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The rapid growth of the urban population in the Third World has obvious implications not only for the provision of basic infrastructure but also for land development. It has been reported that in 1990, around 42 per cent of the Third World's total urban population was living in informal settlements, many of them located on urban fringes (World Resource Institute, quoted by Browder, Bohland, and Scarpaci 1995). But many urban residents also live in settlements on urban fringes created by land developers. This is particularly visible in cities of countries that have enjoyed massive economic growth, such as Bangkok (Foo 1992a, 1992b; Dowall 1991).

In Jabotabek,¹ the private sector has urbanized 16,600 hectares of rural land far away from the built-up area of Jakarta, selling around 25,000 housing units annually. This was achieved by private developers in the Jabotabek area, an emerging mega-urban region in Indonesia, between the 1970s and the 1990s (Winarso 1999; Winarso and Kombaitan 1995). In the Jabotabek area, land developments, particularly those for residential use, have penetrated far into rural areas, creating urban sprawl (Henderson, Kuncoro, and Nasution 1996; Firman and Dharmapatni 1994; Firman 1994; Noe 1991; Winarso and Kombaitan 1995). In some cases the development even takes place in rural areas where basic infrastructure such as roads, drainage, and electricity networks are not yet available. It seems that developers' selection of land for development has not always been associated with the availability of basic infrastructure, or with good access to an urban centre.

¹ Jabotabek is an acronym of Jakarta, Bogor, Tangerang, and Bekasi. This acronym was used for the first time in a report prepared by a Dutch team for the Directorate General of Human Settlement, Ministry of Public Works of Indonesia in 1973. The report itself was titled: *Jabotabek: A planning approach of the absorption capacity for new settlements within the Jakarta Metropolitan Region*. The acronym Jabotabek presented in a nutshell the basic idea of the planning approach, which incorporates four centres in the planning concept for Jakarta Metropolitan Region (Giebels 1986).

This contribution examines large developers' preferences in selecting land for the location of their residential projects. I will argue that by acquiring low-cost land, developers were able to construct on-site major infrastructure, including streets and roads, and even a toll road connecting their projects with Jakarta. With the construction of streets and roads developers boosted the land price and enjoyed not only the value added beyond costs to the land's selling price due to the possibilities for urban use after the installation of basic infrastructure, but also the value gained, beyond building and site services costs, in the selling price of a house caused by the demand for urban housing with the amenities provided by these developers.

This article consists of five sections. First, an overview is given of the development of Jabotabek. The next two sections deal with, respectively, the developers and buyers of houses in new estates or wholly new towns. The fourth section, the core of this contribution, assesses whether accessibility or land price is the key factor influencing the locational decisions of housing-estate developers. Finally, in the conclusion, the lessons learned from this study are put together.

The development of Jabotabek

Jakarta, the core city of the Jabotabek region, which was originally called Sunda Kelapa, was founded in the 1300s as a small trading port in a sanctuary of the Ciliwung river. In 1527, the Sundanese ruler renamed Sunda Kelapa as Jayakarta, which means 'the victory'. By the early 1600s the city had fallen into the hands of the Dutch. Jayakarta was renamed Batavia in 1619, and was expanded into one of the Dutch East India Company's (VOC, Vereenigde Oostindische Compagnie) Indonesian base ports, before eventually becoming their East Indies headquarters. Batavia was surrounded by jungle; the only route connecting it with the outside world was by sea. In the 1680s, Batavia's population consisted largely of slaves, Chinese traders, and labourers (Blussé 1981).

After the proclamation of the Republic of Indonesia in 1945, Batavia was renamed Jakarta and became the capital city of the new republic. Between 1945 and 1965, Indonesia experienced a transformation from a society under colonialism to that of a free nation. The first master plan for Jakarta, prepared in 1952, which envisaged an urban area with a ring road as the limit, surrounded by a green belt following the principles of Ebenezer Howard's garden city, was never realized. At that time the population had already reached 1.5 million, more than double the number in 1945. By 1961, Jakarta's population had reached 2.9 million, making Jakarta one of the largest cities in the world. Most of the population lived in dense *kampung* areas with

bad infrastructural conditions. Public transportation systems were largely neglected.

The next 35 years witnessed rapid growth and structural change in the city. As the economy grew, Jakarta emerged as the centre for the country's development. The processes of urban restructuring and the emergence of formal private residential developers were in conjunction with this economic development. Foreign and domestic investments grew rapidly and, as noted by Douglass (1991), were concentrated in Jakarta. Also noticeable in Jakarta was the development of services by international hotels and banks and through the expansion of civil services. Physical infrastructure systems were also rehabilitated, road transport capacity was expanded, and a growing number of inexpensive commercial vehicles contributed to the growing mobility of the country's population.

In the early 1970s the institutionalization of housing production and the involvement of the formal private sector in residential development, aimed at accommodating the ever-increasing demand for housing, was started. The first instance of private sector involvement in commercial property development was perhaps that of PT Metropolitan Development, founded by Ir. Ciputra in 1971 (Dahlan 1994), which was in charge of the construction of several office buildings in Jakarta. Almost at the same time, Ciputra, together with the wealthy Indonesian Liem Sioe Liong,² transformed 720 hectares of rubber plantation in the south of Kebayoran Baru into a residential area, named Pondok Indah. This area became the first large, planned, middle- and high-income residential area in Indonesia to be created by a private developer. This period also witnessed the birth of Indonesia's Perusahaan Umum Pembangunan Perumahan Nasional (PERUMNAS, National Housing Development Corporation), following a national conference on housing in 1973. One of the first large projects undertaken by PERUMNAS was a low-income housing project in Depok, covering more than 400 hectares (Silas 1995). The area is located in *kabupaten* Bogor (the district surrounding the municipality of Bogor), near the southern administrative boundary of Jakarta. This subsequently became part of Jakarta and grew to be an important centre of development in South Jakarta, following the relocation of a substantial portion of the University of Indonesia from the city centre to Depok (Douglass 1991). Combined with the completion of a toll road to Bogor, development in this area led to an increase in land prices of up to 75 per cent within two years (Gandhi 1994).

The development process also spilled over into adjoining *kabupaten* as

² For a discussion of the emergence of a large and dynamic private sector in Indonesia, see for example Hill (1996). Hill's book also provides a list of 25 major business conglomerates in Indonesia in which Liem Sioe Liong ranks first.

Figure 1. Jabotabek area and the location of residential development

the demand for urban land for housing increased, along with Jakarta's ever-expanding population. In the early 1970s it was recognized that Jakarta's 1965 master plan was not viable anymore, and thus in 1974, following a report by the Dutch team working for the Ministry of Public Works, a new concept was introduced, labelled the Jabotabek Development Plan; this incorporated the development of the surrounding *kabupaten*. By 1980, the Jabotabek area's population had reached 11.9 million, making Jakarta the largest metropolis in Southeast Asia.

In the early 1980s, following the construction of toll roads connecting Jakarta with Tangerang and Merak in the west, and Bekasi and Bandung in the east, a new trend of residential land development emerged. This trend was the development of new towns, pioneered by Ciputra and ten other large companies. Together they launched the idea of a new town in Serpong, located about 20 km southwest of Jakarta. This was followed by other new towns scattered throughout *kabupaten* Tangerang, Bekasi, and Bogor. In this manner, by the end of the 1980s more than ten new towns of 500 hectares or more could be found in the area (Utama and Budiono 1995). This concept of a new town is more comparable to the situation in the United States than to British new towns in the sense that the idea, site selection, and implementation of the new town are all undertaken by private developers.³

The construction of new towns increased the production of formal housing by private developers. By 1987, the share of housing built by the private sector had significantly exceeded that built by PERUMNAS. The figures show the major role of private developers in providing formal housing in the region. By the end of the 1980s the penetration of development into former agricultural land was obvious, first at the periphery of the city, then plunging deeply into the areas beyond, as far as 30 to 45 km from Jakarta.

The magnitude of this land development can also be seen in the transformation of agricultural land into built-up areas. According to a recent study (Indonesian Team 1995), in 1971, the built-up area of Jakarta, the core city of Jabotabek, had reached 17,878 hectares, or 31 per cent of its area. This had almost doubled by 1988; at that time the built-up area covered 61 per cent of the city (39,734 hectares). The study also revealed that the built-up areas of Jakarta had spilled over into neighbouring *kabupaten*. Built-up areas in Tangerang had increased from 14,033 hectares (11 per cent of the *kabupaten* area) in 1980 to 44,214 hectares (34 per cent of the *kabupaten* area) in 1992. The same situation could be found in Bekasi and Bogor. The urbanized area in Bogor increased from 33,150 hectares (15 per cent of the *kabupaten* area)

³ Corden (1977), comparing new town development in the USA and Britain, noted that a basic difference is the initiator. In Britain the government's role is strong, while in the USA private developers are the engines of new town construction.

in 1974 to 64,782 hectares (34 per cent of the *kabupaten* area) in 1994, while in Bekasi it increased from 14,310 hectares (10 per cent of the *kabupaten* area) in 1980 to 27,378 hectares (18 per cent of the *kabupaten* area) in 1993 (Figure 1).

The developers

Struyk, Hoffman, and Katsura (1990:74-5) characterize residential land developers in Indonesia as falling into two categories: a small number of sophisticated developers and a large number of small firms.⁴ This, however, hardly depicts the real estate industry in the Jabotabek area. In 1997, there were 86 residential development projects in *kabupaten* Tangerang (*Properti Indonesia* April 1997) and 77 residential projects in *kabupaten* Bogor (*Rumah-rumah mungil* 1997), ranging from 5 hectares to 6,000 hectares.⁵ These figures are the proposed areas; the actual area developed is less. The largest residential area that has been developed so far is Bumi Serpong Damai (BSD), which covers 2,000 hectares. However, these figures cannot be confirmed due to their unclear sources.⁶ Small land development projects are usually also owned by large developers. Unfortunately, due to conflicting information from these sources, it was not easy to find the projects' real owners. In an attempt to provide a picture of Jabotabek area developers, what follows is based on 60 projects as a 'sample' of residential projects in *kabupaten* Tangerang, the size of location permit⁷ granted, and the history of some very large developers.

Only 60 companies could be traced of the 86 residential development projects in *kabupaten* Tangerang (1997). Together, these 60 companies hold location permits for 27,090 hectares of land, which corresponds to 64 per cent of the total area under location permit in *kabupaten* Tangerang (42,293 hectares). Of these companies, 57 per cent develop projects on properties smaller than 100 hectares, with a total area of 1,420 hectares. This means that the remaining 43 per cent develop residential areas on properties of more than 100 hectares. Only 15 per cent of them develop residential projects on

⁴ It seems that by 'small firm' Struyk, Hoffman, and Katsura (1990) mean one that builds less than 200 housing units per project, while a 'large firm' is one that builds more than 500 housing units per project.

⁵ If one assumes that 50 housing units could be built on a hectare, there would be 250 housing units on 5 hectares of land. Projects with over 250 housing units are required to undergo an additional review by the World Bank if the developers want to acquire loans from Bank Tabungan Negara.

⁶ The figures from real-estate magazines are more reliable since the location of each project is also shown. However, the exact figures might be higher if one only considered the name of the companies, without reference to the location.

⁷ A location permit (or *ijin lokasi*) is a permit granted to private developers, which allows them to acquire land for development and to get a title deed.

properties of more than 500 hectares. If the biggest project, the 6,000 hectares of Bumi Serpong Damai, is omitted, the average area of the projects is 356 hectares (however, the mode, or most frequently occurring size, is only 100 hectares). This definitely indicates large projects, since 17,800 housing units can be built on such an area. The locations of these projects are scattered throughout *kabupaten* Tangerang; most of the projects (35 per cent) are in a radius of 20 to 25 km from the centre of Jakarta, measured from the National Monument (Monas).⁸

Looking at annual housing production, interviews with developers⁹ reveal that on average, the developers produced 1,338 housing units, a figure which is far below average production from 1981 to 1993, when the region experienced its first boom. This results from the fact that in November-December 1996, when the interviews were conducted, the market for housing was going down after the second boom in 1994-1995.

The history of the developers also gives a picture of the real estate industry in the study area. Appendix A shows that of 60 projects in Tangerang, more than half are controlled by a handful of companies. And of those few companies, perhaps only Si Pengembang built their group from a genuine land development business. The other companies are generally involved in land development as part of diversification strategies, particularly after seeing the huge economic opportunities in the land development business in the boom period. Kompas (1995) notes that only 39 large companies have been recorded as doing business in land development in Indonesia. What is interesting when looking at the area's real estate industry is not only the

⁸ The figures in this paragraph refer to the actual size of the projects on the ground. A slightly different picture of the real estate industry in *kabupaten* Tangerang can be drawn from the location permits issued. Based on the data obtained from Badan Pertanahan Nasional (National Land Agency), up to October 1996, 395 location permits were granted to 307 companies. The size of the areas under the permits ranged from only 0.37 hectare to 900 hectares. The majority (60 per cent) of the location permits were issued for areas of less than 50 hectares. Only 2.8 per cent were issued for areas of more than 500 hectares. On average, the location permits were issued for an area of 107 hectares (mode 100 hectares). Most of the larger areas under a location permit were issued for land located at a radius of 30 to 35 km from Jakarta. The location permits were mostly (22 per cent) issued for land located at a radius of 20 to 25 km from Jakarta, which conforms to the number of projects built at this range.

⁹ The information for this study was gathered through interviews of a sample of developers in Tangerang, Jakarta, Bogor, and Bekasi. Other secondary sources were mainly real-estate magazines and National Land Agency reports on location permits. The sample consisted of 27 developers (directors, vice directors, or general managers of the companies) who were involved in residential projects in Jabotabek, namely 21 projects in Tangerang (which constitutes 54 per cent of all large developers in the *kabupaten*), two projects in Jakarta, two in Bekasi, and two in Bogor. In addition, interviews were also conducted with Ciputra, owner of several new towns and property development projects; Panangian Simanungkalit, a prominent analyst; Pingky Pangestu, owner of several property projects and an analyst; Sudarsono, assistant to the Minister of Public Housing; and Armand Amiarso, vice coordinator of an international investment syndicate.

Figure 2. Linkages between conglomerates active in urban development (1997)
(Various investment bank reports, PDBI, *Properti* magazine, *Warta Ekonomi*, Winarso and Firman (forthcoming))

fact that most of the large development companies are owned by Indonesian Chinese, but also the way they are interlinked. Winarso and Firman (forthcoming) show the links between these business groups. It has been reported that in 1993, 204 of the top 300 conglomerates were controlled by Indonesian Chinese, amounting to 80.1 per cent of assets (East Asia Analytical Unit 1995). The links between the business groups are formed by cross-shareholding and shared directors, joint ventures among the conglomerates, and family connections such as marriages among the major business families (Figure 2). These links have turned potential competitors into colleagues, allowing the individual companies to maintain their market share (East Asia Analytical Unit 1995).

Figure 2 not only shows the links between the companies, but also reveals that almost all the companies are connected to ex-President Soeharto's family. In a country where corruption and the centralized power of authority are well known,¹⁰ this closeness to the first family opens the possibility of influencing decision-making in the planning process. Some of the names were and are members of the ruling party, Golkar.¹¹

The buyers

Based on interviews in 232 households, randomly selected from 15 residential projects in Tangerang with a proposed size of between 80 and 6,000 hectares, Winarso's (2000) study reveals that buyers in the study area are mostly in their mid-thirties; 55 per cent of them are between 30 and 40 years of age and 13 per cent are between 25 and 30. The average family size of the household is 4.3 (median and mode are 4). The family size is the same as that of the province of West Java, but smaller than that of Jakarta (4.7) and that of Indonesia as a whole (4.5) (BPS 1994).

Most buyers are well educated, 59 per cent of them are university graduates (Winarso 2000). This figure is far above the average educational attainment in Indonesia; it is higher than the percentage of university graduates in Jakarta, which was only 2.89 per cent in 1993, and certainly higher than that of West Java, which was only 0.67 per cent in 1993 (BPS 1994). Only 10 per

¹⁰ Server (1996) argues that 'Corruption in Indonesia has become an element of daily life, with the phenomena of nepotism in obtaining licenses and career posts, commission of contract, the premium to pay for the breach of law, the payment of extra "administrative fees" to speed up administrative steps and the provision of services.' See also Winters 1992.

¹¹ Tutut Suharto was one of the Golkar leaders, Bambang Suharto was one of Golkar's treasurers, and Tommy Suharto was also a Golkar member. Others such as Probosutejo and Ciputra were also active Golkar members. All of them were also members of the People's Consultative Assembly.

cent of the respondents claimed to be self-educated. Most of the buyers (64 per cent) work in the private sector; only 34 per cent work as civil servants.

Winarso's (2000) study shows that buyers are mostly young professionals working in the private sector. The consumers of housing production in the area belong to the middle- and high-income segments, with an average annual income of Rp 37.4 million per year (approximately US\$ 14,960 in 1996), or Rp 3.1 million per month. The buyers' average monthly income is far higher than the average income of employees in Jakarta (Rp 255,463) or in the province of West Java (Rp 151,618) (BPS 1994).¹²

Looking at the buyers' workplaces, Winarso's (2000) study reveals that most buyers work in Jakarta, despite their residential areas being in Tangerang. The fact that their jobs are mostly in Jakarta explains why many of the respondents take 120 minutes to reach their workplace (the mode of a one-way trip is 120 minutes, the mean is 69 minutes, the median is 60 minutes). In other words, many of the buyers need four hours per day to travel back and forth from their work. This amount of time is long compared to the average commuting time in Los Angeles, which is only 27 minutes (Small 1993; Wachs, Taylor, Levine et al. 1993).

The mode of transportation used to reach the workplace is mostly a private car, only a few use the public bus. More than half (56 per cent) of the buyers own one car and quite a few own two cars (Winarso 2000). This rate of car ownership is higher than the average in Jakarta, which is only 4.4 per cent, and even higher than in London (31.8 per cent), New York (21.8 per cent), or Stuttgart (44.2 per cent) (Armstrong-Wright 1993). The car is important because for most journeys from home, the private car is the mode of transport. The car is used for daily shopping and going to the shopping centre, as well as for working. This may be partly due to the bad condition of public transportation in the area.

The buyers are mostly young professionals who work in Jakarta. What made them buy houses in Tangerang? When questioned on the most influential factor in deciding to buy a house in the area, buyers indicated the importance of house prices; an affordable price was an important factor influencing the decision to buy a house in the area (Winarso 2000). Affordable housing prices, proximity to the workplace, good accessibility of the city centre, proximity to shopping centres, and proximity to good schools are the five most influential factors.¹³

¹² The lowest and highest annual income in Winarso's (2000:191) sample were Rp 1.8 million and Rp 250 million respectively. The figures for West Java and Jakarta are from 1994.

¹³ In comparison, a housing preference study in Istanbul (Dokmeci et al. 1996) reveals that, in general, proximity to relatives, a clean and quiet neighbourhood, and a stable environment are common factors influencing choice of house.

Accessibility or land price?

With the above conditions in mind, let us now examine the locational decisions of developers. The decision to buy land for a residential project in a certain location involves a number of factors and requires risk-assessment skills. The main goal is to be able to increase the value of the land, since the developers basically convert non-urban-use land, or rural-use land in the case of Tangerang, into urban-use land. The decision to buy land is the crucial step, as at this step the developers must make a combination of locational and investment decisions which will affect the future exchange value of the land, and thus the profit they will acquire.

Ciputra, the most prominent developer in Indonesia, pointed out five factors influencing locational decisions. These are market demand in the area, the land use plan, land price, financial capacity, and technical aspects. However, he stressed that land price would have the most impact on the price of the final product. He is not alone in expressing implicitly that land price is much more important than the other factors. However, when asked what the most important factor was, the 27 developers in the Jabotabek area gave various answers. 33 per cent of the respondents indicated that land price was the most important factor in locational decision-making; only 7 per cent claimed that proximity to the city centre was the most important factor, while 26 per cent of the developers stated that the location's market demand was the most important factor (Table 1).

Table 1. The most important factors influencing locational decisions, as mentioned by developers

Factor	Number of respondents	Percentage
Land price	9	33
Market demand for the site	7	26
Concordance with current land use plan	3	11
Proximity to main road	3	11
Proximity to city centre	2	7
Availability of land for sale	1	4
Environmental quality (scenery, pollution)	1	4
Possibility of creating a regional centre	1	4
Total	27	100

Source: Appendix B.

The analysis became more sophisticated after the developers were asked not only to mention the primary factor, but to rank the first, second, and third most important factors influencing their locational decisions. The impor-

tance of land price in influencing the decision to buy land then became more pronounced: 78 per cent of the respondents cited land price as one of the three most important factors, 59 per cent mentioned market demand, and 48 per cent mentioned suitability to land use plans, Rencana Tata Ruang, or RTR (Spatial Development Plan), as one of the three principal factors influencing their decisions. If an arbitrary score is attached to each choice (five points for the most important, three points for the second most important, and one point for the third most important factor), a value can be assigned to each factor (Appendix B).

Appendix B shows that land price is in the first position, followed by market demand and suitability to land use plans. In contrast, availability of infrastructure, such as piped water, is not important, nor is an electricity grid. Furthermore, accessibility as represented by proximity to the city centre, public transportation, main road, or shopping centre is not all that important. This evidence is contrary to what has usually been assumed, that three major factors determined the location for residential land use: 1. accessibility (Alonso 1964; Muth 1969; Mills 1969); 2. environmental and social characteristics (Richardson 1978; Fujita, Krugman, and Venables 1999; McDonald 1979; Evans 1985; Harvey 1996; Neutze 1987; Wiltshaw 1985); and 3. profit. A trade-off between accessibility and social and environmental characteristics against profit has been noted.

But why is this the case? The following pages examine some of the factors influencing the decision.

Land price

The importance of land price does not differ significantly among developers. When asked whether they agreed with the statement that land price was the most important factor influencing the locational decision, 22 per cent of the developers agreed strongly (Table 2).

Table 2. Opinion on factors influencing locational decisions

	Land price	%	Availability of land for sale	%	Legal status of land	%
Strongly disagree	0	0	0	0		0
Disagree	2	7.4	1	3.7	8	29.6
Undecided	2	7.4	1	3.7	1	3.7
Agree	17	63.0	13	48.1	11	40.7
Strongly agree	6	22.2	12	44.4	7	25.9
Total	27	100	27	100	27	100

Source: Author's interview with 27 developers.

The chance of earning more profit when the land's buying price is cheap explains this result, as follows: 40 per cent of developers said that the land intended for the projects was bought in 1990. In that year it was still possible to purchase a square metre of land for around Rp 3,000. It is estimated that land prices in Tangerang, for example, ranged from Rp 2,000 to Rp 5,000 per square metre if obtained directly from the farmer. The legal status of the land has a significant effect on the price. There are, roughly speaking, two categories of land, 'full free ownership' (*hak milik*) and 'customary ownership' (*hak adat* or *hak girik*). The first category tends to carry a much higher price, because there is much less risk of conflicting claims arising over ownership of the land (Dowall and Leaf 1991; Leaf 1993).

Winarso (2000) compares land prices before and after development using a dummy price developed from Dowall and Leaf's (1991) study¹⁴ and the selling price of land after development, obtained from 48 projects in Jakarta, Tangerang, Bogor, and Bekasi.¹⁵ A striking price appreciation (the ratio of selling price to buying price) had occurred within only seven years (1989-1996). On average, the land price had increased 100 times after development. Developers who already owned the land before the project was started, benefited from this price increase. The potential price appreciation (the 1996 selling price divided by a 1996 dummy price) rises when the distance to the centre increases – that is, when the price decreases (Figure 3).

Figure 3 gives the price difference before and after development by distance to the city centre, showing the possibility of making more profit when the land's purchasing price is lower. Therefore, although these figures do not show the actual profits, they do show the possibility of a higher profit margin if the development is located farther from Jakarta, where land prices are cheaper.

At the level of individual sites, the completed-site price is a reflection of the opportunity costs for agriculture, a speculation increment due to urban use potential, an increment due to community action (granting of planning permission or development of urban services), and construction costs (Drewett 1973). Hence, the price after development can be seen as the sum of the costs of the production factors plus profit. Thus, potential profit is equal to the selling price minus the cost of production factors.

¹⁴ In their article, Dowall and Leaf (1991) examine the distribution of land prices in Jakarta. They found that the gradient, which is the proportional change in land value for each km change in distance from CBD, was -0.1689 in 1989. Using this parameter and their formula $V_x = V_0 e^{-hx}$, where V_x is land price at x km, V_0 is land price at the centre of the city, e is Napierian Logarithm, and h is the land value gradient parameter, a dummy price can be generated to establish the land price in 1989. The 1989 figures were then adjusted for 8 per cent inflation annually to obtain the 1996 price.

¹⁵ Land price lists obtained from real estate magazines and benchmark valuation from Simanungkalit (1996).

Figure 3. Potential land price appreciation by distance to city centre in 1996 (Winarso 2000:234)

Winarso (2000) shows that the selling price of housing anticipates demand in an imperfect market as a consequence of the oligopolistic nature of the market, due to the limited number and close relationships of its suppliers. Developers exploit this condition, using internal marketing strategies to capture the market. Furthermore, buyers do not have thorough knowledge of the market, due, among other things, to persuasive advertising. In addition, providing basic infrastructure and other public facilities on the site increases its potential for the extraction of 'monopoly rents', allowing developers to 'dictate' prices. Developers become price makers rather than price takers. Raising the selling price, while other costs are fixed, will increase the land's economic yield, and thus generate super-normal profits.

Accessibility

According to Si Pengembang (the group of companies under Ciputra's management), one of the ways of satisfying buyers is through the location of and access to the project: if access to the location is limited, developers have to improve it by constructing roads to the location (*Kiat* 1996). For the developers in the study area, however, accessibility as shown by proximity to the main road, public transportation, city centre, and shopping centre is – contrary to neo-classical beliefs on locational decisions (notably, Alonso 1964; Muth 1969) – not an important factor for locational decisions. It is true that development in the area was started after the construction of the toll road connecting Jakarta and Merak (Winarso and Kombaitan 1995). However, the toll road's existence does not make the journey to Jakarta, where most of the residents (60 per cent) work, any faster; the mode time residents need to

reach their workplaces is 120 minutes.

What has happened is that developers have created other centres outside of Jakarta, forming a multiple sub-centred spatial structure. In fact, developers are creating complementary space that counteracts the centripetal force of Jakarta's central area. It is true that, in the new residential areas, most of the breadwinners work in Jakarta, but the rest of a household's members do not have to go to Jakarta, as the developers have provided the facilities they need. In these circumstances, the household's travel costs are significantly reduced, since they don't have to pay for the time, fare, and discomfort of going into Jakarta for shopping, education, entertainment, or cultural activities. Moreover, households also gain the non-monetary benefits of security and locational prestige.

Accessibility is still an important factor for developers, but not in locational decision-making. Instead of finding locations close to Jakarta or other public facilities, developers build the necessary services – such as shopping centres, schools, markets, hospitals, and offices – in their housing projects, enhancing residents' 'special accessibility' to public facilities by providing good streets and road networks in their projects. Most of the developers interviewed said that they provided shops in their projects, and even shopping centres, schools, offices, and hospitals, connecting these facilities with quality streets and a road network. The provision of such services, which can boost the project's land price, is possible if developers are able to acquire large areas of low-priced land, facilitating economies of scale. Having purchased cheaper land, hence reducing production costs, gives developers more opportunities to provide services than had they purchased more expensive land closer to Jakarta.

By the early 1990s, when traffic flow to and from Jakarta's city centre worsened, developers started to invest in the development of a toll road linking Bumi Serpong Damai, Citra Raya, Puri Jaya, Teluk Naga, and Pantai Kapuk Indah. The investment needed for the construction of the road was over Rp 350 billion in 1996, and was funded by a consortium of three companies, namely Bumi Serpong Damai, Jaya Real Properti (both owned by Ciputra), and Jasa Marga (Widayat and Prasajo 1996; *Memang perlu* 1996). This was a road that had never been considered in the government's master plan for Jakarta.

Lessons learned

An important pattern of behaviour seen in developers in the area was the ability to create demand by exploiting knowledge of the socio-economic use of the house, particularly by the young professional. To create the pre-

ferred image, developers' strategy was to provide attractive public facilities, including on-site high-quality roads and streets. Together with schools and shopping centres, these streets and roads were selling points, as these facilities gave the impression of a well-planned, high-quality residential area. To ensure attractive qualities, developers paid for higher standards in service infrastructure and other exclusive public facilities, and even built toll roads to connect their projects to central areas of Jakarta.

The evidence gathered in this study suggests that land price is the most important factor influencing the locational decisions of developers in the Jabotabek area. The main reason for this is the potential of earning super-normal profits when developing on a large scale and converting cheap rural land into urban land, which is very expensive. By constructing major infrastructure and service facilities (main roads, drainage, sewerage, electricity networks, telephone systems, parks, gardens, schools, clinics, offices, and hospitals; all connected with good quality street networks), developers enjoyed not only the value added beyond costs to the land's selling price due to the possibilities for urban use after the installation of basic infrastructure, but also the value gained beyond building and site service costs in the selling price of a house caused by the demand for urban shelter with the amenities provided by these developers.

Low-priced land was a stronger determinant of developers' locational decisions than access to main roads. Low-priced land enabled developers to achieve economies of scale. This, in turn, minimized development costs to the extent that if they provided the physical infrastructure (roads and streets and toll roads connecting the projects to Jakarta) and service infrastructure, the profit they enjoyed could be maximized. This strategy, although it increased the cost of development, was easier to afford because total costs were kept to a minimum by acquiring large tracts of low-priced land, which made possible economies of scale. By creating images that sell their products, developers can price land according to its highest and best use. Buyers are enticed to purchase a house for its image rather than for its function as a shelter.

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*Appendix A**Residential projects and companies in Tangerang in 1997*

No.	Project	Location	Distance (km)	Area (ha)	Company	Parent company
1	Permata Balaraja	Balaraja	36	50	Restu Alam Permata	Amcol Group
2	Taman Balaraja	Mauk	32.5	50	Amcol Land Development	Amcol Group
3	Alam Sutera	Serpong	19	700	Alfa Goldland Realty	Argo Manunggal
4	Palem Semi	Karawaci	21	80	Bina Sarana Mekar	Argo Manunggal
5	Puri Beta	Joglo	10	75	Beta Gold Land	Argo Manunggal
6	Taman Alfa Indah	Joglo	10	10	Alfa Goldland Realty	Argo Manunggal
7	Bumi Indah	Pasar Kemis	28	200	BHS Land	BHS Group
8	Buana Gardenia	Cipondoh	39	30	Bina Rencana Agung	Bina Rencana Agung
9	Citra Raya	Cikupa	33	2700	Citraland	Ciputra Development
10	Duta Gardenia	Tangerang	24	100	Duta Putra Mahkota	Duta
11	Villa Dago	Ciputat	22.5	75	Duta Putra Mahkota	Duta
12	Villa Taman Cibodas	Jakate	27.5	100	Duta Putra Mahkota	Duta
13	Bumi Eksekutif	Pamulang	22.5	14	Puriayu Lestari	Elang Group
14	Taman Elang	Mauk	32.5	13.3	Citra Saudara Abadi	Elang Group
15	Kebayoran Regensi	Pamulang	22.5	400	Panca Muara Jaya	Ersenal Group
16	Vila Tangerang Regen	Pasar Kemis	26	150	Panca Muara Jaya	Ersenal Group
17	Gading Serpong	Serpong	20	1080	Jakarta Baru Cosmopolitan	Sumarecon Agung
18	Lippo Karawaci	Karawaci	23	500	Lippo Karawaci	Lippo Group/ Kalbe Group/ Ersenal
19	Villa Permata	Karawaci	24	400	Darma Sarana Nusa	Lippo Group*
20	Puri Metropolitan	Gondrong	15	120	Metropolitan	Metropolitan Group
21	Teluk Naga	Teluk Naga	20	3200	Mandara Permai	Metropolitan Group
22	Bukit Modern	Pondok Cabe	21	50	Modernland	Modern Group
23	Kota Modern	Kod. Tangerang	18	700	Modernland	Modern Group

No.	Project	Location	Distance (km)	Area (ha)	Company	Parent company
24	Taman Adyasa	Cisoka	50	150	Adyasa Konstruksindo	Modern Group
25	Melati Mas	Serpong	20	300	Misori Utama	Ongko Group
26	Bintaro Jaya	Pondok Aren	15	2300	Jaya Real Property	Pembangunan Jaya
27	Puri Jaya	Pasar Kemis	30	1800	Jaya Real Property	Pembangunan Jaya
28	Bumi Serpong Damai (BSD)	Serpong	22	6000	Bumi Serpong Damai	Pondok Indah Group/Salim Group/Sinarmas Group/Sudwikatmono
29	Kota Tiga raksa	Tigaraksa	39	3000	Tiga Raksa	PWS
30	Taman Banjar Wijaya	Cipondoh	20	120	Sinar Wijaya Ekapratama	Wijaya Karya
31	Taman Sari Pesona Bali	Cirendeui	18	20	Wijaya Karya	Wijaya Karya
32	Amara Pura	Serpong	24	6	CJ Property	
33	Bangun Grija Islam	Balaraja	39	18	Bagun Segara	
34	Bumi Indah	Pasar Kemis	28	150	Artha Buana Sakti	
35	Bumi Srana Rejeki	Mauk	32.5	10	Bumi Sarana Rejeki	
36	Daru Indah	Tigaraksa	38	10	Andaru Sakti	
37	Dasana Permai	Legok	26	500	Darma Sarana Nusa	
38	Flamboyan Village	Rempoa	14	10	Flamboyan Mitra Giya	Pujiadi Pretge
39	Geria Jakarta	Pamulang	21	50	Setia Cipta Markindo	Setia Cipta Dinamika Group
40	Gradenia Jakarta	Ciputat	19	5	Tatacitra Grahaseras	
41	Kedaton	Pasar Kemis	33	200	Duta Realtindo	Ciputra Group *
42	Kosambi Baru	Semanan	20	85	Taman Harapan Indah Group	Metropolitan
43	Liga Mas Regensi	Karawaci	23	30	Liga Mas Hunian Seja	
44	Medang Lestari	Legok	25	100	Masa Kreasi	
45	Nirwana Serpong Agun	Pamulang	24	150	Subur Progres	
46	Pamulang Estat	Pamulang	23	40	Pelangi Buana	Tiga Berlian
47	Pamulang Permai	Pamulang	24	125	Bumi Upaya Griya	
48	Perumnas	Karawaci	23	450	Perumnas	Perumnas

No.	Project	Location	Distance (km)	Area (ha)	Company	Parent company
49	Pondok Payung Mas	Ciputat	20	5	Burna Jaya	
50	Prima Bintaro	Pondok Aren	13	2	Puri Gading Selaras	Kalbe Farma Group
51	Puri Marisa	Ciputat	20	15	Tatawira Sakti	Mariza Haque and Ikang Fauzi
52	Taman Pabuaran	Pabuaran	15	12	Bumiprima Alamidah	
53	Taman Rempoa Indah	Rempoa	13	100	Taman Rempoa Indah	Brasali Group
54	Tataka Puri	Curug	27.5	150	Bukit Permata Nirwana	
55	Telaga Bestari	Cikupa	34	70	Sinar Puspa Persada	
56	Vila Ilhami	Karawaci	22	100	Mustika Hadiasari	
57	Vila Inti Persada	Ciputat	23	30	Altan Karsaprima	Bagun Cipta Sarana
58	Vila Jombang Baru	Ciputat	18	5	Sadana Manekaguna	
59	Vila Pamulang	Ciputat	23	115	Reni Jaya	Reni Jaya
60	Vila Pamulang Mas	Ciputat	20	60	Banguncentra Pamulang	Misori Utama/Indokisar

Note: An asterisk means a take-over.

Source: *Properti Indonesia* April 1997, November 1996, October 1994, and other sources.

Appendix B

Ranking of factors influencing locational decisions

Factor	Importance of factor			Total answers	% of sample	Value
	First	Second	Third			
Land price	9	6	6	21	78	69
Market demand for the site	7	5	4	16	59	54
Concordance with current land use plan	3	6	4	13	48	37
Proximity to main road	3	2	3	8	30	24
Proximity to city centre	2	4	2	8	30	24
Availability of land for sale	1	2	2	5	19	13
Legal status of the land		2	1	3	11	7
Environmental quality (scenery, pollution)	1		1	2	7	6
Possibility of creating a regional centre	1		1	2	7	6
Availability of piped water			2	2	7	2
Proximity to other residential projects				0	0	0
Availability of electrical networks				0	0	0
Proximity to public transportation				0	0	0
Proximity to shopping centre				0	0	0
Proximity to a good school				0	0	0
Permit procedures				0	0	0
Other			1	1	4	1
Total	27	27	27	81	300	243

Total answers = First {1} + Second {2} + Third {3}

Percentage of sample = (Total answers/27) * 100

Value = {1} * 5 + {2} * 3 + {3} * 1

Source: Author's interviews with 27 developers.