense as in some other resettlement estates.

Land value is also an important factor influencing the location of organizations. Factories are concentrated in the industrial zone of Kwun Tong which is a reclaimed area with lower land price; in addition, the large stretch of land is an attraction for certain industries which require extensive space. This is another factor enforcing the agglomeration tendency of large factories in the sector. But in contrast, high land value may obstruct the development of certain organizations in the Town Centre and force them to disperse to the periphery. Usually, only organizations who can afford a higher rent or a large amount of investment will choose their site in the centre. That is why we usually find large-sized organizations crowding in the Town Centre, while some smaller organizations have been forced to choose their site in the periphery.

Schools, medical/health organizations, social services, retail and service-type businesses are generally located close to residents (either in public or private housing). Their location is obviously not influenced by land value but by the presence of clients. These services are for the local people, they are scattered over the district and agglomerate in densely populated areas.

The physical setting of a community affects not only the specific shape of the spatial pattern but also the size of organizations. Since Kwun Tong is bounded by mountains in the north and north-east, by the sea in the south-west, Kwun Tong Road and Lei Yue Mun Road running from Ping Shek to Lei Yue Mun thus become the major transportation route of the district; land transportation connecting the outside world and many sub-districts have to pass through these two main roads and the Town Centre which is the convergent point of inter/intra community communications. Spaces near the Town Centre and along the major communication routes are usually at convenient location in communication and favourable for functions of exchange, mediation of interactions or services to the district. Therefore, organizations having the above-mentioned functions such as import/export firms, banks religious organizations, Government offices, cinemas and larger restaurants, etc., have the tendency to concentrate in or near the Town Centre. (In Kwun Tong, the Town Centre is located approximately to the geometrical centre).

Since organizations in the Town Centre are usually serving people from other sub-districts as well, it is not surprising that they are larger in size.

In the industrial zone where most of the district's factories and godowns are located, transportation system is good when compared with that of other areas in Kwun Tong. On one side, the Kwun Tong Road provides land transportation facilities (though terrible traffic congestion occurs during the peak-hours), and on the other side, facing the Kowloon Bay, a cargo landing strip facilitates sea transportation.

Resettlement estates and Low Cost Housing estates form several human clusters in the district, the most remote ones being the Lam Tin Resettlement Estate and Sau Mau Ping Resettlement Estate. These two estates and the Town Centre are short in physical distance but they are located up on the hill slope with insufficient public transportation facilities. Schools, retail businesses, social welfare agencies and health care units serving these large-sized local populations have to be situated close to the clients in these sub-districts and this intensifies the tendency to disperse in spatial aspect.

4. Inter-organizational linkage

Whatever the spatial pattern of each kind of organizations may be, the spatial inter-organizational relationship, whether it exists or not, is an interesting subject to look at.

Again, when we take the 11 sub-districts as spatial units and calculate the coefficients of spatial correlation for the 8 kinds of organizations under study in this paper, as shown in Table 13, we will find that the spatial correlation between various kinds of organizations is generally strong. These coefficients cannot indicate why this relationship exists, and cannot prove that the distribution of one kind of organizations causes the spatial pattern of another for there may be some different factors at work producing the observed results. So when we interpret these coefficients, we

must remember that all they can do is to indicate the degree of statistical spatial relationship between the observed values, explanations must be sought by further works.

If we consider a coefficient (r) of between 0.5 and 1 as indicating a strong spatial correlation between two sets of data, then we will see nearly all kinds of organizations are strongly correlated with each other and fluctuate dependently in spatial aspect; except that there are only weak correlations observed between Kaifong Association and factories ($r = -0.03$), religious organizations ($r = 0.14$), Government offices ($r = 0.02$), and schools ($r = 0.43$). The weak correlations between Kaifong Associations and other kinds of organizations are mainly due to the fact that Kaifong Associations are evenly distributed in every sub-district, and their numbers and locations are not affected by the size of population or their demands.

The strong spatial correlation between various kinds of organizations may be caused by different factors and, in general, can be explained in the following way.

Firstly, strong spatial correlations exist between some types of organizations because they are organizationally interdependent. In Kwun Tong, many health care units and social welfare agencies are placed under the same sponsorship. For instance, many religious bodies are sponsors of schools, social welfare services, and health care services -- 20% of health care units, 32% of social welfare agencies, and the majority of subsidized schools (28% of the total number) in Kwun Tong have religious sponsorship. The above-mentioned religious-sponsored organizations are not necessarily under the leadership of religious organizations located in Kwun Tong or in the same sub-district, but they may cluster together in the same location. (e.g. the Leung Fat Memorial Church of the Church of Christ in China is located in the Leung Fat Memorial School and the Catholic St. John the Baptist Church is located in St. John the Baptist School; the Ngau Tau Kok Caritas Centre provides both social services and health care services etc.). Thus their spatial correlations are intensified.

Secondly, strong spatial correlation will also exist if there is functional interdependency between organizations. For example, factories would require services from financial, insurance, import and export firms; and in order to spread their business, these firms would have preference in sites within the Town Centre adjacent to the industrial zone.

Sometimes, organizations are located close to each other not because they have direct relationship, but some common factors form a spatial cohesion force which pulls them together. The demands of services for local residents pull together the social welfare agencies, schools, medical/health organizations and commercial undertakings in those densely populated sub-districts. In public housing estates the supplies of space with low rent for retail business and community services attract these kinds of organizations to be established there. Also, the needs from factory workers in the industrial zone also stimulate the development of restaurants in the nearby area.

In short, the inter-organizational linkage of different kinds of organizations may be direct or indirect. Whether they are pulled together by organizational interdependency, functional interdependency, or some common factors, the spatial correlation between organizations in Kwun Tong is in general statistically strong.

Appendix I. Structure of the Commercial/Residential Zone
in Kwun Tong Town

In Kwun Tong the so-called commercial/residential zone comprises more than a hundred private multi-storey buildings. From Yue Man Square this zone extends northward to Ngok Yue Shan, and is bounded by Luen On Street, Yuet Wah Street at the eastern and western ends respectively. Now another sector, a piece of land located south of Ngau Tau Kok Resettlement Estate, between Kwun Tong Road and Ngau Tau Kok Road is going to be developed into a private building commercial/residential area.

At present, commercial undertakings concentrate in the surrounding structures of Yue Man Square, Mut Wah Street, Shui Wo Street and part of Yee On Street. Besides the Yuet Wah Street where middle-class residences are situated and can be classified as a pure residential area, buildings round Wan Hong Street, Upper Hong Ning Road and Tung Ming Street as well as Yan Oi Court have all very low scores in Buildings Height Index and Business Intensity Index⁸ (see Fig. 11). If we define buildings with Business Height Index not less than 0.5, and with Business Intensity Index of 25% or above, as buildings of important commercial function, then the commercial centre would be rather small and is limited in the area round Yue Man Square, Lower Hong Ning Road, and Mut Wah Street (see Fig. 11).

The above-mentioned Commercial Centre is surrounded by private domestic multi-storey buildings, and further outward, in the periphery are found low cost housing estates such as Wo Lok Estate and Garden Estate. Resettlement estates in the Kwun Tong District are located in areas remote from the Commercial Centre, that is why these resettlement estates should have spaces for

⁸ Business Height Index = $\frac{\text{Total floor area of business use}}{\text{Total ground floor area}}$

Business Intensity Index = $\frac{\text{Total floor area of business use}}{\text{Total floor area}} \times 100\%$

commerce which may serve their residents. And also in these resettlement estates, retail shops, personal services, restaurants and cafes, etc., are more numerous than those in low cost housing estates with regard not only to the size of the population (residents), but the physical distance from the commercial centre as well.

Certainly, the commercial centre of Kwun Tong cannot be compared with the Central Business Districts as Victoria on Hong Kong side or Tsim Sha Tsui on Kowloon side. Anyway it is not a central business district, it is only a secondary⁹ commercial centre in an outlying district of the Hong Kong and Kowloon metropolitan area. Its function is rather to serve the population and the industries (at least partly) of Kwun Tong than playing the role of being the convergent point of businesses between the District and other places.

In general, a very high proportion of space in buildings of the commercial/residential zone is used for domestic use. From Table 14 we can see a large number of buildings having 75% or more of their space for residential use. Retail shops, personal services, entertainments and restaurants/cafes are categories occupying much larger (in total) space and also in bigger numbers in comparison with business offices. Medical and Health organizations are quite numerous in the commercial/residential zone, but they usually occupy a very low percentage of space.

In this commercial/residential area, small factories and storage are also being located. But evidently, the degree of invasion is not great. Among buildings having industry or storage infiltration, more than half of them are having under 5% of space used for these purposes.

⁹ With regard to the whole of Hong Kong and Kowloon urban area.

APPENDIX II: STATISTICAL TABLES

Table 1. Characteristics of Employees in Kwun Tong Factories

Type of Workers	Number of Workers		Total
	Male	Female	
Managerial & Clerical	8,577 (19.6%)	3,079 (5.9%)	11,656 (12.2%)
Manual Workers	35,155 (80.4%)	49,085 (94.1%)	84,240 (87.8%)
	43,732 (100) 45.6%	52,164 (100) 54.4%	95,896 (100) 100%
<u>Ratio of Managerial & Clerical Workers to Manual Workers</u>			
	Managerial & Clerical	Manual	
Male Workers	1	4	
Female Workers	1	16	
Male & Female Workers	1	7	
<u>Sex Ratio</u>			
	Male	Female	
Managerial & Clerical Workers	2.9	1	
Manual Workers	1	1.4	
Managerial & Clerical & Manual Workers	1	1.2	

Source: Labour Department

Table 2. Number of Factory Employees by Type of Industry

Type of Industry	No. of Employees	Not in Operation	1 - 9	10 - 19	20 - 49	50 - 99	100 - 199	200 - 499	500 & Over	Total
14 --- mining				1	1	5	1			8
20 21 -- manufacture of food, beverage & tobacco		1	15	5	3	4	2	2	1	33
23 --- manufacture of textiles		8	78	52	56	46	33	29	6	308
24 41 -- manufacture of wearing apparel (except rubber & plastic footwear)		4	59	21	21	28	14	13	3	163
25 26 --- manufacture of wood, wood products & furniture		4	47	19	10	6	1	1		88
27 28 -- manufacture of paper products, printing & publishing		2	20	20	21	14	3			80
30 -- manufacture of rubber products		2	21	9	20	13	1	1	1	68
31 42 -- manufacture of chemical products		1	4	5	3	2	3	1		19
39 -- manufacture of plastic products		11	102	55	62	27	9	5	1	272
33 44 -- manufacture of glass & other non-metallic products		1	4		5	2	1			13
34 46 -- iron & steel & non-ferric basic products		1	4	5	6	2	1			19
35 -- manufacture of fab. metal products		3	93	22	20	18	10	7	1	174
36 37 -- machinery & equipment		4	28	19	36	28	16	13	6	150
38 47										
48 -- other manufacturing industries		11	23	10	14	18	16	6	7	105
61 71 72 84 85 86 87 -- services		5	19	10	12	5	1			52
Total		58	517	253	290	218	111	79	26	1552

Source: Labour Department Record, June, 1971.

Table 3. Distribution of Retail Businesses, Restaurants and Personal Services by Type of Housing

Housing Type	Retail Business % (a)	Restaurants % (a)	Personal Services % (a)	Population % (b)
Private Housing	21.9	25.2	32.0	12.8
Resettlement Estate	73.8	66.0	63.3	58.0
Low Cost Housing Estate	4.3	8.8	4.7	19.5
Total	100.0	100.0	100.0	90.3

(a) Percentage in total number of establishments of this kind of commercial undertakings (permanent structures only).

(b) Percentage in total number of residents in Kwun Tong.

Source: (a) Landuse Survey, Social Research Centre, Summer 1971.

(b) 1971 Census, Census and Statistics Department.

Table 4.

No. of Schools and Enrollments by Type and by Sub-District

(as at March 31, 1971.)

	Nursery & Kindergarten		Junior & Primary		Secondary (Non Sch. Cert. Courses)		Secondary (Sch. Cert.) Grammar			Matri- culation		Total
	A/C	C	A/C	C	A/C	C	A/C	C	A/C	C		
Ping Shek		417 (1)		4091 (3)								4508 (4)
Jordan Valley		1215 (8)		5780 (11)	1026 (1)							8021 (20)
Ngau Tau Kok		2163 (8)	1679 (1)	21138 (13)			1577 (1)					26557 (23)
Kwun Tong Town	480 (2)	5485 (30)	816 (4)	9081 (20)	1095 (2)		967 (6)	1306 (5)	323 (2)		39 (1)	19592 (72)
Sau Mau Ping		1144 (3)		18638 (12)			193 (1)					19975 (16)
Kwun Tong R/E		2482 (11)		13355 (19)								15837 (30)
Lam Tin		374 (1)		11662 (7)			632 (2)					12668 (10)
Cha Kwo Ling		293 (3)		715 (5)								1008 (8)
Yau Tong	484 (1)	573 (2)	514 (1)	4122 (5)								5693 (9)
Lei Yue Mun	375	375 (1)		976 (3)								1351 (4)
Kowloon Bay		727 (5)		744 (5)								1471 (10)
Total	964 (3)	15248 (73)	3009 (6)	90302 (103)	2121 (3)		3369 (10)	1306 (5)	323 (2)		39 (1)	116681 (206)

N.B. ()

NK

JP

SSG

No. of schools

Nursery & Kindergarten

Junior Primary

Secondary School (Grammar)

SNS

SST

M

A/C

C

Secondary School (Non Sch. Cert.)

Secondary School (Technical)

Matri- culation

Anglo-Chinese

Chinese

Source: Education Department

Table 5. Number of Social Welfare Agencies
by Sub-District

Sub-district	Number of Social Welfare Agencies			
	Government Sponsorship	Religious	Voluntary	Total
Kwun Tong Resettlement Estate	1	3	5	9
Kwun Tong Town	4	6	3	13
Ngau Tau Kok		2	3	5
Sau Mau Ping	1	2	3	6
Lam Tin	2		4	6
Yau Tong		1	4	5
Total	8	14	22	44

Source: Social Welfare Agencies Survey, Social Research Centre,
Summer 1971.

Table 6. Number of Medical and Health Organizations
by Type and by Sub-District

Type of Medical & Health Services	District No. of Agencies	District										Sub-total
		Kowloon Bay	J.V.R/E	N.T.K.	K.T.Town	K.T.R/E	S.M.P. R/E	L.T.R/E	C.K.L.	Y.T.R/E	Lei Yue Mun	
Western	Private Practitioner		1	9	25		5	1	1		1	43
	Reli. Voluntary Clinic			2	4	1	1	3	1	2		14
	Secular Vol. Clinic			3	3			1		1	2	10
	Government Clinic				2						1	3
	Dental Clinic				20		1				1	22
	Laboratory				3							3
	Maternity Home			1	5							6
	Sub-total		1	15	62	1	7	5	2	4	4	101
Chinese	Herbalist*		7	31	18	17	18	20	5		4	120
	Acupuncturist		1	1	6		1	3				12
	Bone-setter		3	7	15	4	9	12	1		1	52
	Homorrhoid Specialist				2	2						4
	Sub-total		11	39	41	23	28	35	6		5	188
Drug Stores	Chinese & Western**	1 (0)	7 (5)	37 (29)	24 (0)	20 (9)	40 (6)	13 (4)	2 (2)	8 (0)	1 (0)	153 (55)
	Chinese**				2 (2)	6 (2)	6 (4)	9 (4)	1 (2)	1 (0)	1 (0)	26 (14)
	Western					1						1
	Sub-total	1	7	37	26	27	46	22	3	9	2	180
Others	Gymnasium				3		1	2				6
	Herb Tea Shop		1				1			1		3

* Number of herbalist includes those stationing at all kinds of drug stores.

** Figures in parentheses are number of herbalists affiliated to drug stores.

Source: Health System Survey, Social Research Centre, 1971/72.

Table 7. Number of Government Offices by Sub-District

Ping Shek	1
Ngau Tau Kok	2
Jordan Valley	1
Kwun Tong Town	17
Kwun Tong R/E	1
Sau Mau Ping	1
Lam Tin	1
Cha Kwo Ling	0
Yau Tong	1
Lei Yue Mun	0
<hr/>	
Total	25

Source: Political Organizations Survey,
Social Research Centre, Winter, 1971.

Table 8. Number of Civic Organizations by Sub-District

	Ping Shek	Ngau Tau Kok	Jordan Valley	Kowloon Bay	Kwun Tong Town	Kwun Tong R/E	Sau Mau Ping	Lam Tin	Cha Kwo Ling	Yau Tong	Lei Yue Mun	Total
Kaifong Association		2	1		1	2	2	1	1	1	1	12
Trade Unions					6						1	7
Multi-storey Building Association					24							24

Source: Political Organizations Survey, Social Research Centre, Winter 1971.

Table 9. Number of Religious Organization by Sub-district

	Ping Shek	Ngau Tau Kok	Jordan Valley	Kowloon Bay	Kwun Tong Town	Kwun Tong R/E	Sau Mau Ping	Lam Tin	Yau Tong	Cha Kwo Ling	Lei Yue Mun	Total
Catholic		2			1	1	1	1	1		1	8
Protestant		3	6	4	19	4	3	3	3	1	1	47
Others		1			1			1			3	6
Total		6	6	4	21	5	4	5	4	1	5	61

Source: Religious Organizations Survey,
Social Research Centre, 1971.

Table 10. Number of Religious Organization by Percentage of Members residing in Kwun Tong

<u>Percentage in Kwun Tong</u>	<u>Number</u>	<u>Percentage</u>
95	25	5
86 - 95	6	13
76 - 85	5	11
66 - 75	2	4
65	4	8
<hr/>		
Total No. of Respondents	42	100

Source: Religious Organizations Survey,
Social Research Centre, 1971.

Table 11. Number of Organizations by Type and by Sub-District

Type of Agency Sub-District	(1) Population %	(2) Factories %	(3) Commercial Undertakings %	(4) Schools %
Ping Shek	5.11		1.27	2.74
Ngau Tau Kok	21.10	1.55	15.28	13.70
Jordan Valley	3.96	5.61	4.81	10.27
Kwun Tong Town	22.48	85.54	22.25	28.08
Kwun Tong R/E	9.97	1.55	16.50	13.70
Sau Mau Ping	18.27	2.84	18.78	10.96
Lam Tin	11.65	0.90	8.27	6.85
Yau Tong	5.34	1.93	5.57	4.79
Cha Kwo Ling	0.93	0.45	2.95	3.42
Lei Yue Mun	0.70	0.13	4.31	2.05
Kowloon Bay	0.49	2.51		3.42
Total (%)	100.00	100.00	100.00	100.00
N =	446,830	1,619	2,369	143

(Table 11 to be continued)

(Table 11 continued)

Type of Agency Sub-District	(5) Social Welfare Agencies %	(6) Medical & Health Organizations %	(7) Government Offices %	(8) Kaifong Association %	(9) Religious Organization %
Ping Shek		1.10	4.00		
Ngau Tau Kok	11.90	22.93	8.00	16.67	9.84
Jordan Valley		4.70	4.00	8.33	9.84
Kwun Tong Town	26.19	29.01	68.00	8.33	34.43
Kwun Tong R/E	21.43	9.67	4.00	16.67	8.20
Sau Mau Ping	14.29	12.43	4.00	16.67	6.56
Lam Tin	14.29	13.26	4.00	8.33	8.20
Yau Tong	11.90	1.10	4.00	8.33	6.56
Cha Kwo Ling		3.31		8.33	1.64
Lei Yue Mun		2.49		8.33	8.20
Kowloon Bay					6.56
Total (%)	100.00	100.00	100.00	100.00	100.00
N =	44	362	25	12	61

- Source: (1) 1971 Census, Census & Statistics Department
(2) Labour Department Record
(3) Social Research Centre Survey, Summer 1971. These figures refer to establishments of entertainment, retail shops, cafe & restaurant, personal services and cleaning/dyeing shops, finance & trade businesses.
(4) Education Department Record, Spring 1971. (not including schools suspended)
(5,6) Social Research Centre Survey, Summer 1971.
(7,8,9) Social Research Centre Survey, Winter 1971.

Table 12. Coefficients of Spatial Correlation between Organizations and the Local Population

	<u>Population Size</u>
Factories	0.54
Commercial undertaking	0.91
Schools	0.81
Social Welfare Agencies	0.80
Medical/Health Organizations	0.93
Government Offices	0.62
Kaifong Associations	0.60
Religious Organizations	0.61

N.B. Spatial Unit: Sub-Districts

Table 13. Coefficient of Spatial Correlation between different kinds of Organizations

	Factories	Commercial Undertakings	Schools	Social Wel. Agencies	M/Health Organizations	Govt. Offices	Kaifong Asso.	Religious Organization
Factories		0.57	0.84	0.67	0.68	0.99	-0.03	0.95
Commercial Undertakings			0.87	0.89	0.86	0.62	0.74	0.66
Schools				0.85	0.89	0.87	0.43	0.89
Social Wel. Agencies					0.80	0.72	0.52	0.74
M/Health Organizations						0.75	0.52	0.77
Government Offices							0.02	0.95
Kaifong Associations								0.14
Religious Organizations								

N.B. Spatial Unit: Sub-Districts

Table 14. No. of Private Non-Industrial Buildings by % of Space Occupied by Different Kinds of Landuse

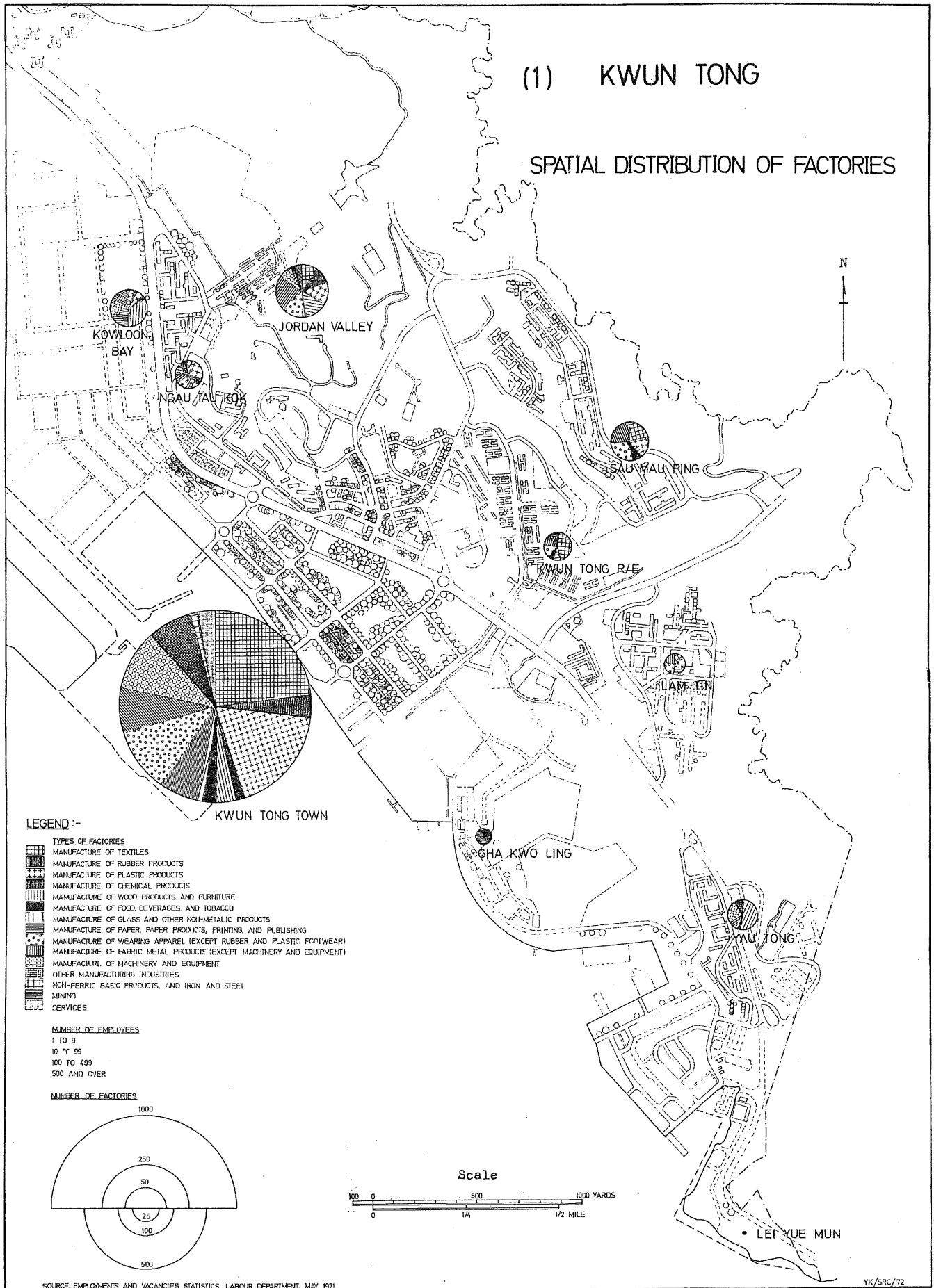
	0 - 4.9	5 - 9.9	10 - 14.9	15 - 19.9	20 - 24.9	25 - 29.9	30 - 34.9	35 - 39.9	40 - 44.9	45 - 49.9	50 - 54.9	55 - 59.9	60 - 64.9	65 - 69.9	70 - 74.9	75 - 79.9	80 - 84.9	85 - 89.9	90 - 94.9	95 - 100
Residential								1	3	1	3	2	3	5	7	14	20	31	11	40
Boarding houses	5	3			2															
Entertainment restaurants and cafes	18	5	3	2	1															
Retail business	33	26	10	1	1															
Offices	20	7		3	1															
Personal service	46	12	2	1																
Medical health & social welfare	30	8	1	1	1															
Schools, kindergartens & nurseries	21	9	4	3			1	1	1	1		1								
Factories & storages	34	16	8	4	4															
Vacant	3	3	2																	

Source: Landuse Survey, Social Research Centre, 1971.

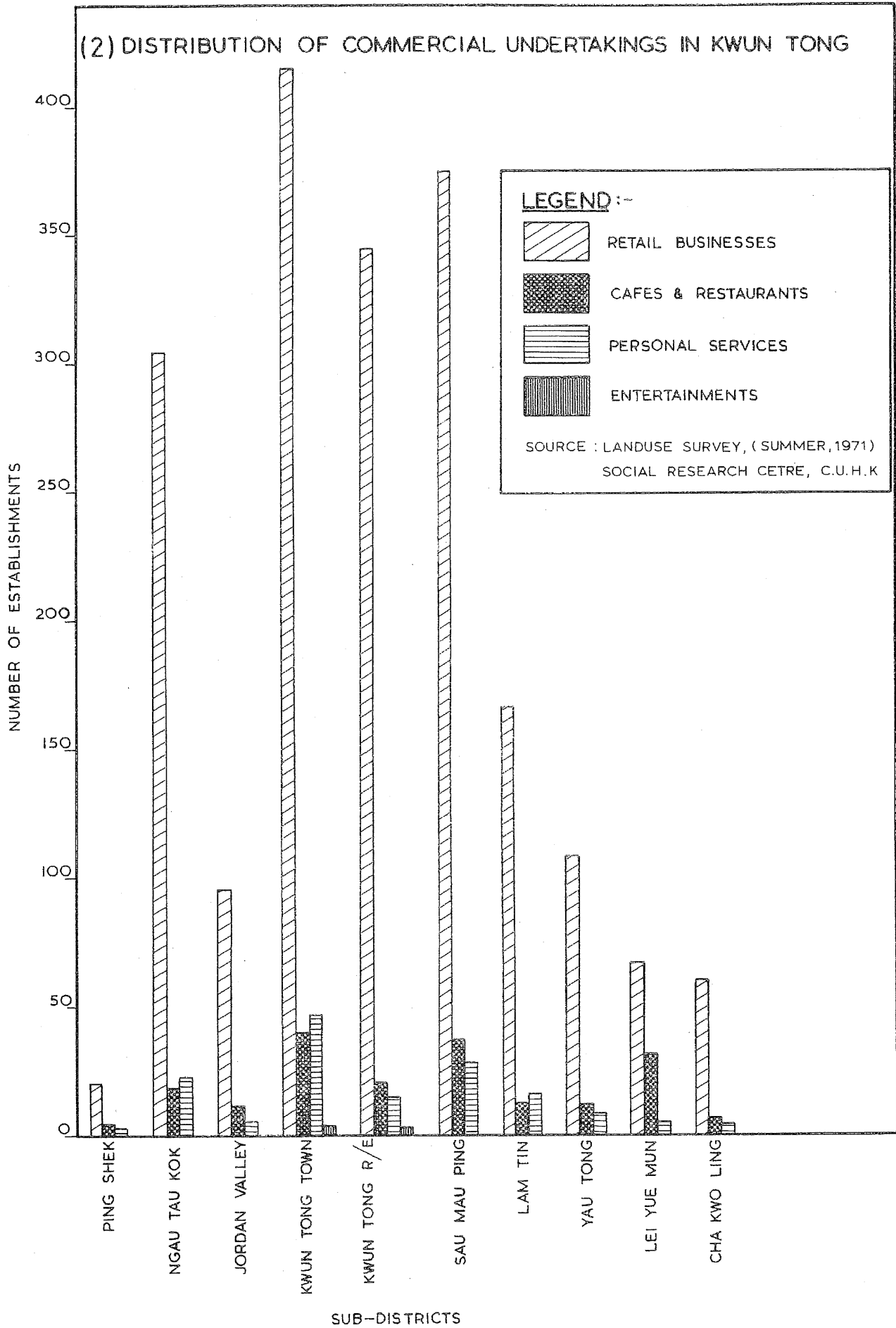
APPENDIX III: MAPS AND DIAGRAMS

(1) KWUN TONG

SPATIAL DISTRIBUTION OF FACTORIES

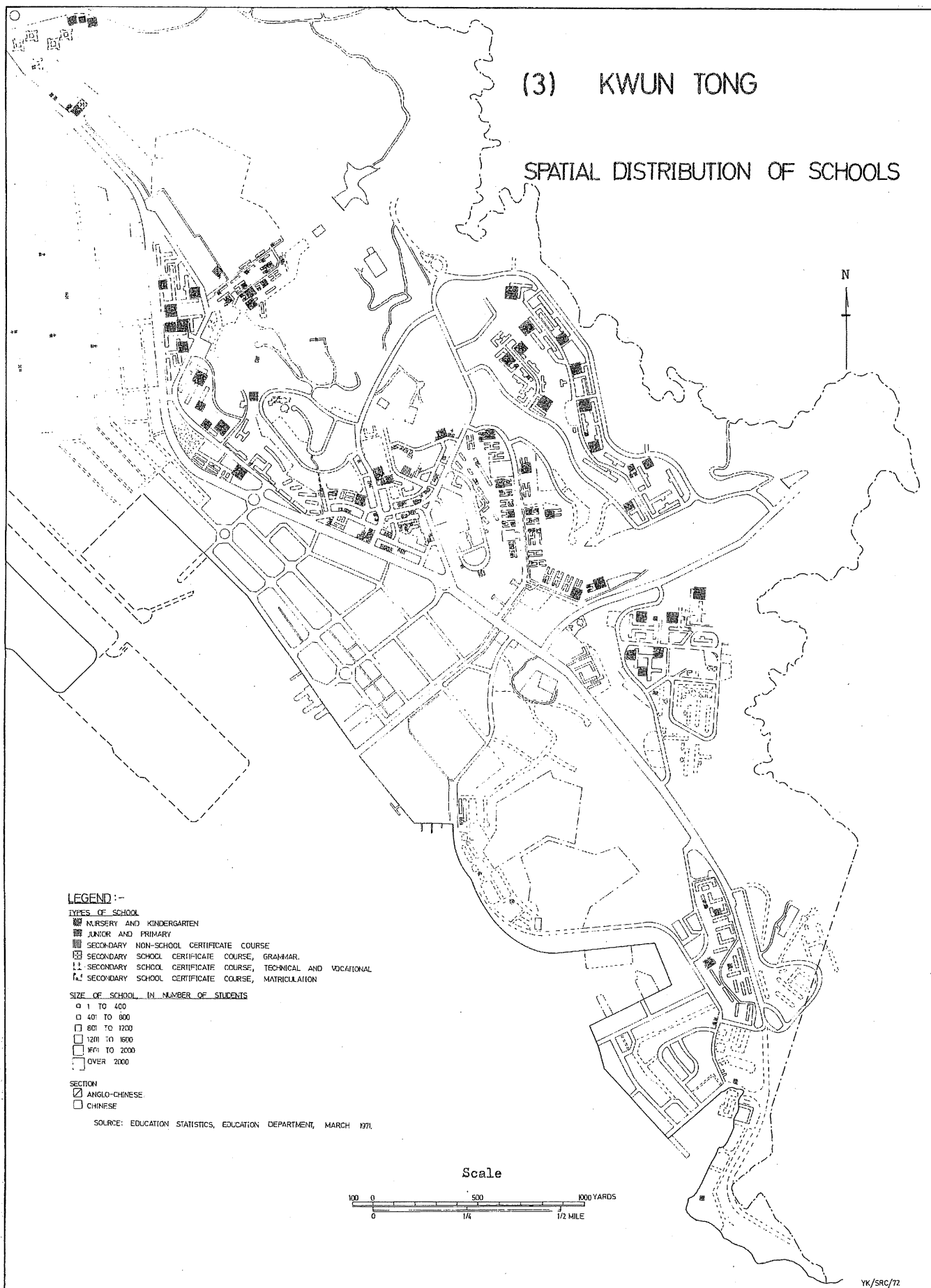


(2) DISTRIBUTION OF COMMERCIAL UNDERTAKINGS IN KWUN TONG



(3) KWUN TONG

SPATIAL DISTRIBUTION OF SCHOOLS

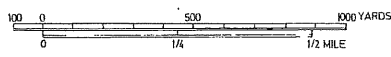


LEGEND:-

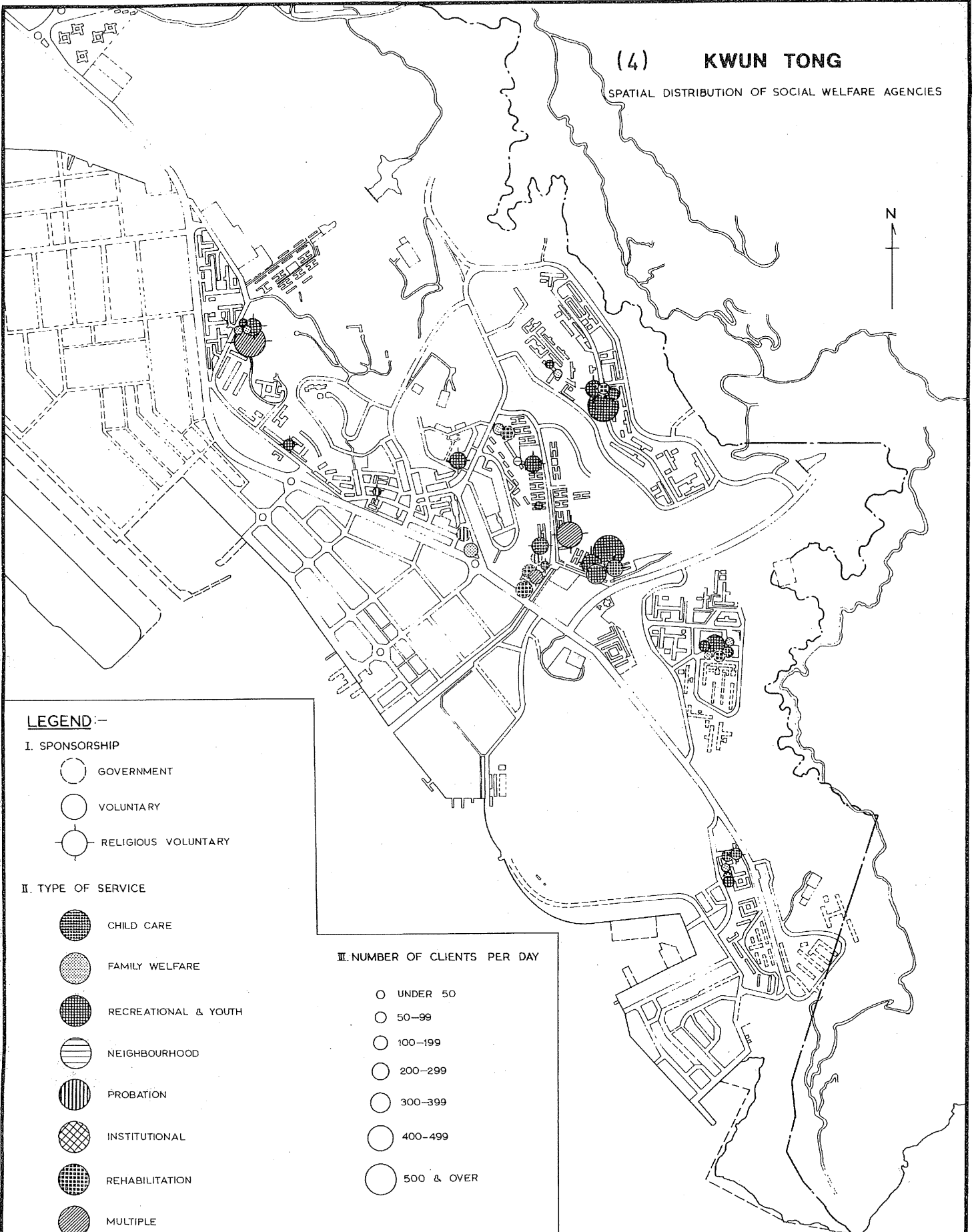
- TYPES OF SCHOOL**
- ▣ NURSERY AND KINDERGARTEN
 - ▣ JUNIOR AND PRIMARY
 - ▣ SECONDARY NON-SCHOOL CERTIFICATE COURSE
 - ▣ SECONDARY SCHOOL CERTIFICATE COURSE, GRAMMAR.
 - ▣ SECONDARY SCHOOL CERTIFICATE COURSE, TECHNICAL AND VOCATIONAL
 - ▣ SECONDARY SCHOOL CERTIFICATE COURSE, MATRICULATION
- SIZE OF SCHOOL IN NUMBER OF STUDENTS**
- 1 TO 400
 - 401 TO 800
 - 801 TO 1200
 - 1201 TO 1600
 - 1601 TO 2000
 - OVER 2000
- SECTION**
- ▣ ANGLO-CHINESE
 - CHINESE

SOURCE: EDUCATION STATISTICS, EDUCATION DEPARTMENT, MARCH 1971.

Scale



(4) KWUN TONG
 SPATIAL DISTRIBUTION OF SOCIAL WELFARE AGENCIES



LEGEND:-

I. SPONSORSHIP

- GOVERNMENT
- VOLUNTARY
- RELIGIOUS VOLUNTARY

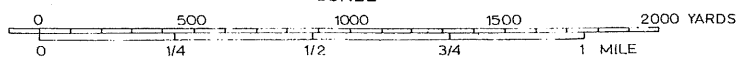
II. TYPE OF SERVICE

- CHILD CARE
- FAMILY WELFARE
- RECREATIONAL & YOUTH
- NEIGHBOURHOOD
- PROBATION
- INSTITUTIONAL
- REHABILITATION
- MULTIPLE

III. NUMBER OF CLIENTS PER DAY

- UNDER 50
- 50-99
- 100-199
- 200-299
- 300-399
- 400-499
- 500 & OVER

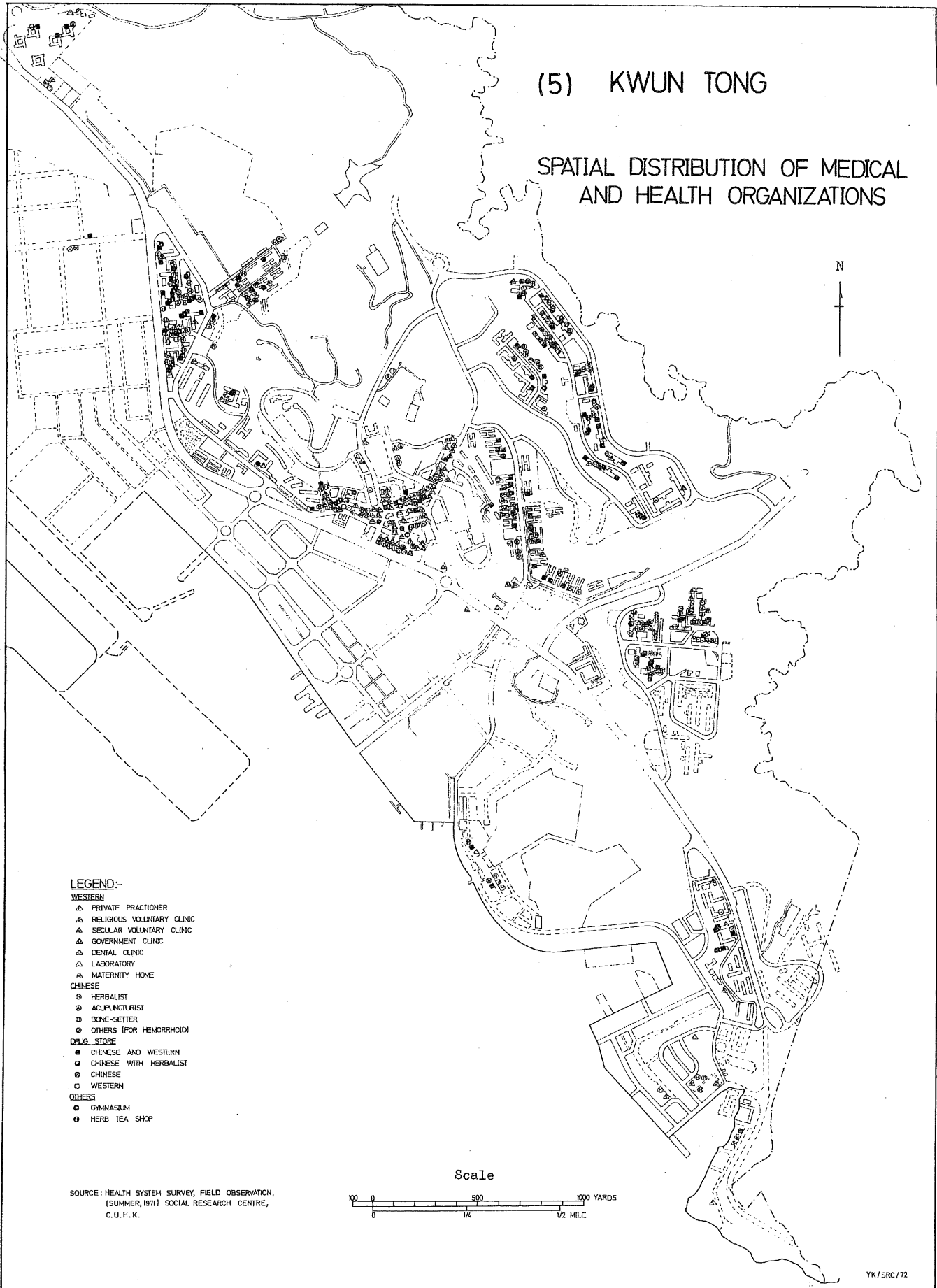
SCALE



SOURCE: SOCIAL WELFARE AGENCIES SURVEY (SUMMER 1971)
 SOCIAL RESEARCH CENTRE, C.U.H.K.

(5) KWUN TONG

SPATIAL DISTRIBUTION OF MEDICAL AND HEALTH ORGANIZATIONS



LEGEND:-

WESTERN

- ▲ PRIVATE PRACTITIONER
- ▲ RELIGIOUS VOLUNTARY CLINIC
- ▲ SECULAR VOLUNTARY CLINIC
- ▲ GOVERNMENT CLINIC
- ▲ DENTAL CLINIC
- ▲ LABORATORY
- ▲ MATERNITY HOME

CHINESE

- HERBALIST
- ACUPUNCTURIST
- BONE-SETTER
- OTHERS (FOR HEMORRHOID)

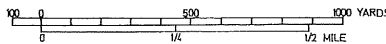
DELEG. SIGNE

- CHINESE AND WESTERN
- CHINESE WITH HERBALIST
- CHINESE
- WESTERN

OTHERS

- GYMNASIUM
- HERB TEA SHOP

Scale



SOURCE: HEALTH SYSTEM SURVEY, FIELD OBSERVATION,
[SUMMER, 1971] SOCIAL RESEARCH CENTRE,
C. U. H. K.

(6) KWUN TONG

SPATIAL DISTRIBUTION OF GOVERNMENT OFFICES
AND CIVIC ORGANIZATIONS



LEGEND :-



GOVERNMENT OFFICE



KAIFONG ASSOCIATION

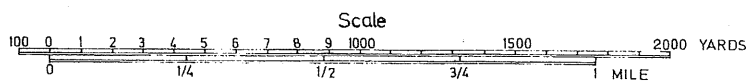


TRADE UNION



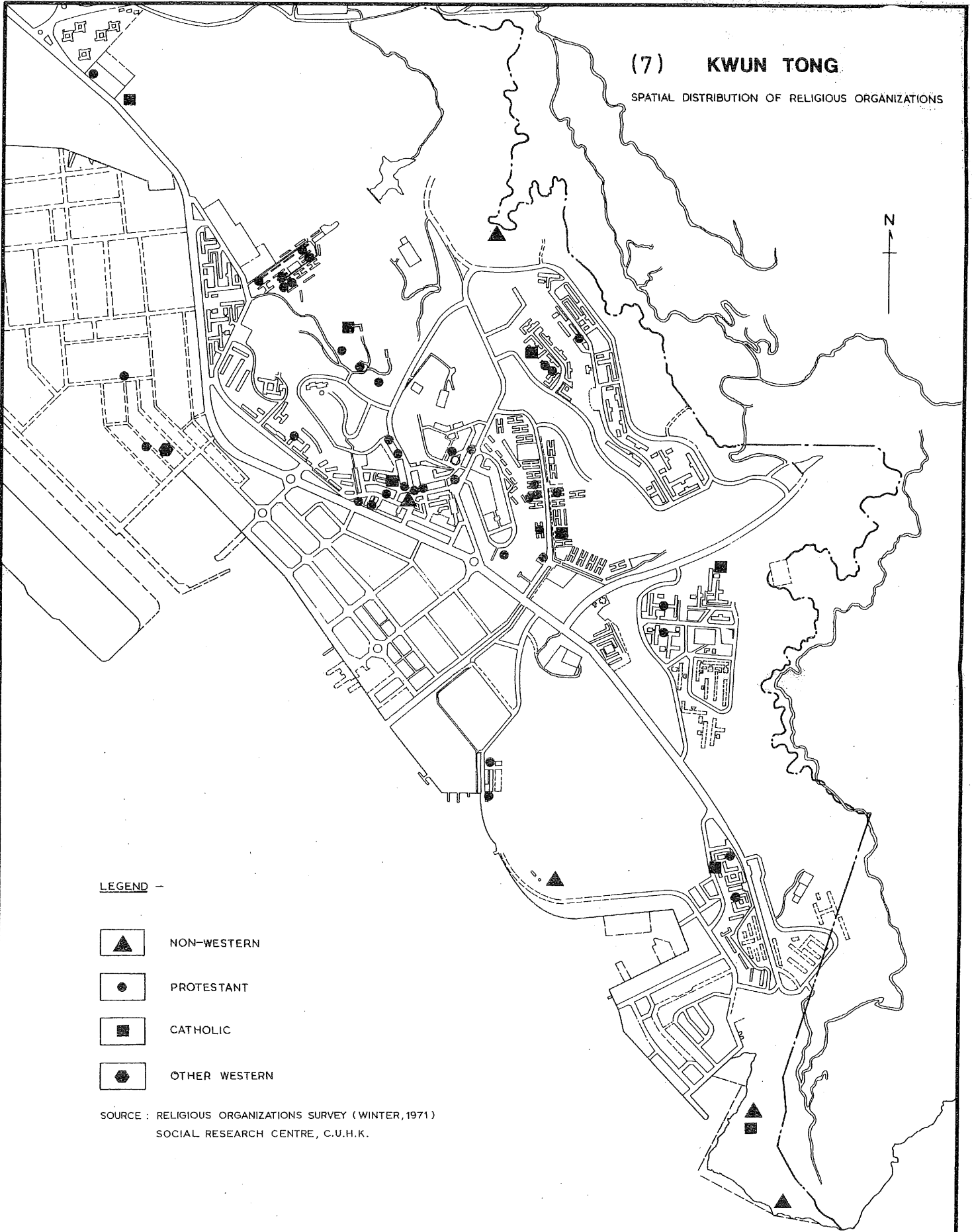
DISTRICT ASSOCIATION

SOURCE : LANDUSE SURVEY (SUMMER 1971),
SOCIAL RESEARCH CENTRE, C.U.H.K.







(7) KWUN TONG

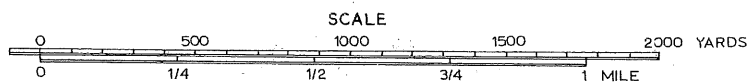
SPATIAL DISTRIBUTION OF RELIGIOUS ORGANIZATIONS



LEGEND -

-  NON-WESTERN
-  PROTESTANT
-  CATHOLIC
-  OTHER WESTERN

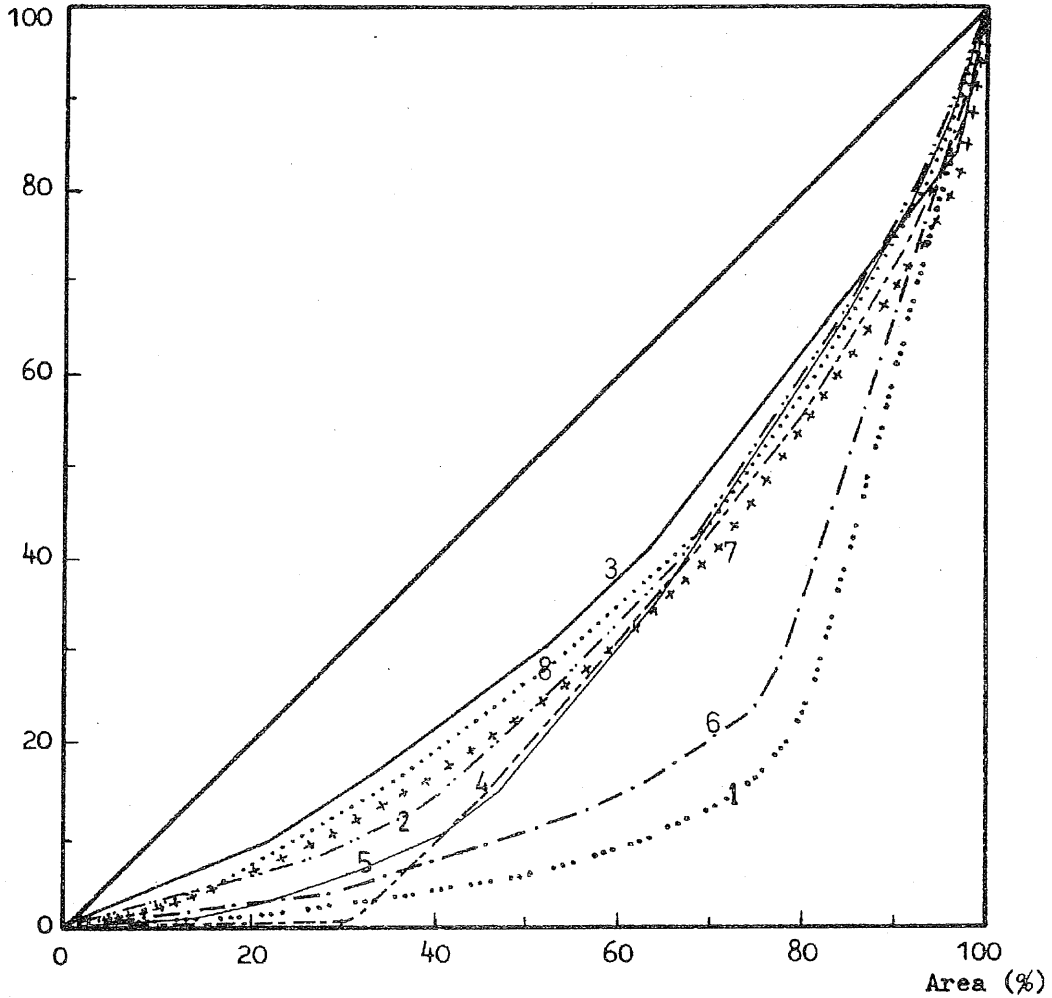
SOURCE : RELIGIOUS ORGANIZATIONS SURVEY (WINTER, 1971)
SOCIAL RESEARCH CENTRE, C.U.H.K.



(8) LORENZ CURVES SHOWING THE CONCENTRATION OF ORGANIZATIONS.

(In terms of space)

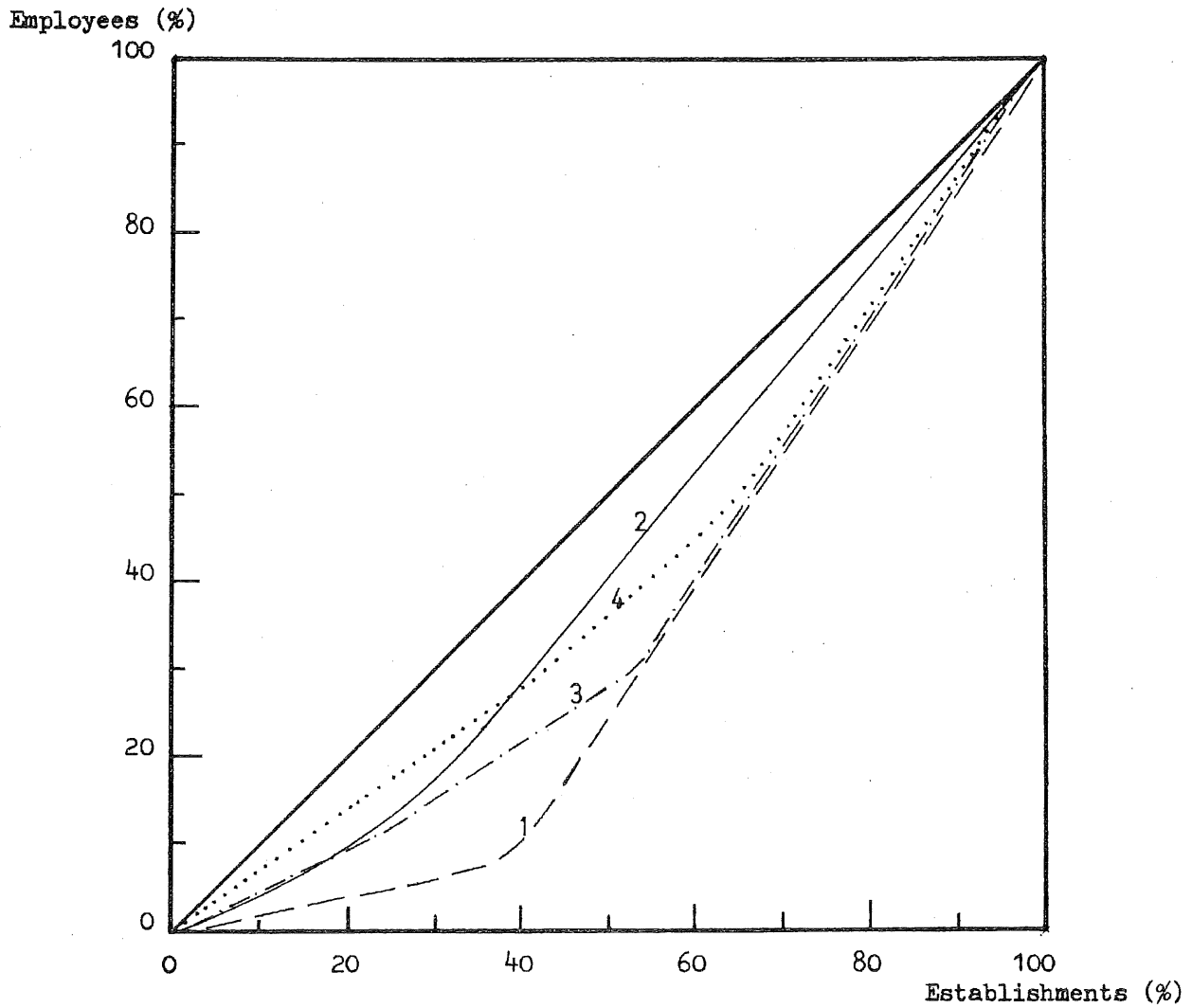
Establishments (%)



Coefficient of concentration (R) :

1. Factories	- 0.840
2. Commercial undertakings	- 0.335
3. Schools	- 0.299
4. Social welfare agencies	- 0.542
5. Medical/Health organizations	- 0.396
6. Government offices	- 0.608
7. Kaifong associations	- 0.362
8. Religious organizations	- 0.282

(9) LORENZ CURVES SHOWING THE CONCENTRATION OF EMPLOYEES,
(In terms of establishment)



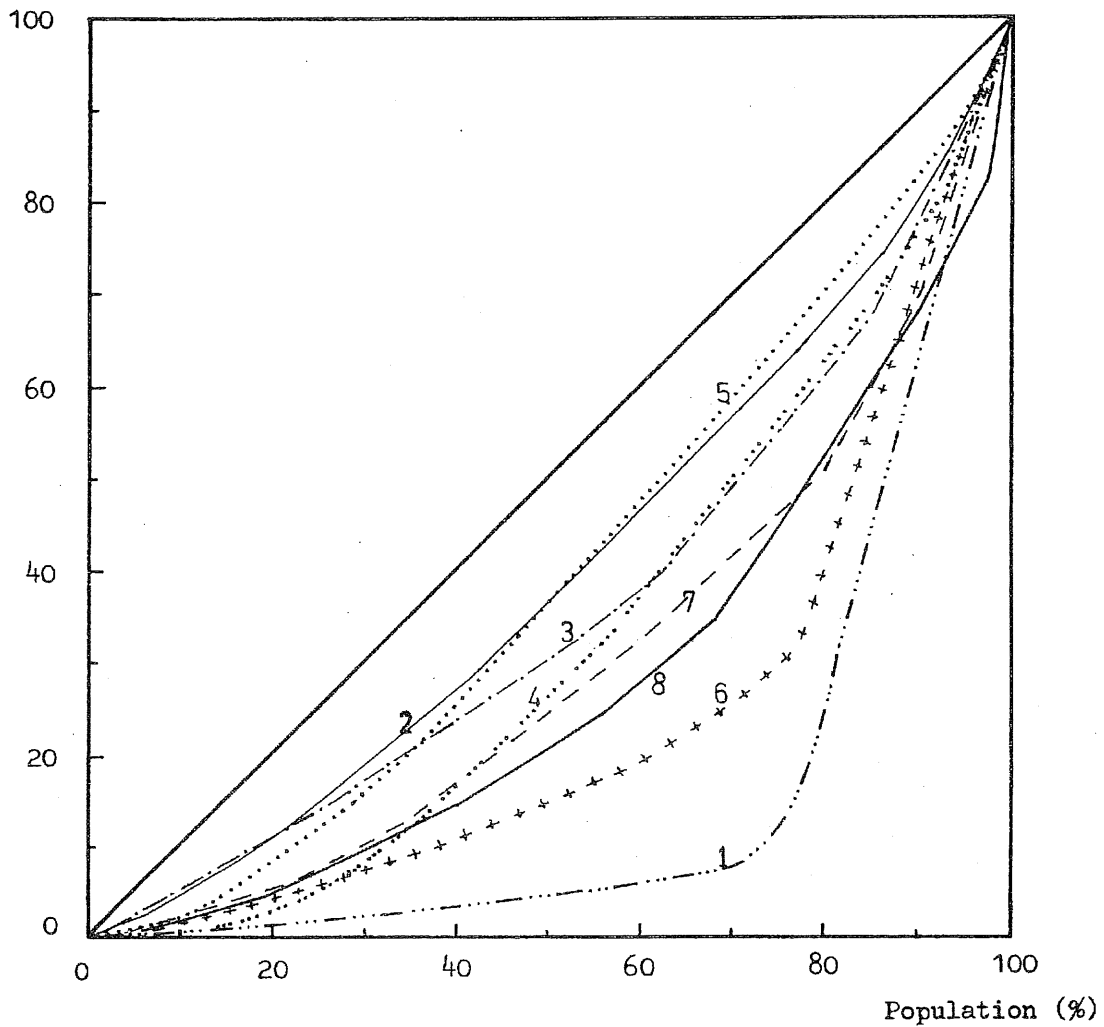
Coefficient of concentration (R) :

1. Factories	- 0.787
2. Business firms	- 0.488
3. Restaurants and cafes	- 0.315
4. Schools	- 0.197

(10) LORENZ CURVES SHOWING THE CONCENTRATION OF ORGANIZATIONS.

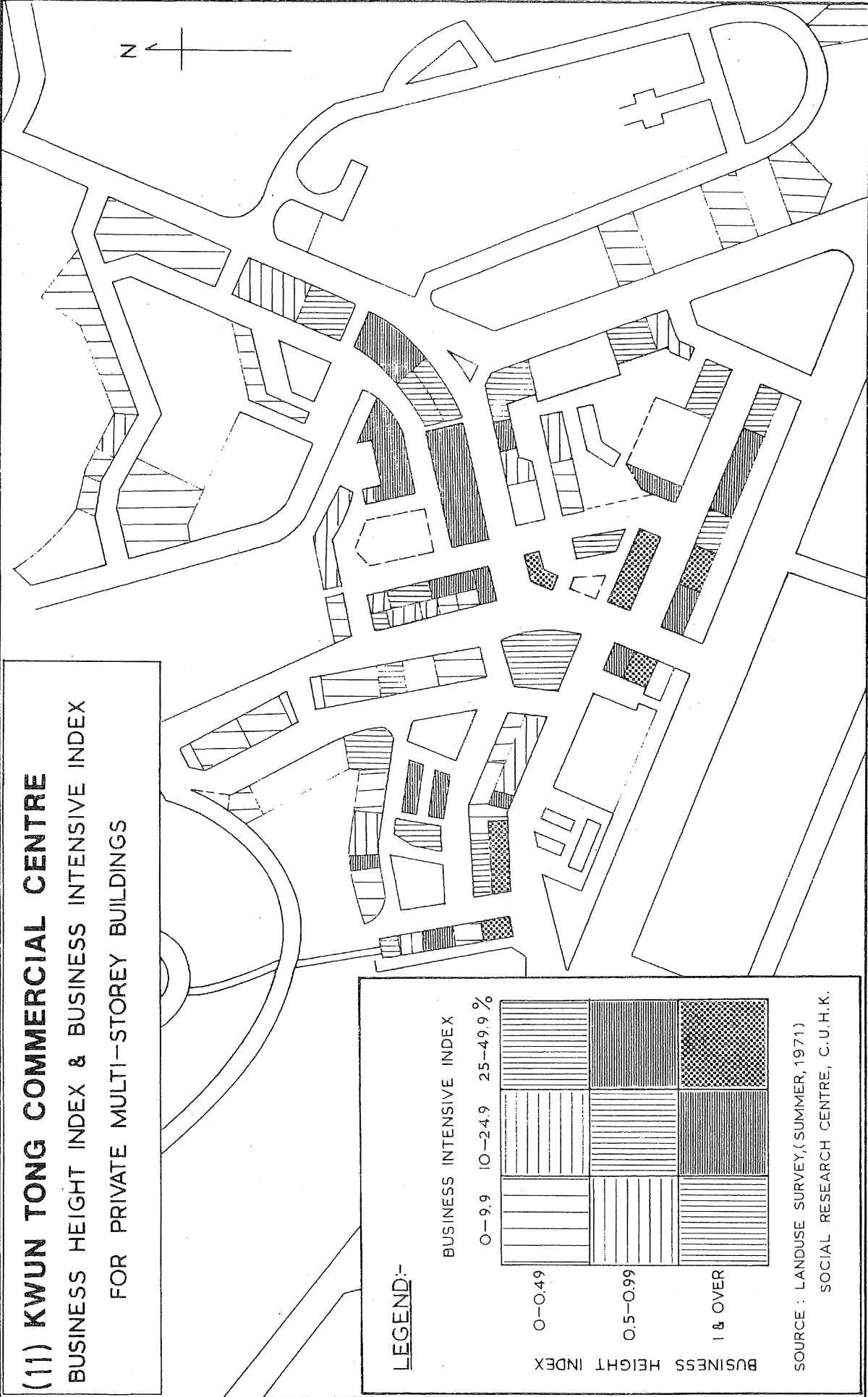
(In terms of population size)

Establishments (%)



Coefficient of concentration (R) :

1. Factories	- 0.735
2. Commercial undertakings	- 0.153
3. Schools	- 0.175
4. Social welfare agencies	- 0.357
5. Medical/Health organizations	- 0.173
6. Government offices	- 0.664
7. Kaifong associations	- 0.299
8. Religious organizations	- 0.315



(11) KWUN TONG COMMERCIAL CENTRE
BUSINESS HEIGHT INDEX & BUSINESS INTENSIVE INDEX
FOR PRIVATE MULTI-STOREY BUILDINGS

LEGEND:-

BUSINESS INTENSIVE INDEX	
0-9.9	10-24.9
25-49.9%	
0-0.49	0.5-0.99
1 & OVER	
BUSINESS HEIGHT INDEX	

SOURCE : LANDUSE SURVEY, (SUMMER, 1971)
 SOCIAL RESEARCH CENTRE, C.U.H.K.

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