

# Dwellers and strangers: Socio-cultural entity, space-use, and spatial configuration in kampung settlements of Jakarta, Indonesia

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**Luki Budiarto**

Delft University of Technology, The Netherlands

## Abstract

This paper concerns spatial configuration and space-use in the informal kampung settlements in Jakarta. Taking the indispensable relationship between the social-activities and the configuration of space as the basis for discussion, this study sees each local kampung in two ways; on its own and in relation with the city as a whole. What then emerges considering the 'parts in the whole' problem is a structured relationship between the city-wide scale and the local dynamics. The emergence of supergrid space which is embedded with functions used locally by dwellers and accidental strangers at the global scale, underlines the fact that the phenomenon of urbanity does not occur randomly but is highly determined by the generic law of urban grid and urban movement. In the final analysis, the kampung of Jakarta, despite the fact that it has come into being without planning regulation in the common sense, presents in total a well-constituted human settlement. Besides some differences in spatial structures and the spreading of local scale activities in each kampung - regarding some socio-cultural variations, the existence of a universal generative process creating a predictable pattern of micro-economic activities is emphasised.

## Keywords

dwelling, local inhabitant, informal settlement, informal economy, kampung, Jakarta

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L.Budiarto@Wanadoo.NL

## 1. Introduction

Like in many megacities in the developing countries, informal settlements are commonly found throughout Jakarta, the capital of Indonesia. 'Kampung' is the word that has come to be used for a settlement in rural surroundings that comes into being within urban conglomerations without proper infrastructures and planning in the common sense. Alongside the word is naively associated with urban decay, poverty, and chaotic settlement.

For decades the urban authority has been trying hard to discourage kampung development and to substitute kampung houses without any success. While in 1980 about 80% of Jakarta's area consists of kampung, recently kampung covers not less than 60%. The fact that during this period the urban area has doubled, suggests that kampung dwellers have managed to return in many ways after the eradication. Lately, at a time when the economic downturn has paralysed the national property industry, kampung development continues unstopably.

The crisis has in fact given kampung dwellers a reprieve from their battles against the developers. For dwellers, who mostly make living in the informal sector economy, the city centre is still the hub of economic activities and kampung provides inexpensive shelter in the vicinity of city centre, which means minimum transport costs, affordable housing, and a greater chance of getting jobs through relatives and long established inner-city networks. As also noticed in Firman (1999), the players in the informal sector were little affected by the crisis and, to the contrary, this sector has been growing sharply as the formal sector has shrunk.

Despite the fact that the kampung phenomenon has attracted a significant number of studies, investigations are rarely undertaken on its spatial and architectural aspects in order to try to elucidate these aspects in relation to dwellers' socio-economic life. It is important for reason to be responsive to aspects like people's livelihood and communal life as understanding these help generates understanding from a holistic standpoint. This effort is for two reasons essential, not only for being a descriptive study but also an attempt to reformulate the task of urban renewal in Indonesia from kampung eradication to the construction of socially healthy urban settlements.

## **2. Parts in the whole; understanding the global and local dynamics**

Being aware of the misconception seeing kampung as rural enclaves which have failed and instead thinking of kampung as an indivisible urban component which helps construct city space in total, the kampung taken as a case study here are not only separately and independently examined on their own. One study is also focused on generalising and reinventing the presently problematic relationship between the kampungs and Jakarta as a problem of "parts in the whole". The city is seen as simultaneously a whole-city, an urban and regional system of movement and integration, and a system of parts that emerge out of local movements and spatial integration.

To start, this problem is approached by investigating the role of the supergrid as the interface between the social and economic dynamics of the kampung and that of the whole city. The definition of a supergrid is a network of streets within the overall spatial pattern that is specialised for the conveyance of larger scale movement (Read, 2001). The supergrid is marked by virtue of the area's vitality and by the presence of substantially higher concentration of public occupations than in the non-supergrid -or the interior areas.

As any enquiries on space cannot be independent to social actions (Harvey, 1989), this study seeks understanding of the kampung dwellers' livelihood, which is a fundamental substance shaping the kampung structure but yet at first glance is not

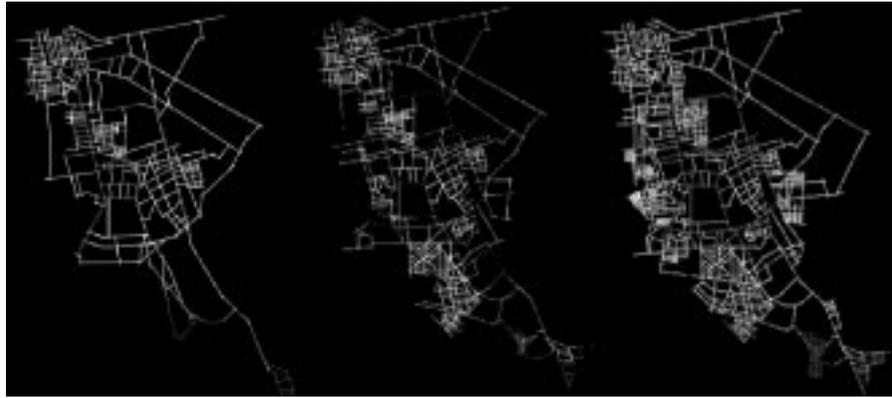
directly observable. Concerning the relation between the social activities and spatial pattern, findings of this study underline the results in Krausse (1976). Observing the distribution of kampung relative to the middle part of Jakarta, Krausse suggests to divide kampung agglomeration in three groups, i.e. inner city, periphery, and woodland kampung. What we demonstrate here is that the variations of dweller' socio-cultural background in each group correspond not only to the geographical spreading, as in Krausse, but also to spatial configuration. Furthermore, this study underpins the significant presence of regularity –invariable factors- that is found in all groups of kampung, despite the socio-cultural differences mentioned above, which universally governs the functions and performances of space and makes 'urbanity' a less erratic and more predictable phenomenon that is strictly related with urban movements and the geometry of the urban grid (Hillier, 2001).

### **3. The two spines; poly-nuclei growth, axially, and shape of the urban grid**

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Maps of the 1800s show that “the city” -at that time comprised only the walled part that was inhabited exclusively by Europeans and the elites. This was surrounded by clumps of plantation fields and kampung. Each kampung was designated for servants and slaves from a specific ethnic group and access was strictly controlled through a gate (Raben, 1996). Since then the city has been growing in an incremental, leapfrog and haphazard way. Although nowadays kampung knows no longer the ethnic segregation, Jakarta is still a segregate of polycentric localities (Abeyasekere 1989; Soemantri, 1992) Asking where the centre of Jakarta is, one would rather expect confusion than a plain answer, as each local part in the city knows its own centre. The incorporation process started during the rapid expansion in the eighteenth century. This became intensive from the 1950s onwards as it is stitched together by highways and ringroads.

More than simply an engineering work, this incorporation process affects the urban life and pattern of activities in total. The emergence of “two spines” -first in the west and later in the east- seems critically to function both by conveying the larger scale transportation and also by binding the local dynamics into a global coherent unity. Jakarta demonstrates how these spines were enriched with activities and soon attracted new functions and settlements in their vicinities. Proximity to urban functions and better access to the infrastructures are among the reasons why this development took place. New settlements emerge along these 'spines', either through formal planning or informal developments. The growing number of increments, on the other hand, strengthens the function of spines as the integrators for greater areas, which in its turn attracts more increments to come. This so-called 'multiplier effect' is determined by the shape of urban grid (Hillier, 1996, 2001; et.al.).



**Figure 1: Axial map from 1800 –1960**

The Senen-Jatinegara axis, for example, shows that in two consecutive periods of 1896 to 1923, the centrality -or the integration value- of the axis increased as the neighbourhoods in the surroundings grew. Spatial factors might have contributed to the enriching process in the whole area. It is proposed in this paper that the reason why the spines were potentially attractive for movements at both the global / larger scale and at the local/neighbourhood scale is because the direct sightlines from the interior areas densely intersect one another. The overlapping scale of the global and local scale movements furthermore creates bipolar synergy that the spines are not only superior in conveying urban movements but also in attracting the presence of people from different groups and draining public social activities from the interior areas.

The urbanisation in Jakarta shows in general a consistent pattern. It began from the north coast to the hinterland in the south. This is in part due to the geographical condition as the land is cut by a series of rivers running north-south – which affects the construction of infrastructures and the urban development pattern. It would not be surprising that most of the continuous urban routes are laid in a north-south direction and the pattern of urban movements and spreading of activities follow accordingly. Streets along which public activities are likely being found in Jakarta, run mostly in the north-south direction.

The process of growth and the shape of an urban grid that emerged in Jakarta are well linked to this principle. In general, as the north-south axis houses most of the prominent urban functions, people willingly keep connection and access as direct as possible -reducing the total depth between the point of departure and destination. Ideally, every front door would open directly to a north-south street, yet densification and limited availability of land mean that only a few have this luxury. Trying to cope with density while the area is kept “shallow” in total, the grid is then shaped by a series of subsidiary lines running east-west that are laid down as densely as possible

and directly connected to the north-south axis. By doing this, one just need to travel through a single in-between space -i.e. an east-west line- in order to access the north-south axis. This “one turn” rule suggests the logic behind the orthogonal grid commonly found in Jakarta which characteristically contains much a higher density of occupations along the north-south streets than the east-west ones. Regarding the principles of human perception and the concept of spatial adjacency in the topological dimension, this pattern of grid hints at a simple but powerful spatial logic which feeds sufficient information to the people -dwellers and strangers- to ease orientation.

#### **4. The layered space; supergrid and the urban scale**

Previous studies show that the city can be considered as consisting of two layers, that is the supergrid and the non-supergrid which act relatively independently of each other (Read, 2001). Thinking of a supergrid as a network consisting of all 'shallower' spaces in the city, it is easy to think why people tend to move from the 'deeper' spaces -the interior areas- to the parts that are 'shallower' and better connected to the larger scale. The supergrid is seemingly a space where the movements at the local and at the city-wide scale overlap. This overlapping makes these spaces locally important -well connected to the interior and regularly used by the locals- and due to their topological shallowness, they also serve people from the adjacent and farther areas. This kind of street system is positively used by different group of people, for different purposes, and at different times -the locals going from or to their dwellings and the strangers accidentally travelling through. It is not surprising then to see the supergrid 'sweeping' not only the movements but also most of the public activities from the remaining areas.

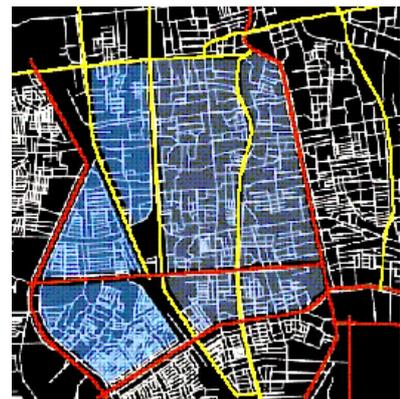
The implication of the supergrid idea provides the basis for further discussion. It is realised that generalising the effects of the supergrid as observed by Read in Dutch cities to another city is dangerous, as cities from different regions of the world possibly possess inconsistencies in their structures. Besides, the cultural aspects cannot be underestimated. However, this study is undertaken based on findings that, despite the fact that socio-cultural factors had produced differences by imposing a certain local geometry on the construction of settlement space, the micro-economic factors had overcome these disparities and generated geometric and syntactic invariants as the settlement expanded (Hillier, 2001). This underlines the theory that the spatial process is driven by a basic generative logic and universal laws of movement through which regularity and invariance occurs, despite socio-cultural variations that make the two cases seem initially divergent. What can be implied from this study is how spatial configurations of cities are comparable as long as the function of urban space in total is concerned.



**Figure 2: Map showing the distribution of public functions from 1976 – 1996**

Observing the spread of prominent public functions in Jakarta between 1976 and 1996 - represented by dots, it can be seen that the distribution pattern of social-activities in the area is not dispersed but mostly concentrated along a certain axis. From 1976 onwards, Jakarta has in fact a strong linear pattern. The linearity is closely affected by the pattern of movements as the majority of public functions are concentrated along main arteries where accessibility is at its best. Completing the whole map, this essential structure of the urban network reveals what hypothetically can be called the supergrid space of Jakarta.

Yet, the supergrid that theoretically contains high numbers of public space occupations, shows inconsistency in Jakarta. The two spines from the previous example that are filled with public functions and are not in face-to-face interaction on the street scale are exceptional cases, while in the rest we observe that the sidewalks are empty for most of the time and the social activities are absent. What we can suggest here is that in Jakarta the supergrid (red lines) is disconnected from the interior areas so that people need to pass through a series of “in-between” spaces (yellow lines) to travel between the supergrid and the interior. It is then not puzzling that in Jakarta the “urban buzz” occurs mostly not in the supergrid itself but on the streets “behind”. This will be considered further in the case study. The anomaly is generally found in the whole Jakarta and in total it constructs another layer of the structural body in Jakarta.



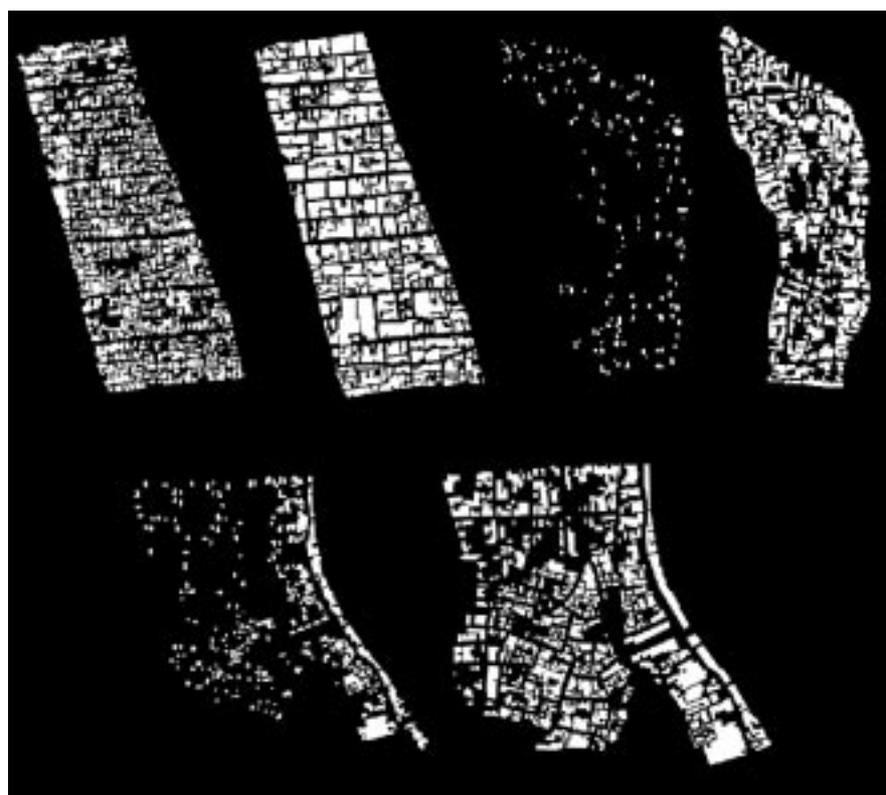
**Figure 3: Two layers of supergrid network**

What then emerges at the scale of the whole is a spatial system which consists of two scales of movement network (two levels of supergrid) alongside local subsidiary streets and spaces. It is shown that this system organises the functional pattern of large formal development (high-rises, shopping malls, and other main public buildings; the spaces of the scale of the region and even of “global flows” in reference to Jakarta's function as the economic hub of South-east Asia) around the higher level of the supergrid, and the functional pattern of the everyday social and economic lives of the majority of the city's inhabitants (street hawkers, food-stalls, and pedestrians rather than cars; the informal economy, social interaction, and the tactics of survival of the ordinary people) around the second level of the supergrid. This second level of the supergrid may seem morphologically labyrinthine compared to the first level supergrid, but is similar in its functional logic to some western (European) inner cities.

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##### **5. Rural-urbanism; social processes and the generation of kampung in Jakarta**

As in any informal developments, it is hard to affirm when exactly kampung development started in Jakarta. Jellinek (1991) mentioned that since 1930, as the immigration was starting in Jakarta, these clusters collectively, incrementally, and simultaneously began to grow. It was uncontrolled as no cadastral record was made. Kampung implosion happened during the massive urbanisation in the early 1980s, during which Indonesia experienced an oil boom. The rural workers invading cities desperately in search for better-paid jobs, mostly ended up in the informal sector and resided in kampung.



**Figure 4: Examples of kampung development from 1976 - 1996 in inner city kampung (top left), periphery kampung (top right), and woodland kampung (bottom)**

Individually and independently from each other these kampung grew without being aware of the global pattern into which they were emerging. The configuration that came out is hypothetically a product of tacit rule; an unspoken but well understood ordering logic that exists among the dwellers. In the end, the presence of tacit rules ensure that the myriad processes result in an intelligible and perceptible construction of settlement space rather than chaos. Hypothetically, each kampung type would present some socio-cultural variations but simultaneously also significant invariants due to the micro-economic behaviours in general (Hillier, 2001). This study demonstrates that variations in each kampung group are in part the result of differences in the socio-cultural backgrounds of the dwellers and their major occupations. On the other hand, the invariants are clearly shown in the way social-activities are distributed and the public functions are patterned in the area.

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Besides analysing kampung on its own, attention is also given to the relation between kampung and the supergrid, which is presumably the spatial interface between the global/ city-wide and the local/kampung scale. One measure proposed here is a concept called spatial-permeability. In the light of the notion that creation of any urban space is intended for social use and to promote social activities, spatial permeability measures how “open” a space is as a public domain. Different from what one would commonly expect in an open public space, in kampung it functions more likely a semi-public/private space that is used as an outdoor living room for a number of households rather than being entirely open to strangers (Jellinek, 1991). Spatial permeability is perceptibly exposed in the way the settlement is connected to the surrounding areas. It is considered “high” if a settlement is in total well connected to the larger scale network and if the grid is intelligible for (accidental) strangers randomly exploring the area. In this study, the connection between kampung and the second level supergrid is important as it is theoretically the feeder of global-local scale movements

## **6. The inner-city kampung**

### **6.1 Kebon Kacang**

Kebon Kacang is an example of an inner city kampung. Located in the heart of Jakarta, it began from Tanah-Abang market which presently became the focal point. The prominence of market activity has been attracting migrants since the 1800s and resulted in multicultural district with a mixed character. Today, the mix of functions stirs up the whole area, day and night, and is particularly concentrated along Mas-Mansyur. Just next to Mas-Mansyur lies Thamrin, Jakarta's major thoroughfare where most of the skyscrapers stand. Walking down these streets undoubtedly presents contrasting experiences. With most of the sidewalks left empty, street-level activity and pedestrian movement are less customary found in Thamrin, whilst Mas-Mansyur

is crammed with stalls, peddlers, and street artisans attracting passers-by -either on foot or in vehicles- to stop. The traffic speed drastically slows down, thanks to the stalls and street hawkers that spill over, even into the middle of the road. In Kebon Kacang 9 -running parallel to Mas-Mansyur but located just in the middle of the kampung- the situation is less hectic. Here, food-stalls selling various snacks replace the street traders. A few meters away down to the interior part, activities like baby sitting, chatting, or cooking in the outdoor space predominate and public functions gradually dissolve. What normally is an outdoor public space is here filled with functions of more domestic character. Trading activities, in the form of small kiosks are still found at some places but they operate mostly very locally.



**Figure 5: Street level activities along Mas Mansyur and Kebon Kacang 9** (photograph by the author)

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## 6.2 Configuration and social activities

What lies behind this story is, in part, a plausible effect of the spatial geometry. The dense occupations of subsidiary lines along Mas-Mansyur makes possible that this space is continuously and regularly engaged by both kampung dwellers -as they walk to and from their neighbourhood- and accidental passers-by. This is possible since Mas-Mansyur, more than just a local street, functions as a vital connection for a number of neighbourhoods. The natural movement and the bipolar synergy between the global and local scale, which enable the presence of both inhabitants and strangers are conceivably the reasons why it turns into a vibrant part in the city.

On the other hand, it suggests an explanation why Thamrin, while unmistakably one of the vertebrae of Jakarta, is inferior compared to Mas-Mansyur so far as factors like the occupation of public space by people and the use of sidewalks are concerned. Laid down during the major urban restructuring of the 1960s and cutting through an existing neighbourhood, Thamrin is especially engineered for vehicles and situated in such a way that access, to and from interior areas, is minimised. It contains very few direct connections -visually and physically- to the surrounding areas. Fenced yards, parking lots, and the dimensions of the plots of land make the grid rather “inhuman”. The lack of function of the street as an important public space other than for carrying movements, causes the sidewalk to remain empty and the presence of mixed users is hindered. So far as the city-wide scale is concerned,

Thamrin and other thoroughfares in Jakarta may function well by bearing urban movements at the city-wide scale and by being a prominent centre. However, down to the neighbourhood scale, these routes are perceptibly not the centre of public life for obvious reasons, such as the huge socio-economic gaps but also, for topological reason, being located just 'too deep' and lacking in contexts with aspect to the surroundings.

With respect to minor variations, the space-use observations in other inner city kampung present comparable results. The intense mixtures of domestic and public activities are apparently seen. In particular spaces the strikingly high density of activities and the number of people are evident. Spaces with similar characters to Mas-Mansyur in Kebon Kacang, are also found in the other kampung. These spaces -mostly parts of the second level supergrid- are mostly dominated by highly public and moving activities. By contrast, the interior areas -tinted light grey on the axial map- contain social activities that are mostly static and have a domestic character. During the observations, children or static women were mostly encountered in the interior parts. An alley or a yard, that functions as a passage or access to an individual property, is here used more as a communal space shared by a number of households to carry out household activities. For dwellers in the inner city kampung, the engagement in this kind of activity is crucial since it is a mechanism through which gossip and information about jobs are shared, trust in each other is built, and people's informal networks are maintained.

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**Figure 6: Axial map of Kebon Kacang, in relation with the surroundings and on its own**

Further study of the spatial configuration of the inner-city kampung enable us to make generalisations. Firstly, these kampung show in general the pattern of a regular grid. And secondly, the relatively high number of direct sightlines from the kampung to some particular spaces is worth mentioning. The simple orthogonal pattern and the direct sightlines along the second-level supergrid spaces, which directly run deeply through the kampung, theoretically make most of spaces in the

kampung “shallow” to strangers. The dense occupations along certain axes in the grid positively hint at a spatial strategy by which the constant copresence of dwellers and strangers in the area is resulted. Taking only 25% of the most integrated spaces, which are the axial lines tinted from black to dark grey, the inner city kampung consistently show a predictable pattern with a rather regular dimension to the urban grid. This map, representing the core structure in each kampung, provides evidence that the construction of inner-city kampung follow certain principles of spatial logic despite the fact that they were not cognitively planned and the intervention through urban planning in the normal sense is absent.

## 7. The periphery kampung

### 7.1 Grogol Selatan

Periphery kampung is a particular example of the transformation of the urban fringes in Jakarta. In the beginning, the dwellers came from the country side and made a living from market gardening on vacant land in old (Chinese or European) burial grounds, on rubbish dumps, which are usually located in remote locations from the city. Kampung eradication during the 1980s forced inner city kampung dwellers to invade the periphery or, in some cases, to occupy the marshlands. It indicates how dwellers have taken a line of least resistance yet are near enough to the city for employment. Grogol Selatan is one of the kampung that began to grow at that time, in the south periphery of Jakarta. Due to Jakarta's rapid growth particularly in a southerly direction, Grogol Selatan has gradually been incorporated into the city while in the east or west fringes this factor of change is considerably less apparent.

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**Figure 7: Street level activities along Kebayoran-Lama and Kebon Mangga 3** (photograph by the author)



**Figure 8: Axial map of Grogol Selatan, in relation with the surroundings and on its own**

Compared to inner city kampung, Grogol Selatan is less congested. Houses have bamboo-fenced yards that form important parts of total family's living space. Yards, are useful for growing vegetables and fruits and are used also as working spaces, like stalls or storage for tricycle-rickshaws. With irregular clusters of yards replacing orthogonal parcels, the spatial pattern of a periphery kampung is generally less "neat" than the inner city one. While in the past, the mix of rural-urban jobs here was rather high, today more and more inhabitants leave the rural jobs and become engaged in the informal sector jobs. This fact probably implies that Grogol Selatan in particular and periphery kampung in general which have been through rapid transformation for the last twenty years, probably will disappear in the future or completely turn into inner-city kampung.

### **7.2 Configuration and social activities**

Similar to Kebon Kacang in the previous example, the development of Grogol Selatan is inseparable from the informal trading activity in the market, which is located at the crossing of Ciledug-Raya and Kebayoran-Lama. These roads, that form the boundary of kampung Grogol Selatan in the west and south, are the main arteries of Jakarta connecting the central to the south and west part of Jakarta. Being too big for the neighbourhood scale but too small to serve the whole of Jakarta, Kebayoran-Lama market daily attracts customers from surrounding districts and a large number of commuters passing Ciledug and Kebayoran-Lama. The huge range of merchandise, from textiles to electronics, is sold not in the market building but for the most part on the sidewalk.

Space-use observation in Grogol Selatan shows similar results to that in inner-city kampung. Informal trading activities are found not only along Ciledug-Raya and Kebayoran-Lama but are also distributed in some parts of Kungkung, Kebon Mangga 1, and Kebon Mangga 3. It is noticeable that the spreading of activities in Grogol Selatan is more scattered than that in Kebon Kacang. In the interior areas of Grogol Selatan, fewer peddlers and kiosks are found than in Kebon Kacang, but here the moving men are more often seen as some yards have turned into work spaces. Observations in kampung of the west and east periphery show similar results. In the latter, a poor squatter settlement where most of the dwellers make a living from sorting and recycling garbage, a much smaller scale spreading of informal trading activities has taken place. Hampered by the railway, a four-lane highway and a swamp, it is also isolated that dwellers have few alternative forms of work. While in Grogol Selatan, benefiting from the proximity to city centre and existing informal networks, dwellers have better-paid jobs. This subsequently helps to construct a self-help community through which dwellers, provided with minimum provisions, are actively involved in improving their kampung and urban betterment in total.

As it is also found in the inner city kampung, the high number of direct sightlines from Grogol Selatan to both of Kebayoran-Lama and Ciledug-Raya are significant. The first instance, this may suggest that Grogol Selatan presents a reasonably high spatial permeability, just like in Kebon Kacang. But on closer inspection, it is obvious that in Grogol Selatan these sightlines run insufficiently “deep” into the interior areas, while in Kebon Kacang these lines run farther beyond and cut through the interior part. Compared to those in Kebon Kacang, most of the interior areas in Grogol Selatan are left persistently “weak”. Most of the spaces in Grogol Selatan are segregated. Taking only 25% of the most integrated spaces, as we did in Kebon Kacang, does not represent the main structure of the settlement. This geometrical factor might explain why street level activities in Grogol Selatan are not distributed farther than along a few lines.

## **8. Woodland kampung**

### **8.1 Condet**

Unlike dwellers of kampung from the two previous types, the dwellers in Condet are mostly of native origin. The majority of dwellers make a living by cultivating fruit and vegetables. Different to the dwellers of periphery kampung that have changed the jobs, here most of the dwellers have been specialised in gardening for generations. Vegetable growing and small gardens are scattered throughout the whole settlement. Also unlike kampung from other types, this community is not encircled by urban functions and infrastructures. Today, the location of Condet is still remote and it has a less direct access to urban infrastructures. Also they usually cover a large area of vacant land, which makes expansions possible, and their settlements have a much lower density compared to the rest. The spatial pattern of woodland kampung has in general distinctly rural features. The housing situation in Condet is overgrown with vegetation and contains a series of island-like structures -enclaves- connected to each other by a system of pathways. Houses are mostly built in front of fruit-gardens which form the centres of daily activities. In the front yards, there are some stalls selling groceries for the neighbourhood. Yet during the observations, it is noticed that their opening hours are irregular and mostly even operated less than a half-day daily.



**Figure 9: Street level activities along Balekambang 1 and the interior areas**  
(photograph by the author)



Figure 10: Axial map of Condet, in relation with the surroundings and on its own

## 8.2. Configuration and social activities

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As in the two previous cases, attention is given to the interface between Condet and the surroundings. Located in the south of Jakarta, the most important connection between Condet and the city is, in this case, Dewi-Sartika street. This street is an extension of the Senen-Jatinegara axis -discussed earlier in this paper- that connects the central part of Jakarta to the southern districts. From Dewi-Sartika -the nearest the supergrid space, the connection to kampung space is noticeably less. Barricaded by a row of mixed-use blocks and a small waterway, one enters kampung Condet through Balekambang which provides a connection between the surrounding areas and Dewi-Sartika. The map drawing direct sightlines along Balekambang 1 shows that even from here the rest of Condet is still completely 'hidden'. The most integrated spaces in Condet (black lines in the middle of the kampung) remain 'deep' and unexposed to outsiders. These spaces, as we found in observation, are mostly accessible to the locals. In the light of spatial configuration, Condet seems more introverted compared to the two other kampungs we have seen before. Here, as control is extensively exercised through "depth", the number of strangers wandering in the area is drastically reduced. This interior part is where the dwellers daily communally spend most of their time, while on Balekambang 1 street-level activities are less customary spotted.

The logic behind this spatial configuration is probably related to the main occupations of Condet's inhabitants which are gardening and home industry. As dwellers activities are restricted to gardens or workshops, there is no need for them to venture further. Both male and female activities are undoubtedly concentrated near to their homes. Also while in street traders' kampungs the simplicity of kampung grid is crucial in order to attract passers-by to enter, as they are potential customers, in Condet this principle of spatial logic is less significant in generating the settlement configuration in total. As most of the products are commonly brought to the market

or sold through a third-party rather than directly to customers on site, a constant contact with any outsiders is less necessary and strangers are likely to be considered as trespassers. On the other hand, this spatial arrangement that leaves kampung Condet unexposed to outsiders, results in a low intensity use of spaces and a poor mix of activities. Throughout the kampung, the vibrant space, as found in the previous case, is absent most of the time. What is left here is just semi-public spaces which are exclusively used by local inhabitants and for local festivities.

## 9. Conclusion

From this limited study, a number of conclusions can be drawn:

Configuration in each kampung group seems to show some variations. Especially when the pattern of activities and the spatial permeability are concerned, significant differences one to another are seen during the observations. This is possibly related to socio-cultural variations as well as daily activities and the main occupation of dwellers, which varies considerably in each kampung group.

In respect to spatial permeability, the inner city kampung has the highest permeability to strangers, while the woodland kampung scores as the lowest. The space-use observations clearly demonstrate that the spreading of public social activities in general corresponds with direct connection between the kampung and the city. It would be easy to think how the informal markets and street trading seem to be the primary generator for other activities. As it is noted in Malcolm (1997), bazaar and street market, like the ancient agora, are perceived more as a civic centre than an economic centre. The crowds that are attracted there and the increase in new activities -which are seemingly unrelated one to each other, have in fact resulted in a vibrant urban space (Zukin, 1990).

The configuration logic of kampung space that is observed both at a global scale -in particular in the second level supergrid, and the local scale -the kampung settlement on its own, is highly correlated to dynamics at a local and global scale. The emergence of the second level supergrid that binds all local dynamics -informal trading, street level activities, and other micro-economic factors - into a one coherent network seems to make the space practically and functionally comparable to that of city centre in the traditional sense. While the first level supergrid, which knows its own system and centres, functions well only in so far as the city-wide scale is concerned.

It is then worth mentioning that even though variations and irregularities are signalled in each kampung type, regularities that stem from the basic generative factors of movement and activities in the settlements are highly significant. While in the first instance, the socio-cultural variations in each kampung have led logically

to different settlement forms and spatial strategies, the periphery kampung is a particular example in which the spatial logic and micro-economic activities overcome the local factors as the settlement grows and its spatial structure becomes more clear and well integrated to the global dynamics.

In the final analysis, this study demonstrates that kampung, which has been naively associated with chaotic settlement, are in fact intelligible and logically constructed, despite the absence of cognitive planning. While the top-down planning is absent, the generative process of kampung settlement evidently shows how the bottom-up dynamics has played a significant role. It makes the city appear more and more a self-organised entity, composed of both tangible and intangible substances, like economic activities, the distribution and centering of activities, arrangement of open spaces and obstacles and finally the construction of “the urban” totality.

79.16

#### Notes

\*) This study was primarily done as graduation project by the author at Delft University of Technology, the Netherlands. The author would like to express his gratitude to Stephen Read, who has provided invaluable guidance and contributions particularly to the theoretical framework and for introduced him the space-syntax.

\*\*) Space-syntax technique is here not applied in detail, but it is limited to the essential ideas. The theory of indispensable relationship between urban grid and natural movements and its strong role in generating living city (Hillier, 1996), for example, has been given the most attention. Some of axial maps presented here were completed using “Axwoman” script by Bin Jiang (1997).

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