

# Brownfield redevelopment in Jakarta

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# Brownfield Redevelopment in Jakarta

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*For Rya*

## Preface and acknowledgements

The subject of this thesis is the Indonesian capital of Jakarta. My first encounter with the city was during an excursion in my bachelor program. Many things attracted my attention. Jakarta seemed to be a city completely different from any city I had visited before. One of the things that attracted my attention was the many buildings that looked decayed. This immediately appeared to me as an opportunity to rejuvenate these buildings and by that improve the whole urban area as well. Literature about Jakarta showed that the city has a problem with uncontrolled land conversion that leads to a decreasing amount of green areas. Redevelopment of decayed urban areas seemed to be a chance to improve the overall look of Jakarta as well as to direct developments away from the green areas. I hope this thesis could be useful in giving more insight in the practice of brownfield redevelopment in Jakarta as well as the chance to improve Indonesian planning policies relating to the subject.

I want to bestow this thesis to my dearest. You have always believed in me, and supported me. Your love was such an inspiration for me to work on my thesis. Thank you for your help with the research. I hope we will have a wonderful future together. ILUPHU!

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## Inhoud

Preface and acknowledgements.....	i
List of figures.....	v
List of tables.....	v
Summary.....	vi
Chapter 1: Brownfield redevelopment in Jakarta.....	1
General overview of the area.....	1
Key research questions.....	3
Methodology.....	4
Chapter 2: brownfield redevelopment.....	6
2.1: Introduction.....	6
2.2: Benefits of redeveloping brownfield locations.....	7
2.2.1: Environmental benefits.....	8
2.2.2: Social benefits.....	8
2.2.3: Economic benefits.....	9
2.3: Problems with brownfield redevelopment.....	10
2.3.1: Contamination.....	11
2.3.2: Neighbourhood not yet ready to be redeveloped.....	12
2.3.3: Ownership constraints.....	12
2.3.6: Categorization of problems.....	13
2.4: International regulations and policies.....	14
2.4.1: Regulatory instruments.....	15
2.4.2: Economic instruments.....	17
2.4.3: Communicative instruments.....	17
2.5: Analysis table.....	18
Chapter 3: contextual overview.....	21
3.1: Historical Development of Jakarta.....	21
3.2: History of Spatial Planning in Indonesia.....	23
3.3: Spatial Planning Act 26/2007.....	26
3.4: Current Planning System Jakarta.....	28
3.5: Developments in Jakarta.....	31
3.6: Plans.....	34
3.7: Practice of brownfield redevelopment.....	36
3.7.1: Slum areas.....	36

3.7.2: Attracting investment .....	36
3.8: Brownfield locations in Jakarta .....	37
3.9: Summary .....	40
Chapter 4 Brownfield redevelopment in Indonesia.....	42
4.1: Regulatory (or legal) instruments .....	42
4.1.1: Issues of liability .....	42
4.1.2: Risk based standards related to future land use .....	42
4.1.3: Ownership, issues of sale and purchase .....	42
4.1.4: Zoning .....	44
4.1.5: Planning policies .....	45
4.1.6: Land permits .....	45
4.1.7: Environmental Impact Assessment requirements.....	47
4.2 Economic (or financial) instruments .....	48
4.2.1: Tax incentives.....	48
4.2.2: Negative economical instruments .....	49
4.2.3: Positive financial incentives .....	49
4.2.4: Investing in catalyst projects.....	50
4.2.5: Urban Development Corporations.....	50
4.2.6: Locating or expanding government facilities to these places.....	50
4.2.7: Upgrading and/or adding key services .....	50
4.3: Communicative (or social) instruments.....	50
4.3.1: Contact with each other .....	50
4.3.2: Availability of knowledge .....	53
4.3.2: Knowledge – educating.....	53
4.3.3: Exchange of knowledge .....	54
Conclusions .....	55
Brownfield locations in Jakarta.....	55
Practice of brownfield redevelopment in Jakarta.....	56
Implications for the literature findings .....	57
The need for incentives .....	60
Lessons for Jakarta .....	60
1. More strict enforcement.....	60
2. Stimulate the informal sector .....	61
3. Improve coordination within parts of the government.....	61

4. Transfer land tax to local government.....	62
5. Positive and negative financial incentives .....	62
6. Funding for redevelopment heritage buildings .....	62
7. Doing what works .....	63
8. Use of Environmental Impact Assessment .....	63
9. Use of zoning.....	63
10. Public-private mismatch .....	63
Main question .....	64
References .....	65
Appendix A: interview protocol .....	69
Appendix B: Interview respondents.....	71

## List of figures

Figure 2.1:	Obstacles to brownfield redevelopment.....	13
Figure 3.1:	Spatial structure plan of Jakarta 1985-2005.....	25
Figure 3.2:	National Development Planning.....	29
Figure 3.3:	Plans relating to Jakarta.....	31
Figure 3.4:	Brownfield location in Kota Tua.....	38
Figure 3.5:	Loop line area.....	39
Figure 3.6:	DKI Jakarta Spatial Structure Plan.....	40
Figure 5.1:	DKI Jakarta Spatial Structure Plan.....	56

## List of tables

Table 2.1:	Analyse table.....	20
Table 4.1:	Ownership certificates in Indonesia.....	42
Figure 5.1:	Relationship theory and practice.....	58

## Summary

*For years Jakarta has experienced a strong conversion of green space. In 1965 Jakarta still had 35 percent of its area covered with green space. The current open green space in Jakarta is 9 percent. This shows a significant decline in the amount of green space. The uncontrolled conversion of green areas in the urban fringe can lead to serious socio-economic and environmental impacts. An example is excessive water extraction. Another example can be traffic congestion that is caused by the heavy flow of commuter traffic from the newly developed towns to Jakarta. Two major consequences for the converted agricultural land include the loss of agricultural land. Often fertile and productive lands are converted which leads to a decrease in agricultural productivity. In the long run, this can lead to a food deficit, when agricultural productivity continues to decrease. Indirect impacts include the flow of people from the urban centre to the new development in the urban fringe, while they maintain their socio-economic linkages with the urban centre. Arguably, the most important result of green to urban conversion in the urban fringe of Jakarta that will be noticed is the disappearing important function as water containment that green zones have. A problem is that not just the agrarian land use in the urban fringe becomes converted, but even conservation areas like Jalur Puncak in south Bogor, which serves as a water recharge area for DKI Jakarta. The newly endorsed national spatial planning bill will require provincial administrations to restore their green areas, when the law comes into force. Besides this, green areas are an important urban element that can help to make cities self-sustainable and more liveable.*

*This thesis suggests brownfield redevelopment as a way to make more efficient use of existing land resources. The hypothesis was that brownfield redevelopment could be a possibility to direct development from the important green zones towards the redevelopment of underutilized urban areas. This thesis defines a brownfield location as any previously built-up location that has lost its economic function, that is now idle or underused and where a process of redevelopment would physically and economically improve the location. Brownfield redevelopment can have two complementary functions for Jakarta; it can serve as an alternative to the development and conversion of green zones. Another function it can serve is to improve urban quality in Jakarta by improving and redeveloping previously developed, but now underutilised land.*

*The benefits of redeveloping brownfield locations can be found in many sources of international literature. These benefits can be divided into environmental benefits, social benefits and economic benefits. Brownfield redevelopment comes in an environmental package, but in essence it is about economic development through the constructive reuse of damaged real estate. When implemented properly, it can stimulate smart growth and urban infill concepts. Brownfield redevelopment can produce win-win scenarios for both the economy and the environment. However, problems brownfield redevelopment has to deal with can be related to contamination, to neighbourhoods that are not yet ready to be redeveloped and to ownership constraints. Especially the problems related to contamination are often mentioned in United States literature. Policies used to redevelop brownfield locations can be divided into regulatory, economic, technical and social instruments. This thesis focuses on the regulatory, economic and social instruments.*

*A number of trends can be seen in Jakarta relating to the development of brownfield locations. The first is how the original settlements of the city became in lower demand after new developments. Current brownfield locations can mostly be found in the area of the first colonial settlements in Jakarta. In this area many colonial buildings relating to the trading activities of the Dutch East India*

Company have now become brownfield locations. Examples are old warehouses. A second trend that can be seen is how industry was moved out of the city after the Second World War. This left behind typical brownfield locations. Nowadays almost all of these locations have already been redeveloped. The centre of the city experienced enormous economic growth, redeveloping many brownfield locations in this area. The redevelopment of Jakarta's brownfield locations was slowed down by uncontrolled peri-urban developments. Further, planning policies try to manage previously uncontrolled developments. Jakarta has many areas with brownfield locations. For example, many slum areas need to be redeveloped.

Brownfield redevelopment in Jakarta is most commonly used to improve the living quality of slum areas and to attract developers, so locations can be redeveloped into commercial areas. In high density slum areas, apartments are being built. In low and moderate density slum areas a land consolidation rearranges the plots, in order to create more space for public purposes, such as pathways, gardens and public meeting space. Three instruments are most commonly used to redevelop Jakarta by rebuilding areas into commercial land uses. The three most used instruments that are used to make areas interesting for developers to redevelop are the use of floor area ratio, the development of infrastructure and an easier permit system.

International literature shows a very strong emphasis on contamination as well as the problems this could give. However, policies like these are absent in Indonesia and play no role in making locations attractive for redevelopment. Another type of incentive found in international literature is that of tax incentives. In Indonesia however, local governments cannot use this policy as a tool of spatial management to control developments, because the national government is the authority to regulate land tax. The case of Jakarta also shows some points international literature does not talk about. The policy to allow a higher building intensity is not described in the theory. In Jakarta however, it is a very commonly used and very effective method to influence redevelopment. Another point the literature does not make is the role that the informal sector can play. In Jakarta and probably in many other developing countries as well a large informal sector exists. This innovative sector could be stimulated to use deserted buildings for some small scale economic activities. This can prevent these people from living in open green areas such as river banks, while at the same time unused buildings can be used economically.

The main question this thesis tries to answer is: 'can brownfield redevelopment be a possible solution to redirect the focus of development in Jakarta away from the green zones.' This thesis shows that brownfield redevelopment has enormous potential. Almost all industrial brownfield locations in Jakarta have already been redeveloped. The growth and expansion of the CBD shows how high the demand is to redevelop urban areas. New constructions can be found in many places in Jakarta. It can clearly be seen that a willingness to redevelop urban areas exists. Further, in Jakarta a number of highly effective incentives proved to be effective in making brownfield locations redevelop and steer developments in certain directions.

However, government can influence public actions only until a certain degree. Developers still have the final power. When developers want to realise certain developments, they are most likely to succeed. Local government in Jakarta can ask for major compensations and developers will comply because they still make a large profit from their redevelopments of urban areas in Jakarta. Further, it was shown how development will only occur when the developers are willing to develop. The case of

*Jakarta showed how large government investments, including investments in infrastructure will not result in redevelopments when developers choose another location to develop. Even when this other location is a greenfield area.*

*Brownfield redevelopment is very likely to be successful in Indonesia, but a stricter enforcement of the Spatial Planning Law, Master Plan and local regulations is necessary to truly redirect the focus away from the green zones. Green zones will only be fully protected when everyone has the willingness to protect them, when building against the land use plan will be strictly punished and when no plans will be approved off when they are not in line with the law or spatial plans.*

## Chapter 1: Brownfield redevelopment in Jakarta

### General overview of the area

Over the years, Jakarta had to witness a strong conversion of green space. Land conversion happens when land is converted from green space to urban land-uses or from one urban land use to the other (Firman, 1997). An article in the Jakarta Post (Simomora, 2006) describes the problem of the decline in green space in Jakarta. The ministerial guidelines from 1998 state that each city should reserve between 40 and 60 percent of its territory for green space. At the time of writing this article (in 2006), only 5,911 hectares of a total of 63,744 hectares in Jakarta consisted of green space. Simomora (2006) quotes Hasbi Azis, head of research and policy analysis: "The city has fewer square meters of public space per person at 0.55 square meters. Ideally, it would be five square meters. If Jakarta's population reaches 12.5 million by 2010, it will need at least 18,750 hectares of green space, far more than the administration target of 9,544 hectares." As a comparison; Japan has a ratio of five square meter of green space per resident, Malaysia has a ratio of two and London has a ration of 11 square meters per resident. Simomora writes that according to Yayat Supriatna, an urban planner from Trisakti University, "Jakarta lost about 90 hectares of green space every year due to rapid population growth and infrastructure development in the city," and that "Jakarta lost more than 450 hectares of green space in the period between 2000 and 2004". Rukmana (2008a) writes that in 1965 Jakarta still had 35 percent of its area covered with green space. This shows a significant decline in green space over the last years.

The problem of conversion of green areas into urban land-use does not just occur in the city of Jakarta (officially the Capital City Special Region, Daerah Khusus Ibukuta, DKI Jakarta). The problem of conversion also occurs in Jakarta's urban fringe in the metropolitan area Jakarta. This area is called Jabodetabek, what is an acronym for Jakarta, and its satellite towns of Bogor (on the south), Depok (also on the south), Tangerang (on the west) and Bekasi (on the east of DKI Jakarta). Firman (1997) writes that the development of foreign and domestic investment in Jabodetabek (and in the complete northern region of West-Java) has led to many major economic changes within the region. The city centre of Jakarta is being transformed into a commercial and financial centre. A result of this transformation is that many former residential areas in the city centre now have been converted into commercial areas. In contrast, manufacturing industries, that usually need large parcels, move to the urban fringe of Jakarta. This generates employment and brings a flow of population to peripheral areas. According to Firman (1997), land conversion is a normal outcome of the process of urban development. However, in Indonesia land conversion happens rather uncontrolled. A reason for this is the weakness of the current system of land permits and their enforcement. Land conversion in Indonesia reflects for a large extent the operations of large private developers who often act speculative. "In summary, the present land development permit system in Indonesia basically reserves the land almost exclusively for approved developers and tends to encourage speculative trading in land with resultant high profits. The land-use plans, intended to control land conversion, do not seem to work effectively, due to inconsistencies and weak enforcement as well as administrative inadequacies of the local government and the National Land Agency" (Firman, 1997: 1042). Other problems that cause uncontrolled land conversion include violation of land use plans

and misuse of land permits as a means of collecting fees instead of serving as a way to control urban development.

The uncontrolled conversion of green land in the urban fringe can lead to serious socioeconomic and environmental impacts. Examples are excessive water extraction and congestion that is caused by the heavy flow of commuter traffic from the newly developed towns to Jakarta. A large percentage of middle-income people living in the urban fringe has still strong connections with the urban economy of DKI Jakarta. Two major consequences for the converted agricultural land include the loss of agricultural land. Often fertile and productive lands are converted what leads to a decrease in agricultural productivity. In the long run, this can lead to a food deficit, when agricultural productivity continues to decrease. Indirect impacts include the flow of people from the urban centre to the new development in the urban fringe, while they maintain their socio-economic linkages with the urban centre. Arguably, the most important result of green to urban conversion in the urban fringe of Jakarta that will be noticed is the disappearing, important, function as water containment that green zones have. A problem is that not just the agrarian land use in the urban fringe gets converted, but even conservation areas like Puncak Jalur in south Bogor, which serves as a water recharge area for DKI Jakarta (Firman, 2007). Green zones on the scale of the entire metropolitan area are needed as water containment area, but also in the city of Jakarta green zones are necessary as described by The Jakarta Post (2007) and Nurbianto (2003). The city administration should stop environmental damage of uncontrolled conversion of green areas into business areas. The conversion of swamps and mangrove forest, mostly in the north of Jakarta contributed considerably to flooding of Jakarta, because their function of absorbing rainwater and to hold back sea high tides has been lost. Nurbianto further addresses the problem of building in upstream areas in Puncak, what also serves as a water catchment area for Jakarta. In addition, the newly endorsed national spatial planning bill will require provincial administrations to restore their green areas, when the law comes into force. Besides this, green areas are an important urban element that can help to make cities self-sustainable and more liveable.

Doeble (1987) describes the key issue in urban land development policy as “how to increase the land supply accessible to low-income groups and to make more effective use of substantial areas of under-used urban land” (p.348). According to him, there are three major approaches to increasing land supply. These include: direct public actions; joint public-private actions and the more efficient use of existing land resources (p.248). His third approach, making more efficient use of existing land resources, leads to the idea of brownfield redevelopment as a possibility of directing development from the important green zones towards the redevelopment of underutilized urban areas. A brownfield location is “land previously used for urban uses ... these include residential, transport, and utilities, industry and commerce, community services, previously developed vacant land and derelict land.” (British Parliamentary Office of Science and Technology, in Tedd et.al., 2000:33). Brownfield redevelopment can have two complementary functions for Jakarta; it can serve as an alternative to the development and conversion of green zones. Another function it can serve is to improve urban quality in Jakarta by improving and redeveloping previously developed, but now underutilised land. Based on observations in Jakarta, this research will argue that Jakarta has enough quantity of brownfield sites to make brownfield redevelopment an option for preserving green areas and improving urban quality for Jakarta.

## Key research questions

This thesis will examine the environmental sustainability of Jakarta, by looking at the concept of brownfield redevelopment to see if this can be a solution to the case of the conversion of green space in Jakarta. To do this, the concept of brownfield redevelopment will be described from an international perspective. This thesis will look at the different types of brownfield redevelopment that exist and at the policies that are used to improve brownfield redevelopment.

The case of Jakarta, with its institutional background will also be reviewed. This study will further elaborate on the causes, the effects and the history of land conversion in Jakarta and its metropolitan area. Besides this, the Indonesian planning system will be described as this serves as an important institutional background that is necessary to understand and to explain the current use of brownfield redevelopment in Jakarta. The current policies will be discussed, as well as some policy changes that have been proposed by different scholars.

The main question that this thesis tries to answer is: can brownfield redevelopment be a possible solution to redirect the focus of development in Jakarta away from the green zones.

This research follows the idea of Firman (1997) that land conversion is a normal outcome of the process of urban development. However, Jakarta and Indonesia experience uncontrolled development as this quote of The Jakarta Post (2007) very clearly shows: "Permits to erect buildings there should have been hard to obtain. But that was the theory, not the practice." Therefore, it is argued that it is not possible to only suggest brownfield development, but instead the current institutional context, the Indonesian planning system, and the current policies and developments in should be investigated to see how they could make the concept of brownfield redevelopment more likely to be successful.

The conclusion to this question should be a description of how likely brownfield development is to be successful in Indonesia, what instruments exist in the Indonesian case, and what should change to make this concept viable to establish in Indonesia. The conclusion will analyse what is the relation between brownfield redevelopment in the international literature and the practice of brownfield redevelopment in the Indonesian case. This conclusion will be followed by some recommendations for policies to make brownfield development successful and will finally answer the main question: "can brownfield redevelopment be a possible solution to redirect the focus of development in Jakarta away from the green zones?"

In order to answer this main question, the research will be divided into the following sub questions

1. What is brownfield redevelopment?

This sub question will describe the theory of brownfield redevelopment; it will show the benefits and problems related to the redevelopment of brownfield locations. Further, the international context of different instruments and policies that can be distinguished to use to redevelop brownfield will be researched. Finally this sub question will try to develop a table to make it possible to research the theory in the practice of Jakarta.

2. What is the institutional context of Jakarta?

This sub question will discuss the context of Jakarta more in depth. It will give an overview of the historical development of Jakarta, of the history of spatial planning, in Indonesia as well

as in Jakarta. The new national Spatial Planning Act 26/2007, and its improved implementation, zoning regulation, administrative penalty and criminal penalty will be discussed. The sub question will further list some developments that are currently unfolding in Jakarta, and the current practice of brownfield redevelopment. Finally, the locations in Jakarta where brownfield redevelopment would be possible will be studied. The goal of this chapter is to give a basis for assessing the possibilities of brownfield redevelopment in Jakarta.

3. How is brownfield development currently undertaken in Indonesia?

This sub question will describe the current practice of brownfield redevelopment in Indonesia. It will discuss the analyse table that will be developed based on the sub chapter 1. This sub question will discuss what instruments are used; what instruments are possible or not in the case of Jakarta.

## Methodology

### *Literature review*

Sub question 1 and 2 will be answered with a literature review. Books and journal articles were researched to get a clear vision of the theory and international practice of brownfield redevelopment and to find out what incentives are used. Literature review is also used as the method to research the context of Jakarta. There is not much English literature relating to brownfield redevelopment, policies and incentives in Jakarta. Therefore, document analysis and interviews have been used to find as much relevant information as possible.

### *Document analysis*

Sub questions 2 and 3 were answered by analysing newspaper articles and Indonesian policy documents and reviews of those policy documents. A problem with the use of Indonesian policy documents is the use of Bahasa Indonesia. To overcome this problem, the English translation of the Spatial Planning Act 26/2007, and the English translation of the Jakarta Master Plan 2010 have been acquired during interviews. To find newspaper articles, the website of the Indonesian newspaper 'The Jakarta Post' has been used. At the website's search function the search criteria 'spatial planning act', 'spatial planning', 'green zones', 'brownfield redevelopment', 'urban renewal', and 'master plan' have been used to find articles that have been selected for relevance.

### *Interviews*

Indonesian PhD researchers at the Faculty of Spatial Science of the University of Groningen have been interviewed to confirm information that has been found in the literature.

To acquire the information needed, government officials in Jakarta have been interviewed. The original contacts have been provided by Miming Miharja from the Institute of Technology Bandung. At the end of every interview the respondents have been asked to recommend a new contact who they thought would be able to answer the interview questions. In total 11 people have been interviewed at the Ministry of Public Works, the Research Ministry, the National Land Agency Jakarta

local government urban spatial development department, and Bappeda, the DKI Jakarta planning agency. The interview protocol that has been used can be found in appendix B.

Further, Andi Oetomo, lecturer at the Institute of Technology Bandung and also involved in the design of the Jakarta Master Plan has been interviewed to get a more theoretical perspective on the policies used.

It was planned to do more interviews and get a broader perspective, but contacts at the World Bank, URDU, Dinas Tata Ruang and Biro Tata Ruang, as well as with developers in Jakarta could not be interviewed due to a time of holiday in Indonesia. Especially the point of view from the developers would have been interesting, considering the differences in thought in Indonesia between government and the private sector.

In most cases the English language skills of the respondents for the interviews were good, although for several interviews there was help from native Indonesians with good English language command to help with difficult translations.

Not all questioned respondents could answer the questions about the existence and possibility of every instrument. When more interviews could have been undertaken until the point where more interviews would not give more information, this would have given more information and made the results more reliable. There would have been more possibilities to cross-check information. Unfortunately some respondents that promised to reply on questions sent by email, due to the impossibility to be interviewed in person, never replied those questions. This would also have given more information.

These three methods have been used to find the most information as possible. The interviews were undertaken to find direct information, not to check on the literature. The information that was found during the interviews is not grouped together, but can be found throughout the text of chapters 3 and 4. The separate methods could not provide the information needed to answer the research questions; therefore a combination was needed to provide sufficient information. Combining of methods also improves the reliability of the data, due to the use of more sources.

## Chapter 2: brownfield redevelopment

### 2.1: Introduction

This chapter will describe the theory about brownfield redevelopment. It consists of a review of journal articles. This chapter gives a review on the reasons for redeveloping brownfield locations. It further reviews the problems related to brownfield redevelopment. After this, an overview of different policy instruments that can be found in the international practice of brownfield redevelopment will be given. The goal of this chapter is to develop a framework of analysis that can be used to research the existence and possibility to use these instruments in the case of Jakarta. This chapter focuses on possible policies that can be used for brownfield redevelopment. The overview of policy instruments found in the international practice will be used to develop an analyse table that will make the existence of these policies in Jakarta possible to research.

This thesis defines a brownfield location as any previously built-up location that has lost its economic function, that is now idle or underused and where a process of redevelopment would physically and economically improve the location. The United States Environmental Protection Agency is the main body for making policy regarding brownfield redevelopment in the United States. Their definition of a brownfield location is “abandoned, idle or under-used industrial and commercial facilities where expansion or re-development is complicated by real or perceived contamination (McKenna, 1998: in Tedd, P., et.al., 2001:333).” This thesis does not use a definition as restrictive as the American one, because this definition links brownfield locations with contaminated sites. In this thesis, a brownfield location does not necessarily have to be contaminated. Much of the literature that can be found addresses the problem of contamination at brownfield locations. This shows that brownfield locations do have a possible problem of contamination. However, this thesis uses a broader and less restrictive definition.

Because the definition is broad, the implications for Jakarta should also be named. Over the last centuries, Jakarta has experienced an urban land conversion. Slum areas have been redeveloped into malls, offices or large housing developments. Other movements of functions are the shift of offices and industry. During the globalisation that took place in Indonesia and in Jakarta, there was a movement of offices from North Jakarta to the CBD (Firman, 1999). Many companies were going up-market, leaving the older areas of Jakarta Metropolitan Region where they were located and moving into the Central Business District. Before, the companies tried to retain a low profile, but with the growth of the capital market, they needed to develop corporate addresses in order to impress the business communities. Therefore it will be likely that the lower profile offices that they left in the older areas of Jakarta will now be empty or underused, making them potential locations for brownfield redevelopment. There has also been a relocation of manufacturing activities. Firman (1997) writes that land conversion in Jakarta is part of a general economic and physical restructuring in the region. Jakarta City has been shifting its functions from a centre of manufacturing activities into a business, finance and services centre, whereas the peripheral areas have become locations for manufacturing industries, large-scale land sub-division and new towns. It would be likely to find that the shift of industry of manufacturing industries to the peripheral areas of Jakarta has left the old industrial locations, together with empty, underused warehouses behind as potential redevelopment locations.

The issue of pollution and contamination has to be addressed to redevelop brownfield locations in a sustainable way. Therefore, different policies have been developed to deal with the problem of contamination. However, these problems should not stop the redevelopment of brownfield locations, because of the positive sides of brownfield redevelopment and its chances to protect the green zones. In the case of Jakarta the protection and creation of green zones is an important necessity for a sustainable urban development.

In the international context, two important countries when it comes to brownfield redevelopment are the United States and the United Kingdom. To understand the type of redevelopment that takes place, it is important to look at the development cities in these countries have gone through. In the United States, most cities started developing at a central point, after that edge cities sprawled out and the core started to lose its inhabitants and economic base. The 'downtown' buildings and industry became derelict. Brownfield redevelopment mostly takes place in those areas. Many of those areas are contaminated by previous land uses. The industrial revolution started in the United Kingdom. The factories in the cities pulled population from the rural areas into the city where many workers neighbourhoods started to develop close to the factories. In the United Kingdom, now a theoretical distinction can be found between greenfield locations – non-built, non-urban areas – and the built-up areas of the factories and their surrounding neighbourhoods are the areas to be redeveloped. An example of this is the completely regenerated area of the London Docklands that became a residential area in high demand.

Greenberg et.al. (2001) describe brownfield redevelopment as one of six potential smart growth options. The five alternative options they describe are (1) the directly purchasing or facilitation of purchase of land in environmentally sensitive locations by governments; (2) making it more difficult to develop farms, forests and other greenfields. This can be done by not providing infrastructural works for such developments, by requiring large impact fees to cover for the long-term costs of low density development and by requiring regional review of proposed developments; (3) Changing of transportation policies, by providing incentives for high density development in specific urban locations. By building light rail lines and subsidizing mass transit; (4) rewarding actors who promote compact settlements; (5) regional government. In their essay, they conclude that brownfield redevelopment is the smartest option of these six smart growth alternatives. The next sub chapter will describe aspects of brownfield redevelopment that make it a smart growth option to develop cities sustainably. The benefits will be reviewed in order to develop a theoretical justification of brownfield redevelopment as a good policy to make Jakarta develop in a sustainable way.

## **2.2: Benefits of redeveloping brownfield locations**

Thornton et al. (2007) write that the brownfields Initiative was meant to promote the regeneration of brownfield locations that have a great development potential. For example, cleaning up environmental hazards, removing neighbourhood eyesores, at the same time, creating jobs, providing housing and promoting general economic health in local communities of all sizes. Brownfield redevelopment can produce win-win scenarios for both the economy and the environment. Whitman (2002) describes some of these win-win situations. She notes that even though brownfield redevelopment comes in an environmental package, in essence it is about economic development through the constructive reuse of damaged real estate. When implemented

properly, it can stimulate smart growth and urban infill concepts. In her article, she further elaborates on the economic development potential. She says that brownfield redevelopment can mean economic rebirth for locations with environmental contamination where that often used to mean blight. Several authors describe the benefits of redeveloping brownfield locations. De Sousa (2000) divides benefits of brownfield redevelopment in environmental benefits, social benefits and economic benefits. This chapter will use his categorization and add to it benefits of brownfield redevelopment, as described by other authors. Supporters of smart growth, in particular highlight the potential of brownfield redevelopment for encouraging more compact urban development. The benefits offered by controlling sprawl are also included in the overview (De Sousa, 2002).

### **2.2.1: Environmental benefits**

The redevelopment of brownfield locations can offer environmental improvements. When these locations have been contaminated, they can be a risk for public health and safety. However, when they are being redeveloped, the contamination can be dealt with. This reduces fear, health hazards and negative environmental impacts within a community (Whiteman, 2002). In addition, the environmental quality of groundwater and soil resources can be protected. Further, former landscapes can be restored and new areas of ecological value can be created (De Sousa, 2000).

Other environmental benefits are related to the control of sprawl. De Sousa (2000) writes that brownfield redevelopment can reduce the pressure on greenfield sites. By control of sprawl, open space and farmland can be preserved. This can help to keep water and air clean. In addition, when sprawl imposes loss of agricultural land, farmland productivity can be reduced. Directing growth within the urban areas also allows environmental sensitive land to be better protected. Providing jobs close to existing housing also reduces the use of energy for transportation (Hise and Nelson, 1999).

Overall, what is known about the effects of smart growth options on ecological and public health suggests a clear advantage for redevelopment, especially brownfield redevelopment. According to Greenberg et.al. (2001), it is the only one of the six options mentioned before, that can improve environmental quality and public health in older city neighbourhoods and industrial suburbs as well as the metropolitan fringes without implementing potentially politically difficult policies to control sprawl on the fringe areas.

### **2.2.2: Social benefits**

Physical renewal is one of the benefits of brownfield redevelopment. With brownfield redevelopment, renewal of urban cores will raise the quality of neighbourhoods and public life (De Sousa, 2002). Whiteman (2002) writes that reduction of blight will eliminate the negative value of real estate. Johnson (2002) describes indirect benefits that industrial redevelopment on brownfield locations can offer to low income communities. These indirect benefits may include improved infrastructure, creation of parkland where none existed before, and removal or rehabilitations of neighbourhood eyesores or crime hotspots. According to him, even small-scale projects can have effects that are strongly felt by local communities. Because many brownfield locations are located in

areas with high unemployment and a high number of business closings, the re-use of former industrial and commercial land is important to revitalize neighbourhoods (Hise and Nelson, 1999).

Brownfield redevelopment will improve the perception of the neighbourhood that is being redeveloped. It will reduce the fear of ill health, environmental weakening and shrinking property values in these communities (De Sousa, 2000). In a process of neighbourhood revitalization, affected communities will also be relieved of negative social stigmas that are associated with them. According to Whiteman (2002) brownfield redevelopment restores the confidence of the public in its community, improves self-image, and distributes the economic benefits locally where often they are desperately needed.

Brownfield redevelopment virtually offers new locations. In the underused state that brownfield locations have, they have no use or advantage for the community. However, when they are redeveloped, locations are provided for housing, commercial activity and open space. Brownfield sites give local businesses a place to expand and prosper, and to keep the benefits from these business activities within the community (Whitman 2002). Hise and Nelson (1999) add to this that the providing of land for commercial and industrial projects within built-up areas maximized the use of existing facilities.

There are also some general improvements that brownfield redevelopment offers. According to De Sousa (2002), brownfield redevelopment has the potential for encouraging more compact urban development, reducing development pressure on greenfield sites, and lessening the use of public funds for new infrastructure. Further, it can enhance the quality of the environment, attract investment to older urban centres, and improve the social conditions of local communities, while emphasizing the central role of private sector development in the whole equation. He also quotes Burchell et.al. (1998) who write that brownfield redevelopment can improve the quality of life, because sprawl can impose more air pollution and higher energy consumption. He also writes that brownfield redevelopment, as a way of controlling sprawl, can prevent a spatial mismatch and suburban exclusion. Hise and Nelson (1999) write that creating development that is more compact can improve the accessibility for mass transit. Decontaminating, rehabilitating and restructuring of brownfields reduces community health risk and creates opportunities for redevelopment activities that will offer communities jobs, rateable housing and open space opportunities (Greenberg et. al., 2001).

Greenberg et.al (2001) describe another reason to consider brownfield redevelopment, namely the moral imperative. By tacitly or explicitly condoning the withdrawal of resources for use in spreading development, sprawl contributes to the deterioration of inner cities both physically and financially. In addition, future generations are effected by urban sprawl. By removing open space, sprawl limits the futures choices, makes these future generations pay higher costs for clean water, infrastructure and other services, and reduces funds for preservation of historical places in cities. This is not a sustainable development, because sprawl does compromise the options for future generations.

### **2.2.3: Economic benefits**

The economic benefits can be subdivided into two groups. First, there is the group of economic benefits that is only related to the redevelopment of brownfield locations. The second group of

economic benefits is related to the reduction of sprawl. As written before, brownfield redevelopment offers potential to control sprawl.

The economic benefits of the first group are that with the redevelopment of a brownfield location, the tax base within a community can be rebuilt. Abandoned buildings and land do not bring much money to the government. New economic activity on old sites also creates jobs (Whiteman, 2002). De Sousa (2000) adds to this that brownfield redevelopment can attract domestic and foreign investment. It also can increase the utilization of the municipal services that already exist around the sites that are to be developed.

This last point is also mentioned by Hise and Nelson (1999) as a benefit that control of sprawl can offer. When growth is directed inside built-up areas, the need to extend urban services is reduced, thereby saving money. Total costs, including total social costs and total tax costs are reduced. In addition, development costs are reduced. Public-private capital and operating costs and transportation and travel costs are also reduced, because sprawl allegedly imposes higher infrastructure costs and higher public operating costs and it imposes more vehicle miles travelled and more automobile trips. According to Burchell et al. (1998, in De Sousa, 2002) there is generally more agreement in the literature that sprawl is the source of increased public and private capital and operating expenditures, travel and transportation costs, and negative impacts on social issues. However, they found that there is less agreement that sprawl is a source of negative impacts on quality of life and on land or natural habitat conditions.

Concluding, in the literature three types of benefits can be found. The literature gives environmental, social and economic benefits from the redevelopment of brownfield locations. These three benefits will further show in sub chapter 2.5. There they will be used to shape the analyse table that will be used for analysing the existence and possibility of brownfield redevelopment policy instruments in Jakarta. In the concluding chapter, these benefits will be discussed again, when they will be related with the developments in Jakarta.

### **2.3: Problems with brownfield redevelopment**

The previous sub chapter showed some benefits of brownfield redevelopment. This subchapter will describe the possible problems related to brownfield redevelopment. The reason for doing this is to give a full view of the issue of brownfield redevelopment, without only looking at the positive points while ignoring the reasons brownfield redevelopment could become a problematic exercise.

The problems for brownfield redevelopment as they can be found in the literature give a very American view, relating to the American perspective where brownfield locations often can be found at industrial sites and in deserted downtown areas of the city. The problems consist of the following categories: problems with contamination, neighbourhoods that are not yet ready to be redeveloped, and ownership constraints. Tedd et.al. (2001) describe three – interdependent- systems at risk in brownfield redevelopment, namely the human population, the natural environment and the built environment. Hazards to the built environment on a brownfield site can be physical, chemical or biological in character and concerns could include the following; interaction between building materials and aggressive ground conditions.

### 2.3.1: Contamination

Contamination is a risk for wealth and profit of all actors in a process of brownfield redevelopment. Tedd et.al. (2001:334) write that 'it needs to be made clear at the outset that the re-development of brownfield sites can have massive advantages and, while it is important to identify hazards and to evaluate risks, the benefits should not be overlooked.' A problem most literature relating to problems with brownfield redevelopment discusses is chemical contamination. It can be an immediate or long-term threat to human health, to plants, to amenity, to construction operations and to buildings and services. Contaminated land is identified through risk assessment. Risk assessment should include health concerns and from the early stages of investigation through to the final use of the site. The objective is to build safe, durable and economic structures. The site and the building development form an interactive system and it is important to evaluate the risk of adverse interactions during the lifetime of the development. (Tedd et.al. 2001).

At the system of natural environment soil and groundwater, contamination is a concern, but more and more also concepts like biodiversity and ecosystems are being considered at developments. Hazards to the built environment on a brownfield site can be physical, chemical or biological in character. Chemical concerns can include interaction between building materials and aggressive ground conditions. The physical situation of a location can be of importance, it can cause problems relating to the physical qualities of the location. Examples of physical problems are buried foundations and settlements of filled ground or poor load carrying properties of the ground. Another problem is that biodegradation of organic matter, or other deleterious substances in the ground can lead to the creation of gas. Combustion is a problem that becomes apparent, when gas has been created. Of course these problems are not likely to occur when the brownfield location is a residential or office site without massive contamination (Tedd et.al. 2001).

Rodenburg et. al. (2002:238) list some risks that brownfield redevelopment has to deal with. The risks that they describe are also related to contamination of the brownfield site. These risks include:

- "Soil pollution is a source of risk for humans and ecosystems, which are (potentially) affected by direct exposure to a contaminated surface or by indirect exposure, for instance, through contaminated groundwater.
- Soil contamination is a source of risk for ground works (like pipelines or utility networks) due to the chemical properties of the contaminant and the risk of ignition and explosion, for instance, for fuel contamination.
- For publicly owned sites, a polluted area is a severe planning constraint, since the site use may be impossible or limited to specific soil functionality (e.g. an industrial storage facility).
- For privately owned sites, a polluted area is a heavy economic burden in terms of asset values, of remediation expenditures (a net cost for the owner of the company) and of soil usage.
- The presence of polluted areas may hinder and delay some specific developments, which imply land use and ground works (like the provision or maintenance of infrastructures).
- Remediation expenditures usually do not offer an increase in productivity, but offer at best a possibility of removing a source of risk and a planning constraint."

A point which has to be made is that the contamination problems are only relevant when the previous land use was industry. Offices and residential land uses are not likely to cause problems of contamination.

### **2.3.2: Neighbourhood not yet ready to be redeveloped**

Another problem for brownfield redevelopment is that the neighbourhood is not yet ready to be redeveloped. Greenberg and Lewis (2000 in McCarthy, 2002) write that many brownfield locations contain contaminated or badly deteriorated buildings, but are located in neighbourhoods that are still at the stage of downgrading and thinning out, and so certainly may not enter the renewal/rehabilitation stage in the near future. This problem seems more relevant when a brownfield site is located in a 'downtown area', surrounded by flourishing edge cities. In the case of Jakarta, this problem is not likely to be relevant because in the case of Jakarta, the centre of the city has the highest land prices due to the enormous demand.

### **2.3.3: Ownership constraints**

A problem that is not related to contamination or to demand is the problem of ownership constraints. Land ownership can heavily influence the progress of a process of brownfield redevelopment. Ownership constraints can delay a redevelopment, or even cancel it completely. According to Mawson (2000), the implementation of redevelopment projects depends for a large part on successful land assembly. Both costs and delays in the crucial phase of acquisition of ownership rights can harm the feasibility of redevelopment projects and prevent the realization of redevelopment opportunities. An ownership constraint can be said to exist if development is unable to proceed because the required ownership rights cannot rapidly be acquired through normal market processes. The most effective ways to resolve ownership problems are development and marketing pressure. Mawson (2000) argues that streamlining compulsory purchase legislation can provide a powerful tool for making brownfield redevelopment possible. He identifies six kinds of ownership constraints:

- Ownership unknown or unclear;
- Ownership rights divided;
- Ownership assembly required for development ;
- Owner willing to sell but not on terms acceptable to potential purchases;
- Owner unwilling to sell.

Ownership constraints can play a role to different degrees. They can play a role when locations are privately owned. However, when locations are government property, these issues play no role. An example of this is the redevelopment of the Town Hall in Kota Tua. This was government owned, so it could easily be redeveloped and serve as a catalyst for privately owned surrounding buildings to be redeveloped.

### 2.3.6: Categorization of problems

De Sousa (2000) has conducted a research about the private sector perspective on the costs and risks associated with brownfield redevelopment. The following table shows the interview responses of what potential obstacles are for brownfield redevelopment processes. It shows potential obstacles and it shows how much of a problem they are considered to be.

Category	Potential obstacle	Average
Moderate–severe obstacles (rounded to 4)	Liability concerns	4.3
	High remediation costs	3.7
	Slow regulatory review process	3.7
	Complex municipal land-use policies	3.6
Moderate obstacles (rounded to 3)	Stringent remediation requirements	3.4
	Uncertainty related to the site-specific risk assessment	3.4
	Lack of government incentives	3.2
	Obtaining financing	3.1
	Lack of knowledge/negative attitude on the part of the public	3.0
Low–moderate obstacles (rounded to 2)	Lack of knowledge/negative attitude on the part of stakeholders	3.0
	More contamination than expected	2.4
	Potential impacts to adjacent properties	2.3
	High costs of insurance	2.2
	Lack of information on the history of sites	2.1
	Lack of remediation or disposal options	1.3

Figure 2.1: obstacles to brownfield redevelopment. (source: De Sousa, 2000)

The conclusions of Tedd et.al. (2001) about risk management in sustainable brownfield redevelopment state that as there can be a multiplicity of possible hazards on brownfield sites, it is vital to identify the most significant problems and to evaluate the risks that they pose. It is also necessary to define what the acceptable level of risk is. On housing developments, risks to human health from contamination may be a significant issue, but this should not distract attention from the hazards to the built environment. Although there is a need for improved techniques of risk assessment and management, it should be emphasised that the re-development of brownfield sites can have massive advantages and that Greenfield sites are not necessarily problem free. The safeguarding of the natural environment is a particularly contentious subject that is likely to be increasingly prominent.

Most important to note is that brownfield sites will only be redeveloped when there is an expected profit, otherwise investors will not be willing to invest their money. The risks as mentioned before can make the expectation of profit problematic. For this reason, policy has to be developed to deal with this problem. The next sub chapter will describe internationally used policy instruments that are used to make brownfield redevelopment more likely to happen. Solutions will be given for the previously described problems, so redevelopment would not be stopped because of these problems.

## 2.4: International regulations and policies

Over the years, there has been a practice of redeveloping brownfield locations in several countries in the world. This chapter tries to categorize and describe these policy practices to give an overview of the different kinds of policy that can be used in the case of Jakarta.

This chapter aims to give an overview of the different kinds of policy that can be used. It tries to build on the categorization of policies as can be found in the article of Rodenburg et.al. (2002). They categorize brownfield policy in regulating (or juridical) instruments; economic (or financial) instruments; technical instruments; and communicative (or social) instruments. These instruments will first be described. Later in this subchapter more examples of possible policies will be given.

**“Regulatory (or juridical) instruments** are institutional measures with the aim of exercising direct influence on the way business firms deal with the environment, by establishing and maintaining laws, regulations and directions that specify aims, standards and technologies governing their polluting behaviour. Examples are an order for in-depth investigation; temporary safety measures; the buy –off of an order and written incentives to voluntary sanitation

**Economic (or financial) instruments** increase the attractiveness of environmentally friendly behaviour by means of incentives given to polluters. Examples are negative incentives or regulating levies; positive incentives or subsidies and instruments of civil law and regulations.

The availability of **technical instruments** depends partly on the state of the cleaning-up technology. Examples are, to choose the type of sanitation per case; the type of sanitation technique (dependent on the choice, the soil will be suitable for all functions or just for specific functions like residence or industry); and the technological development of, especially, in situ techniques. Technical instruments are not only related to cleanup. Also building techniques and demolition techniques can be thought of. The researched literature did not extensively write about these technical instruments. Therefore, only the other three instruments will be discussed later in this chapter.

**Communicative (or social) instruments** comprise a large diversity of instruments. Their aim is to stimulate environmentally friendly behaviour by propagating the message that effective contribution to a clean environment is in everyone’s interest. For this kind of instrument, voluntary co-operation of the citizens is necessary (Rodenburg et.al. 2002:240).”

An important thing that has to happen is an inventory of the brownfield sites that can be found in the area of the municipality. An example of this is the city Camden, New Jersey. The city has hired a locally based consulting firm to conduct an inventory of priority brownfield locations and other underused industrial and manufacturing sites, as part of a plan to re-establish the city’s manufacturing base. This is a good way for a municipality to find out of the municipality’s properties are productive enough, whether these properties could be more consistent with the surrounding land uses, and whether there still is contaminated land that needs to be cleaned (Greco, 2009). Hise and Nelson (1999) also stress this point. According to them perhaps the most important steps for promoting brownfield redevelopment are identification of existing brownfield locations, and financial help in investigating the extent of the contamination. These are two important elements of success.

The way in which the co-ordination is being taken care of can vary. Verhage (2005) distinguishes three co-ordinating principles, namely the hierarchy, the market and the network. Usually, combinations of two or more of these co-ordinating principles can be found. According to Verhage (2005), the focus shifts towards the more soft issues like partnership creation, stakeholder engagement, knowledge creation and learning and leadership development.

**The hierarchy:** In a hierarchy, rules co-ordinate the activities of the different actors. ‘Command and control’ describes the functioning of a hierarchy. A hierarchy involves an actor who has the capacity to formulate rules and make the others follow these rules. In brownfield redevelopment, this capacity can be found with public actors, due to their ability to use tools and procedures under public law.

**The market:** In the coordinating principle of the market, the power is based on resources such as money and land. Supply and demand meet at the market. Not only the private sector is involved in the market, also public actors use the market to achieve their goals. An example of this is when a public actor buys real estate or land with the goal of benefitting from the excess value it obtains when it is developed or in a case of urban renewal.

**The network:** In a network, the power is based on ideas. Trust and co-operation are the central co-ordinating mechanism. Co-ordination in a network can be described as horizontal co-ordination among actors via negotiations. Voluntary agreements take care of the co-ordination.

#### 2.4.1: Regulatory instruments

A first set of measures relates to liability relief. This set of measures is related to the problem of contamination. The introduction of this chapter already discussed that contamination is an important aspect in the case of the United States, where there is a culture of suing other people more than in many other countries. As the analysis in chapter 4 will show, issues of liability do not play a role in Indonesian redevelopment discussions. Especially in the United States, much focus is related to the relief from liability for contamination. In December 2001, the United States government passed the Brownfield Reform and Small Business Liability Relief Act. The previous law discouraged brownfield redevelopment because it held past, current and future owners, developers, operators and lenders potentially liable for clean-up costs even if they did not cause the contamination (McCarthy, 2002).

The Brownfield Reform and Small Business Liability Relief Act provides liability protection from past environmental abuses. Liability relief removes the fear for developers and entrepreneurs to invest and develop based on normal risks as in every real estate development. Without such protection, many development projects have not been able to continue (Whiteman, 2002).

Hise and Nelson (1999) already wrote about liability relief that owners of underutilized properties will likely to find an increased market demand for their properties. “Whereas once they found that they could not sell their properties until fully cleaned up, there are now buyers available who not only want to acquire the property, but who will take it as-is and bear the burdens of cleanup and redevelopment.” Whiteman (2002) describes the principal measures of liability protection offered by this new legislation.

- Small business liability exemption – businesses that contributed no hazardous waste and only a small volume of non-hazardous waste will, in the future be exempt from the cost of a superfund cleanup
- No federal enforcement – persons who clean up a contaminated property under a state voluntary cleanup program (most brownfield sites) are protected against future federal enforcement of superfund regulations at that site.
- Migration pollution – property owners are protected from having to clean up contamination migrating on to their property from neighbouring properties
- Due diligence – ASTM due diligence standards are defined by the law as meeting the ‘all appropriate inquiry’ standard to establish an innocent landowner defence for non-residential property (Whiteman, 2002: 8)

Other regulating instruments are not related to liability relief. The first group of these is related to ownership problems. These problems can be solved in different ways. One way is direct or indirect eviction of residents (Porter and Shaw, 2009). In Singapore, a different strategy is being used. To facilitate the sale of whole blocks the Singapore Land Tiles (Strata) Amendment Act 1999 was developed (Lum et.al., 2004). Before this act, a hundred percent consensus level was necessary for the collective sale of an estate building. Therefore, all the owners had to agree to a sell. Because of this act, a majority vote is sufficient for a deal to be completed. Now, it is no longer required that all owners agree to a sell. Lum et.al., (2004:3) define majority votes as following: “(a) If the development is less than 10 years old, not less than 90% of the owners, according to share values, must agree to the en bloc sale.(b) If the estate is more than 10 years old, an 80% majority will be sufficient.” They continue by writing that the state has significantly altered the balance of power between consenting and dissenting owners. This increases the probability of success for an en block sale where a minority of owners may be holding out for financial or other reasons.

Another type of regulation is to link cleanup levels to projected future land use (Hise and Nelson, 1999). Risk based standards, which allow different levels of cleanup uses make brownfield redevelopment more likely to happen, compared to a situation where the ground needs to be cleaned as good as possible, but the future land-use does not need such a rigid environmental enforcement. Brownfield redevelopment can be very costly when complete cleanup is demanded. By looking at the future land use, there will not be too much money spent for cleanup, when it is relatively unnecessary.

A municipality can designate City Improvement Districts and Urban Development Zones. Investment can be attracted to these zones, by implementing regulations that make investment more profitable to happen in those designated zones. Regulations and actions that can include substantial tax breaks, physical interventions, and public investing in catalyst projects that presuppose a multiplier effect of increased property value through complementary private sector investments (Porter and Shaw, 2009).

Porter and Shaw (2009) add to these regulating instruments non-fiscal instruments such as information disclosure schemes, planning policies, and Environmental Impact Assessment requirements.

### 2.4.2: Economic instruments

Thornton et al. (2007) name a form of indirect funding, namely tax incentives. These tax incentives are powerful financial tools that can influence the amount of brownfield redevelopment that will take place. They name the placement of high tax on greenfield development as a way of discouraging this type of development. Hise and Nelson (1999) name the providing of tax incentives for developers based on the number of jobs created. This will make it financially more attractive to create jobs with the redevelopment of economically underused land. In addition, tax incentives can be used to promote new property development within a range of designated areas in the worst affected areas of the city (McGuirk, 2000). When potential brownfield locations are mapped, and more attractive tax incentives are implemented, investors will be attracted.

There can be positive and negative types of economical instruments. Negative instruments can discourage greenfield development (Thornton et. al., 2007). Greenberg et.al. (2001) add to these negative incentives that the municipality can make it financially painful for businesses and speculators to retain brownfield properties in an unused or underutilized state, without productive economical usage.

Positive financial incentives can be the providing of financial incentives to encourage brownfield redevelopment. These incentives can consist of the providing of funding to identify sites in distressed communities with high unemployment rates and high numbers of business closings, or by funding redevelopment assistance for environmental testing and cleanup (Hise and Nelson, 1999). Greenberg et.al. (2001) write that funds can also be given to remediate sites and to demolish buildings.

Local government can also invest in brownfield locations. Thornton et.al. (2007) name structural policy, public credit programmes and demonstration/pilot projects as ways of direct funding. Local government can also locate or expand government facilities to these places (Greenberg et. al. 2001), or it can invest in catalyst projects that presuppose a multiplier effect of increased property value through complementary private sector investment (Porter and Shaw, 2009). Investment can also be attracted by providing funds to upgrade and/or add infrastructure, police, fire, sanitation, social and public health and other key services to improve the quality of neighbourhoods with brownfield locations (Greenberg et.al., 2001). Urban Development Corporations are another way of public investment (Booth, 2005). According to him, these agencies would have a single concern, namely the regeneration of areas to which they would be assigned. In those areas, they should facilitate the physical redevelopment of derelict land.

### 2.4.3: Communicative instruments

These communicative instruments can be subdivided into categories of actors that can participate in a redevelopment process.

The first group is that of the community, residents and owners. McCarthy (2002) writes about the benefits of early community involvement. When this is done early in the redevelopment process, it can lead to greater understanding and involvement. It can prevent protests and litigation. Besides this, residents can provide ideas about the economic activities that the community needs. Public opposition can be reduced by educating the public on the benefits of brownfield redevelopment

(Thornton et. al, 2007). Greater public understanding and support can be achieved when the public has greater understanding about the subject. According to Verhage (2005), the government has to become more of an entrepreneur instead of a caretaker. The government has to participate in stakeholder engagement, partnership formation, leadership development, and knowledge creation and learning. These actions can prevent delays and opposition in a redevelopment process.

Investors can get enthusiastic when the government reaches out to individuals and investors who are likely to be attracted to brownfield locations. Promotional messages, maps of sites and other information that shows the advantages of these locations, including listing government supported incentives will provide greater understanding of the issues (Greenberg et. al., 2001). According to Hise and Nelson (1999), the government can help developers to identify potential brownfield redevelopment locations.

In England, the City Challenge programme has been implemented. It was a programme led by the local authorities in which the concept of partnership was to be constructed in a very different way. The involvement of the private sector was to be an essential element, but local authorities were also required to involve the local communities that would be affected by the bid for funding under the programme. The City Challenge had two other distinct features. First, although funding was to be applied to a defined area, applicants for funding were required to demonstrate what the effect of targeting a particular area would be for the local authority as a whole. Secondly, the allocation of funding was not to be based on need but on the quality of the bid, and the nature of partnership was a criterion in the evaluation of quality (Booth, 2005). When the local government communicates with investors about possibilities of funding, it can communicate to them how they want their plans to be developed, and how they want partnerships to be part of that plan. Brownfield redevelopment will also be stimulated when the redevelopment of neighbourhoods with brownfields is a clear priority of both government and investors. Therefore, communication with investors can help in showing them the advantages of brownfield redevelopment.

The communication within government should also be aimed at making brownfield redevelopment a priority. One part of this communication is educating policy makers, and government officers that have to implement the plans, and teaching them why brownfield redevelopment is good, what policy instruments can be used, how the policy should be implemented, and how they should interact with the public and with investors. Greenberg et.al. (2001) stress the importance of collaboration between government agencies. This has to make sure that these agencies have the same goals and do not give out mixed messages.

Communication with non-governmental organizations can be added to this classification. Communication with these NGO's can help in designing plans and policy. The knowledge of these NGO's can be used for solving problems at a way the government alone would not be possible to do.

## **2.5: Analysis table**

The instruments that have been discussed in this chapter have been made into an analysis table. This table will be used to analyse the instruments above, to find out if they exist in the case of Jakarta and to see if it would be possible to use them to improve the use of brownfield redevelopment. Chapter 3 will explore the context of Jakarta more in depth. This table will be the basis for chapter 4.

The table uses the same categorization in regulatory, economic and social instruments, as is used in the text of the past chapter. First of all, all the issues of liability have been grouped together. The aim of the analyse table is to develop an overview and asking about every single issue of liability as described in the previous chapter would take too much time away from researching the other instruments. The policy instruments as described in the previous chapter have been made more general, in order to make them possible to research.

The environmental, economic and social benefits can also be found in the table. The issues of liability, risk based standards related to future land use show the relation to environmental cleanup, and funding redevelopment assistance for environmental testing and cleanup. The economic benefits can be seen in the tax incentives for the number of jobs created. Social benefits can be seen under the heading of catalyst investment.

The problems related to brownfield redevelopment can have possible solutions. These are also described in the analyse table. Problems of contamination could be solved by policies under the headings of ‘issues of liability’ and ‘risk based standards related to future land use’. Policies related to ownership constraints can be found under the heading of ‘ownership, issues of sale and purchase.’

<b>Regulatory (or legal) instruments</b>	Issues of liability
	Risk based standards related to future land use
	Ownership, issues of sale and purchase
	Zoning
	Planning policies
	Land permits
	Environmental Impact Assessment requirements
<b>Economic (or financial) instruments</b>	Tax incentives <ul style="list-style-type: none"> <li>• high tax on greenfield development</li> <li>• tax incentives for the number of jobs created</li> <li>• tax incentives for designated areas</li> </ul>
	negative economical instruments <ul style="list-style-type: none"> <li>• making it financially painful for businesses and speculators to retain unused brownfield properties</li> <li>• abandoned land and land transactions could be highly taxed to discourage land speculation</li> </ul>
	positive financial incentives <ul style="list-style-type: none"> <li>• funding to identify sites</li> <li>• funding redevelopment assistance for environmental testing and cleanup</li> <li>• funding to remediate sites and demolish buildings</li> </ul>

	Investing in catalyst projects
	Urban Development Corporations
	Locating or expanding government facilities to these places
	Upgrading and/or adding key services
<b>Communicative (or social) instruments</b>	<u>contact with each other</u> Early community involvement <ul style="list-style-type: none"> <li>- Collaboration between government agencies</li> <li>- Collaboration between government and investors in developing plans</li> <li>- The government has to participate in stakeholder engagement, partnership formation, leadership development, and knowledge creation and learning</li> <li>- Help developers identify brownfield redevelopment locations</li> </ul>
	<u>availability of knowledge</u> is there knowledge available on how to redevelop brownfield locations
	<u>knowledge – educating</u> <ul style="list-style-type: none"> <li>- Educating public on the benefits of brownfield redevelopment</li> <li>- Educating and training government officials</li> </ul>
	<u>exchange of knowledge</u> <ul style="list-style-type: none"> <li>- Using knowledge of ngo’s and making plans together with government.</li> <li>- Promotional messages, maps of sites and other information that shows the advantages of these locations</li> </ul>

Table 2.1: Analyse table (source: developed from literature review)

## Chapter 3: contextual overview

This chapter will discuss the context of Jakarta more in depth. It will give an overview of the historical development of Jakarta, and of the history of spatial planning in Indonesia as well as in Jakarta. The new national Spatial Planning Act 26/2007 will be discussed, and its improved implementation, zoning regulation, administrative penalty and criminal penalty. The chapter continues by listing some developments that are currently unfolding in Jakarta, and the current practice of brownfield redevelopment. Finally, the locations in Jakarta where brownfield redevelopment would be possible will be shown. The goal of this chapter is to give a basis for assessing the possibilities of brownfield redevelopment in Jakarta. This chapter starts with an overview of the historical development of Jakarta. By doing this, the origins of current brownfield locations will be explored.

### 3.1: Historical Development of Jakarta

Jakarta's origins as a port and urban centre date back to the 12<sup>th</sup> century. It was called Sunda Kelapa. In 1527 the city was conquered by the Sultanate of Banten and was renamed Jayakarta what means 'glorious victory'. In 1619, Jakarta, as they called the city, was demolished by the Dutch, and rebuilt as Batavia. Batavia became the fortified headquarters of the Dutch East Indies Company. Warehouses were built near the mouth of the Ciliwung River, in the early 17<sup>th</sup> century. The Dutch built a network of canals to prevent flooding and for the purpose of transportation. The canals were lined with Dutch styled housing. In 1673, Batavia had grown to 27,068 inhabitants, including 2024 Dutch. The city's wharves were the hub of the local economy. Many of the Asian neighbourhoods were clustered near them. Batavia's expansion was pushed inland by neighbourhoods built outside the cities fortifications. Batavia housed many Chinese who influenced the city's growth. In 1740, after a deadly riot against the Chinese, the Chinese population was assigned to live in Glodok, a new walled suburb just south of the city (Cybriwsky and Ford, 2001).

In the 18<sup>th</sup> century, there was more and more migration outside the city walls. This outmigration was strengthened by huge profits made by the Dutch East India Company. As a result of this, the old city was abandoned by the European residents at the start of the 19<sup>th</sup> century. South of the city, in healthier surroundings, the garden suburb Weltevreden grew at the current location of Merdeka square. Government activities were also moved to this area. Weltevreden developed into a low density area with a series of open spaces for the elite. A main road surrounded by shops and important buildings connected Weltevreden with the old Batavia (Silver, 2007; Cybriwsky and Ford, 2001).

Cybriwsky and Ford, (2001) further write that 10 kilometres east of the old town of Batavia, a new deepwater port was constructed at Tanjung Priok between 1877 and 1886. This port was developed because the old port of Sunda Kelapa could not handle the increased activity after the Suez Canal was opened. The new port had state-of-the-art dry dock facilities and space in abundance for warehouses and waterfront industries. Most of the economic activities moved to the new harbour. Therefore, the old harbour, that was called Sunda Kelapa again, became a nostalgic area with less economic activity. This development improves the chances of brownfield locations to develop at the Sunda Kelapa harbour area. The new developments at Tanjung Priok attracted employment, therefore kampung areas developed in its proximity. Kampung areas had already developed in the area between Kota and the new urban developments in Weltevreden. Kampung areas developed wherever space was available. In 1900, Batavia had grown to 115,000 inhabitants. After the

independence Batavia was renamed Jakarta. In 1948, the city had a population of 823,000. In 1952 this already doubled to 1,782,000 and to almost 3.5 million in 1965.

Silver (2007) describes how the idea of a metropolitan region and metropolitan concept under the name Jakarta Raya was introduced in 1950. This regional planning scheme consisted of a regional planning scheme for the Jabotabek area of Jakarta, Bogor, Tangerang and Bekasi. A garden city scheme was developed for the entire expanded metropolis. With Merdeka as the core, Jakarta would expand in concentric layers. These would be partitioned with a series of ring highways, while a greenbelt should define the outer limits of urban development.

Between 1957 and 1966 the Indonesian government invested extensively to transform Jakarta into a symbol of Indonesian national unity. Salim and Kombaitan (2009) write that President Sukarno developed ring roads, the Monumen Nasional and Masjid Istiqlal and statues. Sukarno tried to build the Indonesian nation by using unifying symbols while he physically and symbolically homogenized Jakarta. Symbolic layers, colossal statues and buildings were developed. Cybriwsky and Ford (2001:203-204) quote Sukarno when he insisted “ that Indonesians should “build Jakarta into the greatest city possible,” that its greatness should be visible in all aspects from skyscrapers, monuments and grand boulevards to “the little houses of the workers,” and that the city should be “the beacon of the whole of humankind” in struggles against imperialism.”

According to Salim and Kombaitan (2009), Jakarta became the symbol of development and modernization for the whole country during Suharto’s New Order regime, with its high-rise buildings, and new toll ways. Under Suharto, Jakarta was characterized by broad avenues, highways and electric railway lines, which connected the Jabotabek area. Because of a long period of rapid economic growth, construction continued until the 1998 financial crisis, developing Jakarta into an impressive and modern look. Jakarta’s look changed into a city with many high-rise buildings, high-rises under construction. In the centre of the city a new commercial district developed. Most economic development was located at the Jalan Thamrin – Jalan Sudirman corridor. The commercial area is called the Golden Triangle. Jakarta has many new office towers, hotels and high-rise apartment buildings. The Golden Triangle is the result of ongoing southward movement of prestige addresses combined with economic growth. The commercial developments replaced many kampung areas in this area (Cybriwsky and Ford, 2001).

The city centre and its suburbs are connected by main boulevards, while commuter electric railway systems connect Jakarta with its surrounding areas. In the 1990s, all parts of the city were connected by inner and outer ring roads (Salim and Kombaitan, 2009).

At the edges of Jakarta and in the suburban ring, a growing number of newer housing developments have been constructed for the middle and upper classes. A pioneering project was the construction of Pondok Indah. Most housing developments were built along new toll roads radiating from the centre of Jakarta towards Tangerang, Bogor and Bekasi, as well as along Jakarta’s outer ring road. Usually, cheap farmland was acquired and sold with profit when the infrastructure improved later. Since the early 1980s developers constructed many new towns. Most of them offer relatively few employment opportunities and are bedroom suburbs for Jakarta commuters, despite initial promises to create self-contained communities. Most likely, the development of these new towns in the green areas outside the centre of Jakarta will work as a catalyst for the coming into existence of brownfield

locations at the more central locations in Jakarta, due to a lack of pressure to redevelop these sites (Cybriwsky and Ford, 2001).

Cybriwsky and Ford (2001) further write that Jakarta's new look can also be seen in the many export oriented industrial districts. They were developed during the Suharto's New Order regime, by both the government and private investors. These industrial estates are located in the metropolitan outer ring road. Manufacturing shifted from the central city to the adjacent districts. Because of this, Jakarta experiences an increased specialization in services, finance and other related economic activities. At the industrial estates manufacturing activities have space in abundance. Multiple companies can also share roads, utilities and other infrastructure. The development of these industrial estates pulled the industry out of the centre of Jakarta. However, the brownfield locations that were left have already been redeveloped.

Jakarta has grown from around half a million inhabitants in 1930 to 2.97 million in 1961 and a registered population of almost 9 million in 2005. Salim and Kombaitan (2009) write that Jakarta is one of the few megacities in the Southern hemisphere, which have a population density of over 12,000 people per square kilometre. The core city centre has a declining population, while the population of the suburbs and outskirts of Jakarta increases.

Cybriwsky and Ford (2001) expect the future growth of Jakarta to be directed towards the waterfront. Historically, Jakarta has sprawled primarily in the other directions, mostly towards the south. This created a north-south core of development in Jakarta. Salim and Kombaitan (2009) write that in 1995 a plan was proposed to reclaim the North coast of Jakarta. This reclamation would make around 2,800 hectares of land available. This Jakarta Waterfront City Project would create space for high-rise buildings for offices, big shopping malls, hotels and apartments. It would further contain a transit centre that would connect the north-south line of the current transit system. Development north of the city centre will also be north of the old core of Kota Tua, the harbour of Tanjung Priok as well as the Chinese commercial area of Glodok. These areas, where currently brownfield locations can be found, will become more central in Jakarta. High end developments at the north and south could raise demand for brownfield locations in these areas and make it more attractive to redevelop them.

### **3.2: History of Spatial Planning in Indonesia**

According to Van Roosmalen (2005) spatial planning in Indonesia began with the Decentralisation Act (1903) and the Local Council Ordinance (1905). These two acts moved power away from the central government and made municipalities responsible for the economic, social and physical development of their communities.

The planning system in Indonesia has been initiated by the enactment of the Nuisance Ordinance 1926. It tried to regulate certain industrial installations in particular zones with permit and zoning systems (Hudalah and Woltjer, 2007). Van Roosmalen (2005) adds that the central government from the mid 1920s supported local governments with some agreements.

Among them were 'the agreement to allow commercially based limited liability companies (naamloze vennootschappen) to get involved in the housing industry (1925), a circular letter to municipalities containing guidelines for urban extensions and housing (1926), an addition to existing municipal priority rights on land (1926), and the provision of up to fifty percent subsidy and guidelines for kampung improvement projects (1928)'(2005:3).

In 1934, the Town Planning Committee was appointed. Its goal was to 'define, methodize and legally embed town planning as a discipline by studying and defining historical and starting points of departure for town planning and by recommending the direction into which the discipline should develop.' In 1938, the committee presented a draft of a Town Planning Ordinance. The town planning regulations 'were to organize construction and building, by local governments as well as by others, in order to guarantee the development of towns in accordance with their social and geographical characteristics and their expected growth. Town planning needed to strive for a proportional division of the needs of all population groups corresponding to their disposition, and to create a harmonic functioning of the town as a whole. All this with consideration of the environment and the position of a town in a wider context' (Van Roosmalen 2005:4).

This Town Planning Ordinance or *Stadvorming Ordonantie (SVO)* was legalized in 1948. In 1949, it was followed by its implementation regulation, the *Stadvormings Verordening (SVV)*. Its focus was on improving urban housing conditions for municipalities in Java. After the colonial period, the Indonesian government applied this first integrated planning system to all regions, included regions outside Java (Hudalah and Woltjer, 2007). The 1948 Town Planning Ordinance was an adjustment of the pre-war draft.

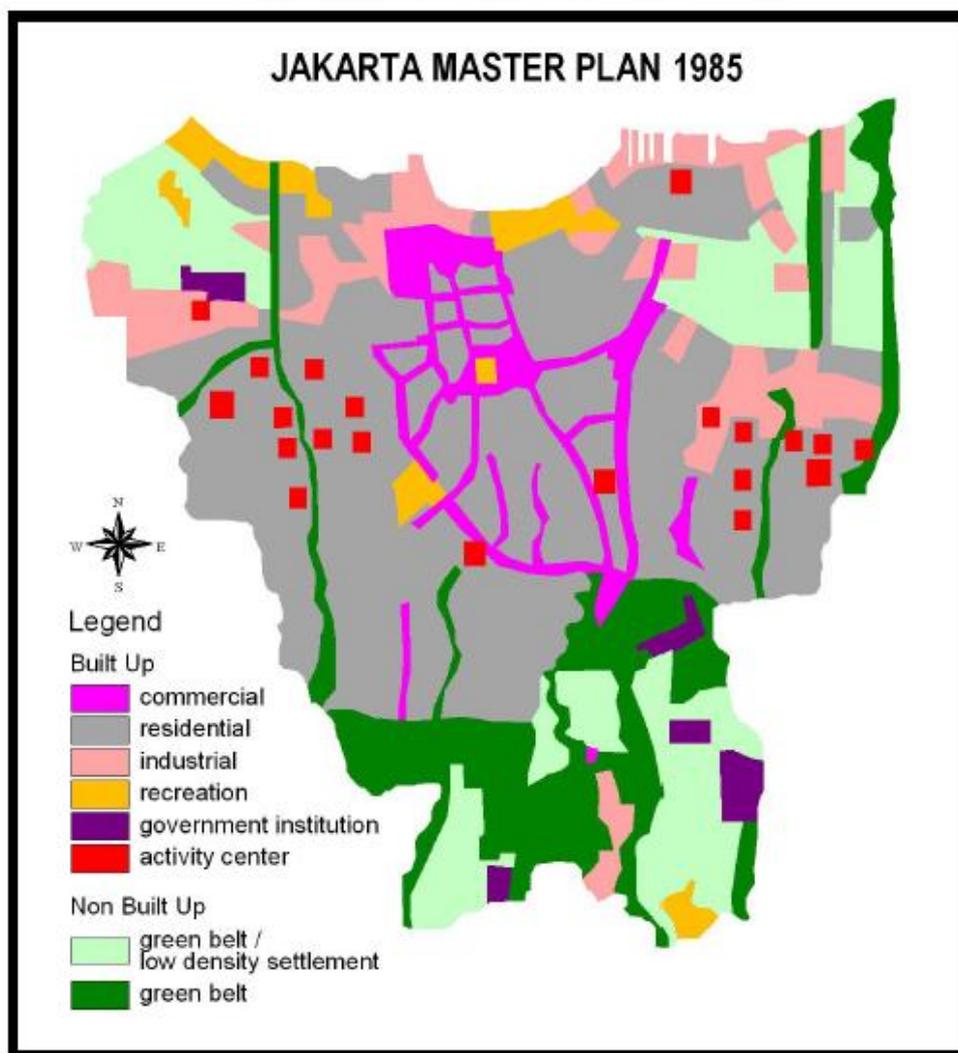
In 1951, the Bill on Spatial Planning in Indonesia was presented. The bill contained directives or a national plan, regional plans, the execution of detailed design schemes, procedures for approval and assessment, building by-laws, compensations and retributions. It was meant to be a national plan for Indonesia or part of the country. The second level for plans to be designed on was the regional level instead of the provincial level. According to the bill and the ordinance, compensations could only be given when losses as a result of planning measures were in no proportion to the effect of the planning intervention (Van Roosmalen, 2005).

So far, Dutch views and approaches had been the main influence on Indonesian planning. In 1957 however, because of a debate about Papua New Guinea, the Indonesian-Dutch relations became disrupted and the positions of Dutch professionals were taken over by other Europeans and North Americans. By the early 1970s, North American paradigms and changes were made with regard to planning methodologies, outlooks and the educational system. Also, a system of guided democracy (1959) and a new political order (1965) led to a more centralised government.

In 1967, the Master Plan of Djakarta 1965-1985 was launched. One of the main points of it is that the plan recognizes that a regional approach is necessary to guide development. The focus is on the physical development and expansion of Jakarta. The Master Plan was built around a model of bundled concentration. Jakarta was the growth centre, with the neighbouring regions as sub centres. The master plan tried to control development, as a coordinating instrument, however, the plan failed to control the processes of rapid urbanization in Jakarta, leading to uncontrolled development. This uncontrolled development outside the core of Jakarta can be a basis for the development of brownfield locations. The lack of development control in the green areas outside Jakarta lowers the

need to redevelop previously built areas. In the Jakarta Metropolitan Area Master Plan 1981, the development corridor is an east-west corridor, to preserve the green space between Jakarta and Bogor. This plan formed the basis for the 1985 Master Plan, to put development of Jakarta in a regional context. The 1985 Master Plan tried to strictly control development in southern Jakarta and restrict development to the northwest and northeast, in order to protect groundwater and soil at these locations. The Master Plan tried to guide urban development in the direction of Bekasi in the East and Tangerang in the West. Figure 3.1 shows how the 1985 Master Plan planned the Spatial structure of Jakarta (Sudianto, 2008).

Figure 3.1  
Spatial Structure Plan of Jakarta 1985 - 2005



Source: 1985 Jakarta Master Plan, cited by Syaikat, 2007

Between 1976 and 1992, several legal frameworks for spatial planning were enacted. 'These legal frameworks regulated particular areas including the Greater Jakarta Area (Keppres 13/1976), Batam Island (Keppres 41/1973) and Puncak Area (Keppres 48/1983) and certain development sectors including rice field areas (Keppres 54/1980), industrial estate (Keppres 53/1989), tourism (Keppres 15/1983) and housing (Keppres 8/1985). All of these legal frameworks are presidential acts'. In 1982, a decree on the guidance of city plan-making processes was enacted by the Ministry of Home Affairs.

It regulated the standards and regulations. In 1986, a similar decree was enacted by the Ministry of Public Works. Both decrees acted as references for urban planners (Rukmana, 2008b).

In 1992, a new legal framework for spatial planning was enacted. The Spatial Planning Law 24/1992 was a response to colonial and Java centric biases, inter-departmental rivalry, and a changing urban situation (Hudalah and Woltjer, 2007). According to Rukmana (2008b), in this law spatial planning consists of a plan-making process, plan implementation, and development control. The law gave guidance for these subjects for national, provincial and local levels. The law also describes the rights, obligations, and participation of people in spatial planning. In 1996, these regulations were enacted in more detail. Spatial planning consisted of a hierarchy of national, provincial and district spatial plans. All government levels had to make spatial plans to direct development in their region. The main functions areas could have were environmental conservation area; non-environmental conservation area; urban area; rural area; and specific area. The urban, rural and specific areas are differentiated by the main activity. The spatial plan of specific areas needs to be prioritized because it has national strategic value. In environmental conservation areas, development was restricted. Conservation areas with development restrictions can put more pressure on brownfield locations to be redeveloped. Because of the increased difficulties in acquiring green zones to redevelop, brownfield locations become more attractive locations to redevelop.

After the Spatial Planning Law 24/1992, was enacted, Indonesia experienced fundamental institutional changes. The 1997-1998 crisis and the fall of the Orde Baru regime rapidly changed Indonesia's context. According to Van Roosmalen (2005), this political reformation offered Indonesia the opportunity to decentralize the government. The implementation of a decentralization policy in January 2002 caused the Spatial Planning Law 24/1992 to become irrelevant, especially in relation to decentralization and democratization atmospheres (Hudalah and Woltjer, 2007). For this reason in 2007, the Spatial Planning Act 26/2007 was enacted. Both the Act 24/1992 and the new spatial planning law indicate an incomplete adoption of the integrated-comprehensive approach. As defined by European Commission (1997: 36–37), in this approach 'spatial planning is conducted through a very systematic and formal hierarchy of plans from national to local level, which coordinate public sector activity across different sectors but focus more specifically on spatial coordination than economic development'. Through the new spatial planning law, the system also currently adopts the North American land use management. Growth and development control through rigid zoning and codes are applied (Hudalah and Woltjer, 2007).

### **3.3: Spatial Planning Act 26/2007**

In 2007 the Spatial Planning Law 24/1992 has been replaced by the Spatial Planning Act 27/2007. This was necessary because of the decentralization laws that had been introduced after the implementation of the previous Spatial Planning Law. The new Spatial Planning Act 26/2007 regulates which government level has authority if spatial plans consist of two areas in two or more provinces or areas in two or more districts. In the previous law, the responsibility for these plans was with the higher government level. In the Spatial Planning Act 26/2007, spatial planning in two or more provinces has to be coordinated by those provinces. This also concerns spatial planning that covers multiple districts (Rukmana, 2008b).

Rukmana (2008b) further writes that the Spatial Planning Act 26/2007 introduces the concepts of metropolitan and megapolitan area. In this law, the former is defined as 'an urban area with the population of at least 1 million people', while the latter is described as two or more adjacent metropolitan areas with a functional relationship. "The spatial plan on metropolitan region is considered as means of coordination in cross-area development" (Ministry of Public Works, 2007:37). The Spatial Planning Act 26/2007 introduces the concepts of metropolitan and megapolitan area to improve coordination between municipalities. They are given the possibility to develop one plan for an area comprising of several municipalities.

A key point of the new planning law is that each city is obliged to allocate at least 30 percent of their land for open green space. Of this 30 percent, 20 percent should be public open green space (Development from Disasters Network, 2007). Rukmana (2008b) adds to this that another new aspect of this law is, that at least 30% of river stream areas should be forest area. The Spatial Planning Act 26/2007 defines open green space as 'a ribbon and/or a grouping area, with a characteristic of open utilization, place to grow plants, either naturally or artificially' (Ministry of Public Works, 2007:7). Brownfield locations are urban build area, and therefore probably not included within this definition.

The new law includes accountability. The Development from Disasters Network (2007) writes that according to the ministry of Public Works, 54 percent of land-use violations were committed by the private sector, and that they all were accepted by local administrations. In the new law, agencies or government institutions will have to pay a penalty for economic losses that occur because of these land use violations. If material losses or fatalities occur, the violator can get a maximum fine of 1 billion rupiah, and eight years imprisonment. These punishments apply to both the land permit holder and the government officials that granted the permit. Also, the minimum standard of services in spatial planning is described in the new law, to ensure good quality of these services (Rukmana, 2008b).

The new law also discusses the importance of public participation in spatial planning. It provides more detailed regulations than the previous spatial planning law including rights, obligations and the forms of public participation in spatial planning (Rukmana, 2008b).

The Spatial Planning Act 26/2007 introduces the use of incentives and disincentives to encourage appropriate land use. These incentives can be given from central government to local government, from local government to other local governments and from governments to private parties (Rukmana, 2008b). Incentives can be tax cut, compensation, cross subsidy, planning permit deregulation and awards. Citizens, who follow the correct procedures to develop something, could get incentives such as easier obtaining of a building permit. Also, local government in Jakarta can give incentives to other local governments to return Puncak Jalur to its designated function as water catchment area. Disincentives could include increased land and building taxes when buildings occupy designated green space areas (Development from Disasters Network, 2007). The use of incentives is legally regulated in the Spatial Planning Act 26/2007. The use of incentives is new in Indonesian policy. Incentives have their legal basis for the first time in the Spatial Planning Act 26/2007. Article 35 of the act says "control over spatial utilization is performed by stipulating a zoning regulation, permit, incentive and disincentive, and sanction imposition." (Ministry of Public

Works, 2007:33). This incentive is meant as an effort “to reward an act that is performed accordingly to arrangements of spatial planning, as:

- a: tax deduction, compensation, cross subsidizing, reward, spatial rent, and collected stock;
- b: development and establishment of infrastructure;
- c: without difficulty procedure to obtain permit; and/or
- d: appreciation to society, private entity and/or local government (2007:34-35)”

The incentives described by the Spatial Planning Act 26/2007 have not yet been made operational. According to one of the interviewed respondents, the problem is that in Indonesia these instruments are still being developed. Since the Spatial Planning Act 26/2007 passed, the formulation and operation of regulations is still not finished. The law for the regulation exists, but the regulation itself is not there. The law must be followed by the formulating of detailed, operational regulations by the local government. This means that these instruments cannot yet be effectively used for brownfield redevelopment.

Local government is still studying the new regulations. According to some respondents, the ministry of Public Works has not yet made the guidelines to implement the use of incentives in local regulations. Another respondent notes that the ministry of Public Works has to make some kind of guideline for local government to plan the spatial plan. For each aspect, such as infrastructure and the use of incentives and disincentives, a guideline will be provided. According to him, the guideline to show the mechanisms of incentive and disincentive, how local government should use and provide it will be finished in 2010.

### **3.4: Current Planning System Jakarta**

This sub chapter describes the national planning background of Indonesia. “Once the guidelines for National Development policy (GBHN) have been drawn up, each province prepares a basic development plan (POLDAS I). Provincial governments through their planning departments (BAPEDDA I) then identify key issues identified in their basic development plans as well as the National five year plan REPELITA to create a provincial five year development plan (REPELITA I). In turn the lower levels of provincial local governments (urban and rural districts) use POLDAS I to develop basic local development plans (POLDAS II), which are then used with reference to REPELITA I to develop local five-year development plans” This can be seen in figure 3.2 (United Kingdom department for international development, 2000).

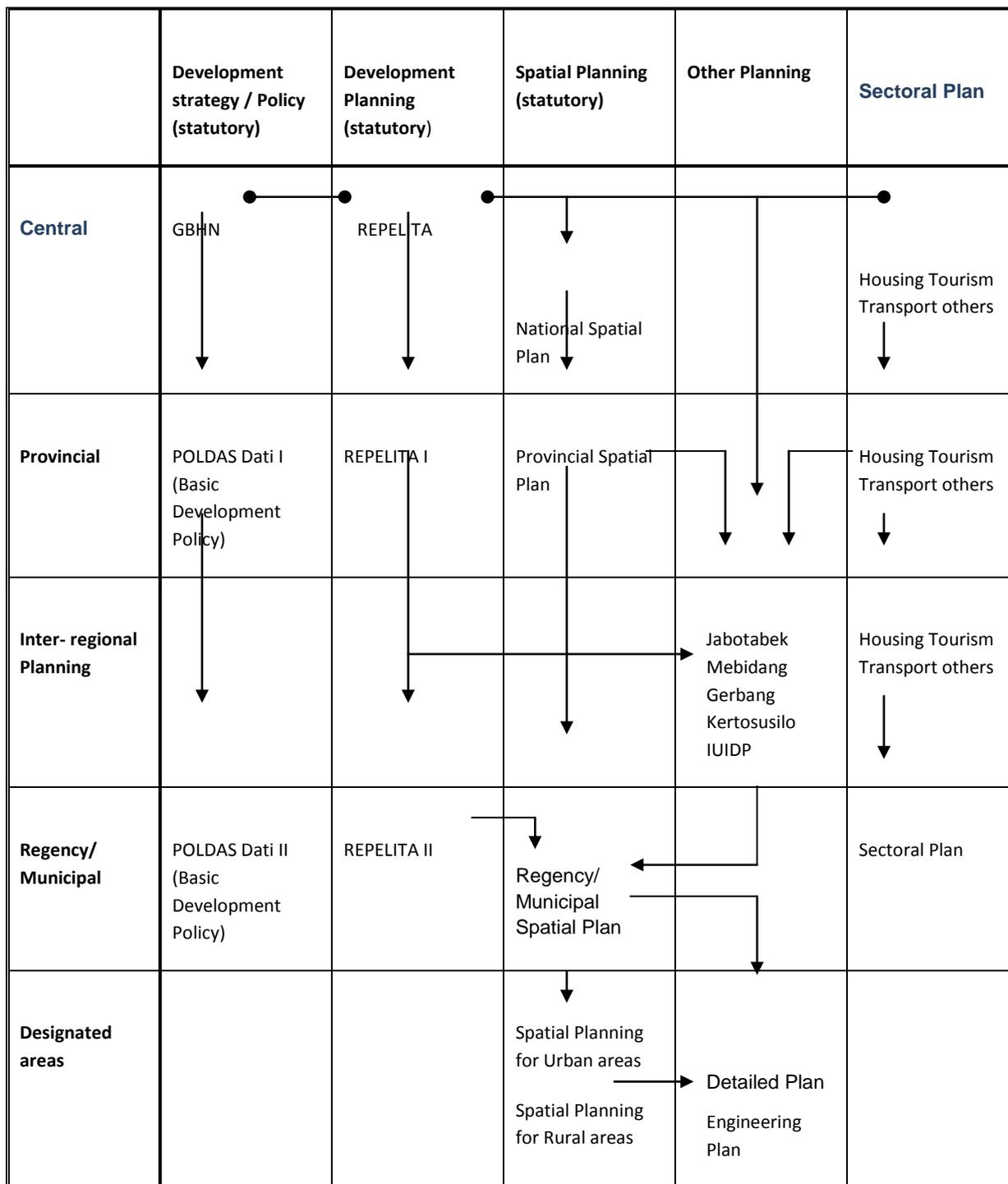


Figure 3.2: National Development Planning System (source DFID (2000), developed from Winarso 1999)

Key:

GBHN – National Development Policy

POLDAS – Provincial and Local Development Policy

REPELITA – The Five year Development Plan

Jabotabek – Jakarta, Bogor, Tangerang, Bekasi.

Mebidang – Medan, Binjai, Deli, Serdang.

Gerbang – Gresik, Bangkalan, Kertosono, Kertosusilo Surabaya.

IUIDP – Integrated Urban Infrastructure Development Project

The United Kingdom department for international development (2000) writes that Jakarta has a more sophisticated city planning regulation than other parts of Jakarta. Jakarta has the same administration level as provincial governments. Jakarta's districts are lacking the direct authorities like districts in other provinces have. The city planning regulation is centred directly under the power of the governor of Jakarta DKI. Jakarta has a single planning department named Bappeda. Bapedalda, the Local Environmental Impact Agency in the respective municipalities administers the related environmental management plans. Bapedalda works under the State Ministry of Environment. Bapelda controls the implementation of the current governmental regulations related to environmental protection; Environmental Law UU No. 4.1982 and the Government Statutory Code PP No. 51/1993. Before a land provision procedure and a new land title can be obtained, a location permit must be acquired. The location permit has a limited validity, ranging from 5 to 10 years, according to the location. The intended development should be in line with related regulations from central government and local government. "Various levels of statutory planning must be complied with in developing a site. These are covered by the Jakarta Master Plan 2010 (Provincial Spatial Plan), Rencana Umum Tata Ruang Kota (General Plan for City Development in District level), Rencana Bagian Wilayah Kota (Sub District Urban Development Plan) and Rencana Tata Bangunan dan Lingkungan (Urban Design and Development Plan for selected area). Planning control is conducted within various levels of local government administration covering District (Walikota), Sub-District (Kecamatan) and Kelurahan, the lowest level of government administration."

Both the permit system and the various levels of statutory planning where developments must comply with have two contradicting consequences for the redevelopment of brownfield locations. In the first place, these regulations make it more difficult for developments to occur. This includes the redevelopment of brownfield locations which becomes more difficult. The second consequence for brownfield redevelopment however, is that these regulations also control developments that are not according to the various plans. This will make brownfield redevelopment more attractive, since brownfield sites in general are most likely to be located in areas where development is less controlled, such as green zones. Further, the 'Urban Design and Development Plan' can be made by the developer, together with local government. This collaboration should result in plans for development that are more likely to be approved of quickly.

Figure 3.3 shows the hierarchy of plans that local government in Jakarta has to take into consideration when making plans.

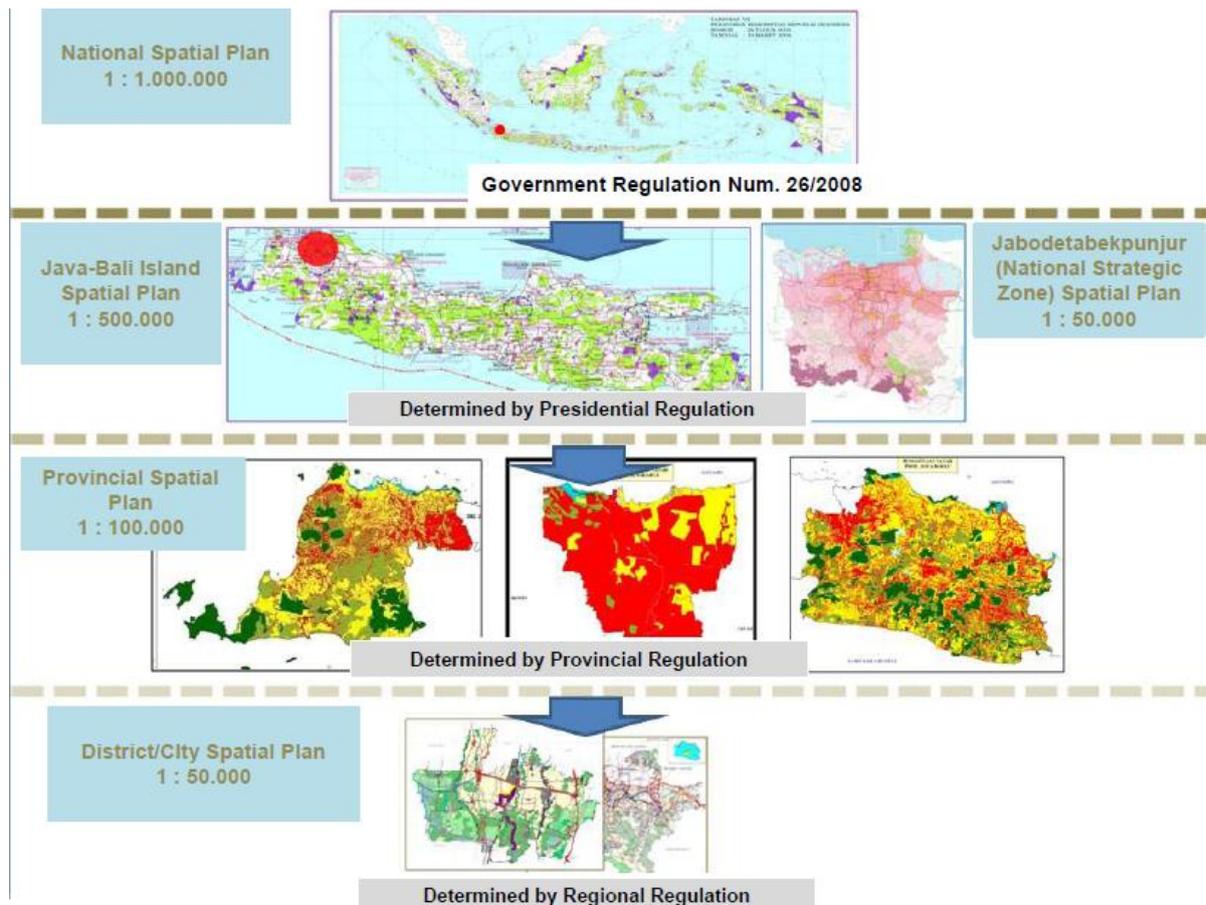


Figure 3.3: plans relating to Jakarta. Source: National Spatial Plan Coordination Board (2009)

### 3.5: Developments in Jakarta

According to one of the interview respondents, there is a problem with implementation: what the government thinks and what private companies think differs. Private companies and developers in Indonesia are very strong. The market force is very powerful. It is difficult for the government to influence the market. An example of the lack of power of the government is Kelapa Gading. That area was not meant to be developed by the government, but it was developed anyway. Actually, the plan was to redevelop Senter Primer Timur, but developers are not attracted by that area. Even though the government invested there, the developers wanted to develop Kelapa Gading. That area now developed into one of the centres of Jakarta. Kelapa Gading originally was a greenfield location and not a brownfield location. Kemang also developed as a commercial area, even though it was meant to be a residential area. Developers think it is good for business and government control is not effective. Chandra thinks that maybe the Spatial Planning Act 26/2007 will give more effective control. This is what Firman already noted in 1997. He writes that back then the basic principles for spatial planning in Indonesia were written down in the spatial planning law of 1992. According to this law, “the plan-making process should take proper account of socioeconomic and environmental conditions inducing the need for land conservation”. He notes however, that the law is lacking the necessary technical and operational regulations that are required to enforce it.

Another problem this respondent points out is the informal sector. The International Labour Organization (2000) describes the informal sector as consisting of “small-scale, self-employed

activities (with or without hired workers), typically at a low level of organization and technology, with the primary objective of generating employment and incomes. The activities are usually conducted without proper recognition from the authorities, and escape the attention of the administrative machinery responsible for enforcing laws and regulations.” Examples of the informal sector in Indonesia are people who sell food at the side of the street, or who live in shacks unplanned by the government. The respondent says that the formal sector can be directed with incentives and disincentives, but this is difficult for the informal sector. Because of this, there is a lot of small industry and there are people who live near the riverbank. It is difficult to relocate them. The plan is to normalize the rivers in Jakarta, but this means that 50.000 families have to resettle. According to him, it is difficult to control the development in South Jakarta. There is a lot of infrastructure in South Jakarta. If people think a location is good for business, they will build there. The existence of a considerable informal sector in Indonesia gives thought about informal possibilities of brownfield redevelopment in Jakarta. This innovative sector could re-use brownfield locations on a small scale. It already uses informal locations, as can be seen in the example of kampung areas developing on empty pieces of land, despite that they were not planned as residential areas. This could give brownfield locations at least some economic activity, making sure the locations are used.

According to another respondent, a problem in Jakarta is the lack of implementation of regulations. An example of this is the governor’s decree about the regulations in the master plan regarding the allowed building intensity. The local regulation can state that the allowed floor area ratio should only be 3 or 4, but investors are allowed to build with a floor area ratio of 5 or 6. This attracts global investment to build sky scrapers in that area. This is a more attractive situation for the developer, while this is against the law. The local regulations state the maximum building intensity. The new Spatial Planning Act 26/2007 gives high sanctions against this breaking of local regulations.

Some other respondents point out that the detailed plan is difficult to implement. They say that when developers acquire some land and they want to develop a certain function that is not in line with the spatial plan, it is then possible to bargain with the government to develop commercial functions instead of the housing area that should be there according to the plan. Every plan has to be approved of by the governor before development can start.

Land use plans are often violated by the private sector and by local government in the areas surrounding Jakarta city. There is political pressure and interest to develop in profitable economic activities. An example is the development of housing estates, restaurants, hotels, bungalows and tourist resorts in Puncak Jalur in southern Bogor. This area has in fact been designed as a conservation area for water recharge for Jakarta City (Firman, 1997).

A respondent points out that via the Spatial Planning Act 26/2007, Jakarta can force people who have previously built something in violation of the land use plan to change it back to the function it should have had according to the spatial plan. These people can be given a period of five years to change the buildings to the function according to the plan.

According to Firman (1997), the capacity of the local government to implement and manage the plan has been insufficient, especially in controlling and monitoring land conversion. At the same time, there is an immense pressure from the private sector. Often, land-use plans are prepared without taking future socioeconomic developments into consideration enough. He argues that the

effectiveness of the National Land Agency as the authority in charge of land administration and management in Indonesia should be increased by training both technical and administrative staff. In addition, the present organisation of the BPN may also need to be reviewed. Goldblum and Wong (2000) add that rapid urban development in the Jabotabek region has shown the lack of capable planning and management staff to ensure that the master plans could be implemented smoothly. To make sure future implementation of plans and infrastructure development can happen efficiently, personnel training and retraining has become a priority task.

In and around Jakarta, large areas of greenfield locations get converted into built-up area because of weaknesses in the system of land permits and their enforcement. Also, many governments in Indonesia use the issuing of permits not for controlling urban and regional development, but to collect money. Often, local governments even set targets for the amount of money they want to gain with issuing permits (Firman, 1997). This leads to developments outside the urban core. Because of these developments, it is less necessary to redevelop locations in the urban centre.

According to Firman (1997), economic development in the region of Jakarta was caused by a series of deregulation policies in the financial sector that have been introduced since the early 1980s. The deregulation aimed at “promoting domestic savings; improving the efficiency or resource allocation; and creating a framework which allows for the implementation of effective market-based economic controls. Deregulation was also specifically aimed at increasing domestic and foreign investment, promoting non-oil export-oriented industries and enhancing the global competitiveness of the Indonesia’s industries.” Requirements for building permits and for public nuisance and environmental impact assessments have been simplified. The Pakto 2 deregulation packages shortened and simplified the issuance of locational permits substantially, to create incentives for investment. In addition, permits for land development of less than 200 hectares can now be granted by the local government and the district office of the National Land Agency. This did not use to be the case.

Firman (1997) writes that the development of foreign and domestic investment in the region of Jakarta has led to many major economic changes. The centre of Jakarta is being transformed into a commercial and financial centre. Because of this, many former residential areas in the city centre have been converted into commercial areas. Developments of central Jakarta into a commercial and financial centre lead to brownfield locations to be redeveloped. There is an enormous demand for land in Jakarta’s central areas. In contrast to this, manufacturing industries, which need large parcels of land move from the centre of Jakarta to its outskirts. This generates employment and generates a high population growth in peripheral areas. The plots that the manufacturing industries have left behind have already been redeveloped

Firman (2002:246) summarizes that some very important matters for urban development in Indonesia are “to establish good urban governance, to make urban development processes transparent and accountable to all the stakeholders involved in it, free from corruption, collusion and nepotism (KKN). On the whole, local institutional development and community participation should become key features of urban development in Indonesia in the near future. In short, urban development models and practices in Indonesia need to be readjusted, by involving the stakeholders in the process, not forcing top-down approaches as taken in the past.” Firman (1997) argues that land banking methods can be used to acquire land for residential development. This land can be

used for low-cost housing. The government is already allowed to acquire 'idle land' at the price a developer originally acquired it, via legislation no. 36 issued in 1998. The problem is that at a time of crisis, there are no funds available for this purpose. This could, however, be an interesting way to find housing for poor inhabitants of Jakarta that have been evicted from their houses to make room for green area or for commercial redevelopments.

### 3.6: Plans

The Spatial Planning Act 26/2007 states that every municipality should have 30 percent of its area designated as green area. According to some respondents, of this 30 percent, 20 percent has to be public green space, and 10 percent has to be private green space. One of the policies of the 2010 Master Plan is to add green area. The problem is that there are too many buildings already built. The policy to achieve that goal is to stop activity that is in violation of the land use plan and to demolish buildings that are built but that are not according to the land use plan. The policy is to demolish buildings where the designated land use is green area according to the land use plan. This leads to a stronger pressure on brownfield locations to be used productively, when the green zones cannot be built illegally anymore. Another respondent adds to this the policy to remove the illegal settlements from the riverbanks in order to make more room for green space.

A respondent points out that the master plan has a double policy, namely:

1. Revitalization of green areas in Jakarta; and
2. Encouraging private land users, citizens to create green space. Everybody needs to have their own open green space on their private land, for example at least one or two trees.

Added to this, some other respondents claim that green areas cannot be build according to the law. Because of this no permit will be issued in this green area.

An interviewee names a policy to demolish gas stations that are built in protected green areas. Another respondent adds that currently, some buildings have been replaced by parks. Two parks that were previously built, but were now converted into green area are Menteng park and 'aju dia 'park. In the Jakarta Post, Kurniasari (2009) writes about the plans to revive from 2008. The program aimed at rejuvenating green areas in the capital, by closing down 25 gas stations and converting them into public parks. These gas stations have been built in green zones. Jakarta owns the land on which the gas stations are built, and rented it out to businesses. The gas stations make up for about 5 hectares of green area in Jakarta. Rukmana (2008a) notes that in 2008, the plan to demolish these gas stations was rejected by the Jakarta City Council. According to him, the decision of the city council shows unfair treatment towards poor people and the informal sector, while the rich are protected. He writes that there have been many cases where poor residents of Jakarta have been evicted to create green areas. An example is the eviction of fish and flower traders on Jalan Barito, in January 2008, to expand Avodia Park

Two problems arise regarding to creating the 20 percent of public green area. The first one is the willingness of local government to comply with creating the 20 percent. According to some respondents, there is still a debate going on about the obligatory 20 percent of green public space. There is a view that Jakarta, as the capital city of Indonesia, should be allowed to have most of the

area to be commercial area, and should not have to comply with the 20 percent public open space. There is still a process of bargaining going on with the central government about the percentage Jakarta local government wants to provide. Another respondent discusses the other problem related to creating green space, namely the costs involved. Currently Jakarta has 9 percent of green space. This means it is lacking 11 percent. The total area of Jakarta is 66.000 hectares. 11 percent of this means 7260 hectares. The price of ground in Jakarta is approximately 5 million rupiah per square meter, although in the city centre this is over 60 million rupiah per square meter. 1 hectare is 10.000 square meter. It would cost 7.5 trillion rupiah each year, over 20 years, just to acquire the land. As a comparison, 7.5 trillion rupiah is more than 1/3<sup>rd</sup> of the local government yearly budget of 20 trillion rupiah.

According to the second point of the master plan's double policy, what Jakarta local government tries to do is to converse the ownership. A respondent points out that Jakarta local government tries to make a special deal with the law, to change the amount of green space into 16 percent private green space and 14 percent public green space. Another respondent argues that not the type of ownership is important, but the accessibility of green areas for the public.

Besides Jakarta's plan to add green space to its area, there are also the plans to move the industry out of the centre of the city, to develop the area inside a loop line of railways and to spread development. According to this last respondent, in Jakarta, the medium and big industry should be relocated, although, not a lot of this is left. There is still some left near Tanjung Priok. The policy that is used to relocate the industry is the use of permits. Industrial land uses have permits for 20 or 10 years. At the end of the term for this permit, the permit will not be renewed if the land use is not according to the plan. The industries will get land on industrial integrated areas in the west and in the east. It is cheaper and more efficient for the industry to operate there, because the land in the centre is very expensive. The problem is to relocate small industry. Many residents use their house to produce something. Usually these residents with small industrial activities prefer to stay near the market.

This respondent continues by discussing that in central Jakarta, there is a plan is to redevelop the railroad network. This should increase the economic activity. The area inside the loop line consists of a lot of kampung and old buildings. These should be renewed, so this area can become the new centre of Jakarta. The goal is to only have economically productive area inside.

This respondent thinks that development should not only be pulled towards the centre. It should also be spread to the west and to the east. The east primary centre, however, develops very slowly for 20 years already. Developers and private companies do not think it is a good area for business

According to him, a problem that arises with redeveloping the northern area of Jakarta is the lack of water supply. The plan is to develop an integrated industrial area. The plan also is to build another port. A solution that has been thought of for is to convert seawater into fresh water, so people can use it.

### **3.7: Practice of brownfield redevelopment**

Brownfield redevelopment in Jakarta is mostly used for improving the living quality of slum areas and to attract developers, so areas can develop into commercial areas.

#### **3.7.1: Slum areas.**

For slum areas there are two different ways to develop these areas. Slum areas consist of three types: high density, moderate density and low density slum. For the moderate and low density slum the Kampung Improvement Program is designed. Interviews showed that for the high density areas the practice is urban renewal.

The concept for high density slum areas is to build cheap apartments. The buildings are higher, so there is more space for infrastructure, green areas and open space. The second policy that has been used for a long time in Indonesia is land consolidation. A respondent describes land consolidation as a very effective instrument. It aims to redevelop slum areas that are very crowded and not very hygienic. The government then calls the inhabitants and residents and offers them consolidation. The plots will be rearranged, so there will be more space for public purposes, like pathways, gardens and public meeting space. Consequently, the landowners will receive less land than they previously had, because some of the land now will be used for public purposes.

#### **3.7.2: Attracting investment**

Some respondents point out that the redevelopment in Jakarta is focused on commercial area, on rebuilding these areas. In Jakarta, the three most commonly used instruments that are used to make areas interesting for developers to redevelop are the use of floor area ratio, the development of infrastructure and an easier permit system.

From the conducted interviews it showed that the plan to redevelop an area can originate both from the private investor and from local government. Local government can plan on redeveloping a certain area and then ask the private sector to join the development. Also common is when the idea to redevelop an area comes from the investors that have a specific proposal. If they see that the government has an area that is not very productive or not intensively used, they can send a proposal to the local government to ask if they can have a specific scheme to rebuild the area. Then the local government will assess the proposal.

For the government itself it is difficult to buy land to redevelop. A respondent says that according to a national law, local government is only allowed to buy the land for NGOP price. This is based on the value of the land, according to the estimation from the national government, for taking the land tax. Anyone from local government or national government has to pay that NGOP price for the land. It is punishable by jail to pay more than this price of the land. This price of the land is lower than the market value of the land, so no private land owners will sell their land for the government estimation. This means that it is difficult for local government to acquire land to redevelop. Only ten percent of Jakarta is currently undeveloped. According to BPS, the statistic agency, Jakarta has over 10 percent vacant land, but this land is owned by private owners or developers who now just own the land and will develop it when the economic circumstances will be good again.

Floor Area Ratio is an incentive that is used by local government in Jakarta to make certain locations more attractive for developers by allowing a higher building intensity. The Business Glossary defines Floor Area Ratio as the “the arithmetic relationship of the total square feet of a building to the

square footage of the land area. The floor-area ratio is often limited by the zoning code and may have an important influence on the land value.” The DKI Jakarta Provincial Spatial Plan 2010 regulates the zoning of Floor Area Ratio in Jakarta. However, local government in Jakarta uses Floor Area Ratio as an incentive. A respondent says that Jakarta does this by allowing developers to build in a higher Floor Area Ratio than is allowed by this master plan, when the developer pays compensation. This compensation can be public infrastructure, public services, or money, so local government can build low cost apartments. Obviously this practice of allowing higher Floor Area Ratio gives developers a higher profit for their developments.

The second instrument of redeveloping brownfield areas is by building infrastructure and services. This practice makes areas with low accessibility very attractive to developers. A respondent gives the example of the Kuningan Area in Jakarta. This area used to be a slum area, until local government built Jalan Casablanca. After building this road, the slum area developed into a thriving CBD area with a lot of high rise buildings. Two other respondents say that also facilities, utilities, or sanitation is built to make the area more attractive for developers. According to them, area where infrastructure already has been developed is Setia Budi. This is a potential development area for investors. The infrastructure here is more complete than in other areas of Jakarta. Setia Budi already has many urban design guidelines.

‘Tax Holiday’ is an instrument discussed by many of the respondents. With this incentive it is easier for the developer to get a permit. BKPM has a one stop service for permits and regulation. The one stop service should allow the investor to only come to one place so there the investor can set up all things from land permit until they can get the building permit. This only relates to the time to process the permit, not the fee. This practice can shorten the process of acquiring a permit from 60 to 45 days. The shorter procedure for permit makes that at certain areas it takes more time to get a permit than at other areas.

### **3.8: Brownfield locations in Jakarta**

Some respondents think there are many areas with brownfield locations in Jakarta. According to one of them, the first priority is to redevelop the slum areas in Jakarta. This respondent says that there are no old industries that are not in use anymore. Another respondent however, disagrees with him. He argues that there is still some old industry left in Tanjung Priok. Almost all respondents point out Kota Tua, the old heritage area of Jakarta to be a location where brownfield locations can be found. One of them says that Kota Tua used to be the centre of economic activity in Jakarta, but that it is now abandoned. Figure 3.4 shows an example of a brownfield location in Kota Tua. The state of the building is not representative for the majority of the buildings. However, brownfield sites like this can be found scattered throughout the area. The policy for the old city of Jakarta is more likely to make the area become a tourism area with urban heritage. The idea is not to re-build it the area completely, but to give the buildings function again. There are many deserted buildings since the activities moved to the current CBD. According to another respondent, there is still a lot of economic activity in Kota, but further from the main area it is like a dead city. According to this respondent there is hardly any economic activity 200 meters away from the station and Trans Jakarta bus way. Besides 2 or 3 buildings, the rest is abandoned. Another respondent adds that the whole of Kota Tua should be preserved, because of the specific local regulation. The buildings should be preserved. The

weak point in the policy in Jakarta however, is that there is no specific incentive for the old buildings. The owners want to have some support for financial support from local government to keep the building, because the maintenance costs are very high for these old buildings. Without this support, many owners will develop the building to fit to the way they want to use it. That is the weak point of Indonesian management in that old area.



*Figure 3.4: Brownfield location in Kota Tua (source: picture made by author)*

Many areas in Jakarta look worn down but most of them still have some economic activity. The area between Sudirman Central Business District and Kota is one of these areas. This area falls in the loop line area that is designated to be the next development zone. Figure 3.5 shows this area in red.

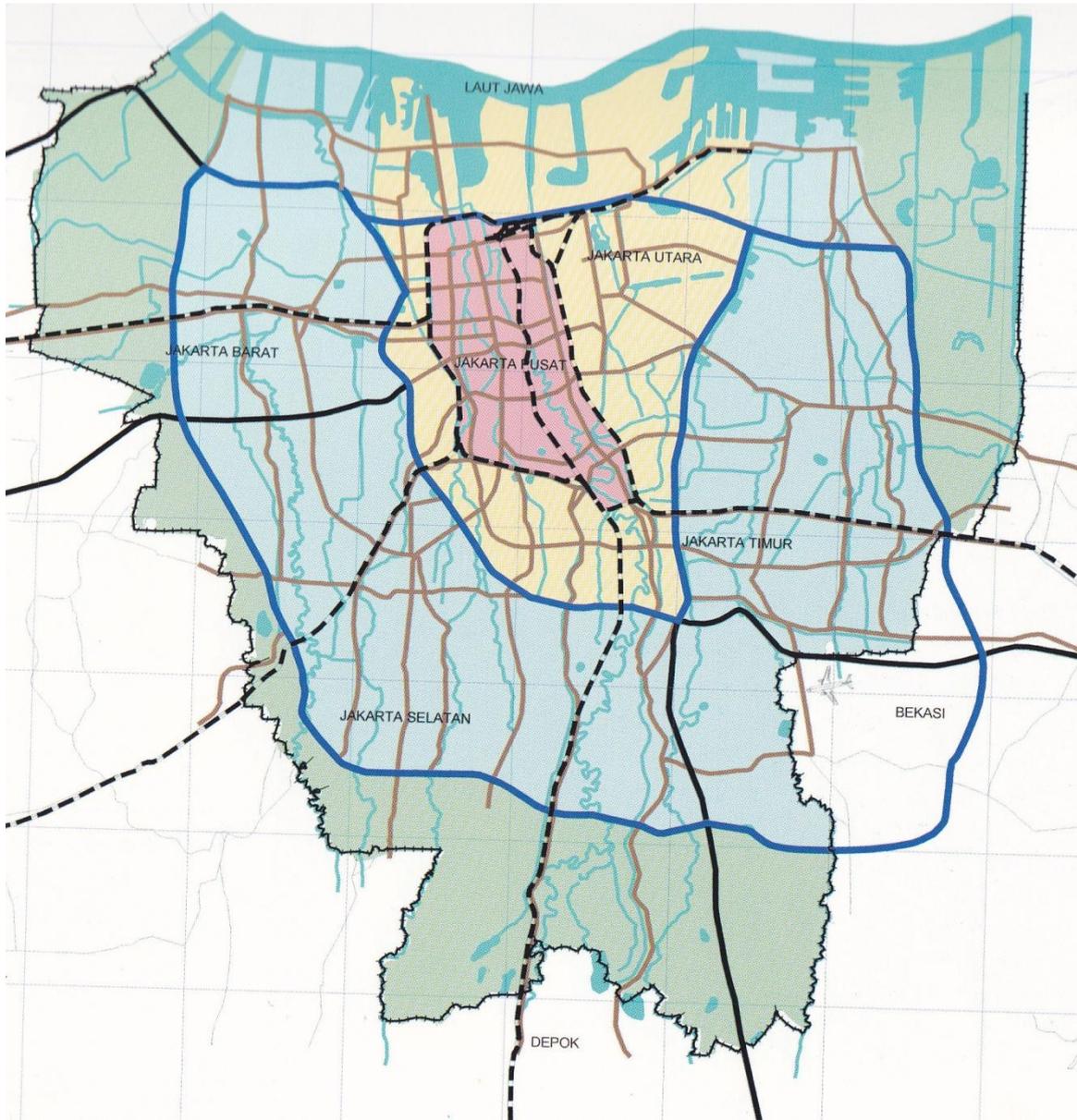


Figure 3.5: loop line area (Source: Master Plan Jakarta 2010)

Other areas where brownfield locations can be found are shown by the red dots in figure 3.6. These red dots show the areas on provincial level where the Jakarta Master Plan 2010 aims for redevelopment to happen. The red dots correspond to main activity centres where redevelopment ideally should be pulled towards. According to two respondents, on provincial level, Jakarta has about 10 primary development areas. They are Tanah Abang, Mangga Dua, Sentra Primer Barat, Sentra Primer Timur, Pantura, Ancol reclamation area, Glodok, Kuningan, and Kemayoran.

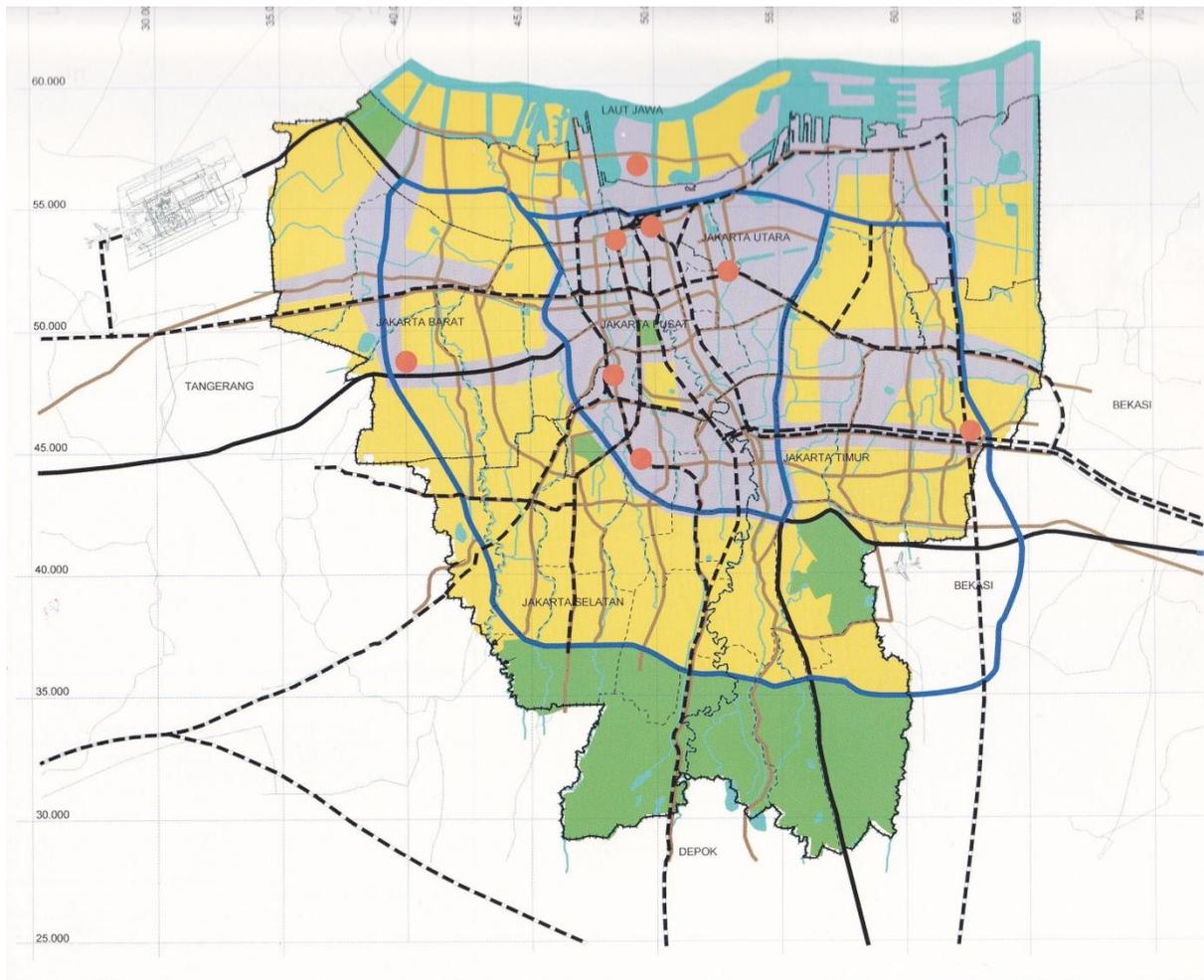


Figure 3.6: DKI Jakarta Spatial Structure Plan (source: Master Plan Jakarta 2010)

### 3.9: Summary

This chapter has showed some points that attract the attention because they suggest a link with brownfield redevelopment. First, the historical development of Jakarta shows the origins of brownfield locations.

Because of the development of the new town of Weltevreden, development was pulled towards this new area. Kota experienced less growth and this gave opportunity for brownfield locations to come into existence. Further, kampung areas developed in the area between Kota Tua and Weltevreden. Currently these are low developed areas that are nominated to be improved. The new harbour at Tanjung Priok pulled economic activity away from the old harbour of Sunda Kelapa. Brownfield locations came to existence more easily due to the lower activity at Sunda Kelapa. Uncontrolled development outside Jakarta with the building of new towns reduced the need to use the built-up area as efficient as possible. This has a stimulating effect on the creation of brownfield locations. The development of the Golden Triangle area has a double effect. Because of the development of commercial activities, almost no brownfield locations are left in the core of Jakarta. On the other hand, office locations are pulled from areas like Kota Tua towards the newly developed CBD. This leaves brownfield locations at the previous areas. The relocation of the industry to special industrial

estates outside the city centre led to the creation of brownfield locations at the sites where the industry previously was located. These locations already have been redeveloped however. Kampung areas in Jakarta have on the one hand been redeveloped into better quality kampung or housing area, and on the other hand they have been redeveloped in commercial and office usages.

Further, the Spatial Planning Act 26/2007 requires every municipality to allocate 30 percent of its area to be open green space. This increases the need to make efficient use of the built-up area. It increases the need to save the green zones, to redevelop brownfield locations and to make or to even turn brownfield locations into green areas. One way of doing this is via the informal sector. Informal development is a chance to redevelop dilapidated buildings.

## Chapter 4 Brownfield redevelopment in Indonesia

This chapter describes how brownfield redevelopment is currently undertaken in Indonesia. It describes the instruments that are used in Jakarta. This chapter will discuss the analysis table that has been introduced in chapter two. It will look at the different policy instruments and incentives that were found in international brownfield redevelopment practice and discuss the practice of them in Jakarta. The analysis table as developed in chapter two could not be answered with a literature review. Therefore, this chapter is based primarily on interviews conducted in Jakarta. The names of the respondents have been made anonymous. They are referred to as respondent or interviewee. This chapter further uses the Spatial Planning Law 26/2007 and the Jakarta Master Plan 2010 to answer the different parts of the analysis table.

### 4.1: Regulatory (or legal) instruments

#### 4.1.1: Issues of liability

According to several respondents, issues of liability do not play a role in Indonesian planning; there are no regulations about this kind of policy. One of them adds to this that Indonesian policy is not really long term policy. As a developing country, Indonesia has many basic problems that first need to be addressed. Indonesian policy is not yet concerned about high degree policy like liability issues. First the more basic problems are being addressed. He thinks this kind of policy is possible in Indonesia, but not in the near future. As already described in chapter 3, in the culture in the United States it is more common to sue people, therefore this kind of policy is more likely to be important in that country. In the case of Indonesia, the absence of this kind of policy does not seem to influence the practice of brownfield redevelopment.

#### 4.1.2: Risk based standards related to future land use

The same respondent who said that issues of liability relate to a high degree of policy notes that Indonesia does not have risk based standards related to future land use. According to him, Indonesian planning also is not yet thinking of high degree policy such as risk based standards. In Indonesia there is more need to address the many basic problems that the land has. Spatial planning does not yet think about what land-use the ground will be used for. Plan and treatment is not linked together. This respondent does not think local or provincial government think about risk based standards related to future land use. The condition of the soil or possible pollution does not have an important place in Indonesian planning.

#### 4.1.3: Ownership, issues of sale and purchase

Indonesia has different types of ownership. This is similar all over the country. There are three types of land ownership certificate as described in table 4.1.

Type of ownership certificate	Characteristic
HM	Only the president can take this title
HGB	Building usage, this allows using a plot and building on the land for a certain period of time, usually 30 years.
HGU	Meant for farming and plantations. Not for building.

Table 4.1: ownership certificates in Indonesia (source: derived from interviews)

According to a respondent, in urban areas, the majority of the land certificates are of type HM. This means land has to be acquired using a market mechanism. The land owner will not be forced to sell the land unless it will be used for public purposes such as roads, government offices, or drainage. In cases like that government can force the owner to sell. However, the owner can negotiate about the price for the land. A lot of problems can exist, for example when there is good drainage or a good road, but there is still a small island in the middle of the track, where a house has not been sold by the owner.

Because the majority of the land certificates in urban areas are of type HM, issues of owners unwilling to sell are relevant. One way that separates Indonesia from many western countries is the importance of family in daily life. Besides the price that is offered for a piece of land being too low, this family bond can result in three major other reasons owners might not be willing to sell their land. A first reason is that the house is in the family for several generations. When a house is family heritage, it will be more likely that Indonesian land owners will want to keep the house in the family. A second reason is that because of the strong family bond, several households in one family often are living close together. This means that when a house is sold for a redevelopment, the household will probably have to live further away from their close family than they would want. A third reason is the composition of how houses are inhabited. Many Indonesian houses consist of several household and several generations. This means that not just one household will be affected by a sale, but several households would have to move houses. These cultural aspects relating to land ownership in Indonesia influence the possibility brownfield redevelopment. The redevelopment of an area will be slowed down or even become impossible when land owners are unwilling to sell their land. This is especially the case when issues of money are not the only reason for land owners to be unwilling to sell.

As written in chapter 3, local government is only allowed to buy the land for the land price set by the national government. One respondent notes that this means that it is difficult for local government to acquire the land. Therefore it also is difficult for local government to have the initiative to renew the area. It is not necessary for the local government to first buy the land, make it ready to be build on, and then sell it to the developer. The developer can buy and redevelop the land. The government can influence the way brownfield location are redeveloped by allowing or rejecting the urban design guideline that the developer has to make for the location. Local government can demand for certain aspects to be changed according to their regulations, or based on objections from university scholars or architects who are consulted about the urban design guideline. When governments are only allowed to buy the land for the land price set by the national government, this limits the possibilities for local government to influence brownfield redevelopment, because they cannot redevelop land by themselves, when land owners are unwilling to sell because of the price offered for the land.

According to a respondent, the policy to make a brownfield location redeveloped is to allow the developer to develop the area. However, when developers do not like an area, it will not be redeveloped. Another respondent adds that in Indonesia there is no regulation like in Singapore where an 80 percent majority vote can be sufficient to sell 100 percent of the block if that is needed to redevelop that area. A policy like this majority vote would make brownfield redevelopment more likely to happen, but this policy will probably not be fitting for Indonesian culture of land ownership.

#### 4.1.4: Zoning

According to the Spatial Planning Act 26/2007 article 36, zoning regulation is stipulated as guidance for control over spatial utilization (Ministry of Public Works, 2007). According to this act, zoning regulation can consist of rules about space envelope (green space basic coefficient, building basic coefficient, building floor coefficient, and building border line), facilitation supply and other rules that are needed to provide safe, comfortable, productive, and sustainable space. The DKI Jakarta Provincial Spatial Plan 2010 is not based on the most recent Spatial Planning Act that enacted zoning regulations, but is based on the Spatial Planning Act 24/1992.

The DKI Jakarta Provincial Spatial Plan 2010 contains a number of zoning maps. These maps respectively show:

- How DKI Jakarta is subdivided into 7 development zones, namely the North coast, Seribu island, Mid-west, Mid-centre, Mid-east, Southern north, and Southern south development zones;
- The DKI Jakarta spatial structure plan that shows Prospective economic zones, residential zones, green zones and min activity centres;
- The population distribution and density for DKI Jakarta in Jakarta North, East, South, West and Centre; as well as for every municipality;
- Guidance for green zone development divided into water recharging area with restricted physical development, recreational park/sport/city part and agriculture;
- Guidance for prospective economic zone development, divided into high intensity and low intensity economic zones;
- How DKI Jakarta is subdivided into 4 zones of different traffic and transportation mode restriction;
- Waste water treatment service zone and distribution plan;
- The municipalities Jakarta Central, North, East, South and West also have zoning maps for spatial utilization. This shows the land use planning divided into residential housing; low density residential; public buildings; housing and public buildings; low density public buildings; industrial and warehousing; and green open space;
- The building intensity measured in Floor Area Ratio for the municipalities Jakarta Central, North, East, South and West;
- DKI Jakarta has a zoning map for residential zone development program. This map is divided into Restoration area, new development and revitalisation area.

According to a respondent, in the DKI Jakarta Provincial Spatial Plan 2010 specific zones are described to show the land use that is allowed in those areas. This master plan consists of legally binding zoning maps that show conditions certain zones have to comply with. In general the zones are restrictive and aimed at controlling development. Examples of this are the south of Jakarta, where the Master Plan attempts to protect the green area from being built, as well as the residential area to be converted into commercial land use.

The use of zoning can be used to direct brownfield redevelopment to certain locations. In different zones regulations can be implemented differently. In certain zones, that the government wants to redevelop, it is possible for the local government to use a shorter permit procedure to attract investors to this area. However, according to another respondent, these regulations are not

implemented well, so they are not properly practiced in real. Strict enforcement of zoning regulations can be helpful to redevelop brownfield locations. When restricted areas are protected, development can be pushed to areas that need to be redeveloped.

For the new Master Plan for Jakarta, local government now wants to collect all the specifications of national and provincial plans into the zoning regulations of the city. Zoning regulation is now not actually practiced, because this is just enacted in the Spatial Planning Act 26/2007. One respondent thinks it will take a minimum of five years to prepare all the zoning regulation in Jakarta, and another five years before it will be fully implemented. Jakarta local government now has started to prepare the zoning text and zoning map. The zoning regulation consists of zoning map and zoning text, the regulation itself. The zoning map has already been prepared; maybe next year they will prepare the zoning text. Then all of this will be combined into formal zoning regulation with local regulation. The zoning text should describe what usage should be permitted and what usage should not be permitted, or permitted with some conditions to be fulfilled. Every lot should also have a setback like the Floor Area Ratio; KDP: Koefficient Dasar Pangunan, the building coefficient ratio; and the KDH: Koefficient Dasar Hijau, the percentage of green area per lot or area. Every zone will have some particular regulations that should be fulfilled when a developer wants to build in this area. Zoning text is the text of specific regulation for every zone. These regulations are new, and therefore will probably be implemented completely within five years. It takes some time, because this is a new scheme for everybody, even for the government itself. It takes time before everybody knows and understands how this instrument should be practiced. All provisions and technical specifications related to the land use plan should be included in the zoning regulation.

#### **4.1.5: Planning policies**

Brownfield redevelopment is regulated via planning policies. Spatial planning is based on the Spatial Planning Act 26/2007 made by the ministry of Public Works (2007). Article 14 of this act describes that spatial planning is carried out to realize general and detailed spatial planning. This general spatial planning in a hierarchical system consists of National Spatial Plan; provincial spatial plan; and regency and municipal spatial plan. Detailed spatial planning is set out as an operational tool to arrange spatial planning. Island spatial plan/archipelago and national strategic area spatial plan and provincial strategic area spatial plan is prepared if (a) general spatial planning is unable to be used as a basis in the execution of space utilization and control of the space utilization; and/or (b) general spatial planning that consists of a vast planning and map scale in general spatial planning requires further details before it is carried out. The regency/municipal detailed spatial plan is set out as a basis in preparing zoning regulation. Provincial and regency/municipality spatial plans are based on the higher hierarchy spatial plan, regional long term development plan and guidance and direction on spatial planning.

#### **4.1.6: Land permits**

Indonesia has a system of land permits. According to Archer (1993, in Firman, 2000:15) a system of land permits can several roles in the urban land development. Land permits can guide the location of development and private land; it can coordinate development activities from both government and private sector and also facilitate the assembly of land for large-scale development projects. Examples of this can be industrial estates or new towns.

Before land can be developed, permits should be acquired by the developer. The most influential of these are the request for investment clearance (ijin prinsip), the land development permit (ijin lokasi) and the building permit (ijin Mendirikan Bangunan). Firman (2000) and Sudianto (2008) describe this system. The first permit that is needed is the request for investment clearance from the Investment Coordinating Board (BKPM). This organization checks if the proposed investment is not on the negative list. Once this permit has been acquired, no other developers are allowed to purchase or develop land within the area of the permit. Once the investment clearance has been acquired, the land development permit can be applied for. The land development permit is issued by local government. The mayor or the head of the regency, Municipal Land Agency (BPN), Municipal Planning Board (Bappeda) and other related institutions check if the proposed development is in line with the regional and local development plan. Development over 5000 square meter needs a Gubernatorial Reference for Land Use. The land development permits are valid for one year, for an area of less than 25 hectares, for 2 year for an area of 25 to 50 hectares and for 3 years for an area over 50 hectares. The permit can be extended when at least 50 percent of the permit area has been developed. For small developments, such as individual housing developments, there is no need to acquire a land development permit. In those cases a building permit is needed from local government. In Jakarta the City Design Office (Dinas Tata Kota) issues building permits when development is according to the spatial plan.

Theoretically, permits are legally binding as described in the Spatial Planning Act 26/2007. Constructions that are not according to the spatial plan can be demolished. Also there can be administrative penalties, but also corporations, individuals and government officials can be have a criminal punishment when permits are issued against the land use plan. However, Firman (2000) writes that the land development permit system in Indonesia has been abused for speculative land trading, so that the potential role of the system does not really function. Two respondents add that in practice it is possible for developers to negotiate over the planned land use of a development. The spatial plan shows zones where a specific type of land use should be planned, but in practice it is possible for developers to negotiate over this land use. In theory, the zoning of the spatial plans should make it easier for certain developments to get a permit, because permits should be issued based on the proposed land use that should be in accordance to the spatial plan. In practice, however, it is possible to acquire permits that are not according to the plan.

In theory, land permits will be issued when the proposed development is in accordance to the spatial plan, and be rejected when they contradict the spatial plan. For some developments additional things can be demanded of the developer. One respondent gave the example of Taman Anggrek Mall in West-Jakarta. Here developers built high rise buildings and some malls. The government forced the developer to also develop a fly over, over the road, because according to their calculation, the area would generate such traffic flow that it should be internalized by the developer itself. This is an extra condition that a developer has to comply with. It makes development less profitable for developers, but for many locations in Jakarta the expected profit is still so high that locations will be redeveloped even with additional demands from the government.

According to a respondent, the system of building usage permits has been used to control and guide urban land-use development in order to move the industrial land-uses out of the centre of Jakarta towards special industrial zones. Industries that were not in line with the spatial plan did not get their permits renewed so they were forced to leave. These industries got land at industrial

integrated areas in the west and in the east where it would be cheaper for them to operate, because of the lower land price and the possibility of having more land to use. This policy made land in the centre of Jakarta available to redevelop into residential, service or commercial areas. These brownfield locations have already been redeveloped. By now almost all the heavy and medium industry has already been moved to the east and the west.

The permit system can be used together with a zoning system. When building something, the developer has to pay for a tax. In certain locations the price of a permit is more expensive. This policy is effective for small developments like houses or stores of around 100 or 500 square meters. For very big developments of over 5000 square metres a higher price for a permit is not effective. A result of this permit system is that in certain areas of Jakarta many people have built without permit, like in Kemang where it is not economically feasible to apply for a permit. The new Spatial Planning Act 26/2007 has given local government the criminal provisions as punishments for going against the spatial plan. After the implementation of this law, buildings that are not according to the land use plan will be removed. One of the respondents think people will be careful to build without permit, because now they can be taken to jail for doing so.

A strict enforcement of the land permit system can make brownfield location more attractive for developers to redevelop. When permits are only issued when the proposed land use is in accordance to the spatial plan, this will force developers to look for locations where they can redevelop. With a less strict enforcement development can in theory take place anywhere. This puts less pressure on redeveloping depilated areas of the city. When a more strict enforcement is combined with a policy where it is easier to acquire a permit for specific zones with many brownfield locations, this can attract development towards these areas. This could also be practiced for individual brownfield locations that have no current economic activity.

#### **4.1.7: Environmental Impact Assessment requirements**

Environmental Impact Assessment requirements exist in Indonesia. There has been a series of economic deregulation policies in the financial sector, which has been launched since the early 1980s. The goal of these deregulations was to promote domestic savings; improve the efficiency or resource allocation; and to create a framework which allows for the implementation of effective market-based economic controls. Deregulation is also specifically aimed at increasing domestic and foreign investment, promoting non-oil export-oriented industries and enhancing the global competitiveness of the Indonesia's industries. These deregulation policies include the simplification of requirements regarding building permits, and of public nuisance (hazard) and environmental-impact analysis which have been strictly imposed in the past. The requirements of environmental impact assessments have already been eased to make (re)development more attractive (Firman, 1997).

In Indonesia the need for an Environmental Impact Assessment is based on the type of activity. The Decree of Minister of Environment No.17/2001 lists activities that make it mandatory to do an Environmental Impact Assessment. These are military, agriculture, fishery, forestry, healthy, transport, satellite technology, industry, regional infrastructure, energy and mineral resource, tourism, nuclear development, poisonous waste treatment and genetic manipulation. When non-mandatory activities take place in protected areas, Environmental Impact Assessment is also necessary. Further, Environmental Impact Assessment is necessary when an activity creates

significant impact. In other cases, environmental monitoring and management procedures are required. Factors that determine the significance of the impacts relate to the number of people affected, the size of the affected area, the intensity of the impact, the number of other affected environmental components, the reversibility of the impact and the cumulative type of the impact (Maharini, 2006).

Environmental Impact Assessment requirements could be used to make brownfield location relatively more attractive to redevelop. As written above, the requirements have been eased to make development more attractive. These requirements could be varied based on the type of previous land use. This could be done by enforcing more strict requirements for green areas but hardly any requirements for redevelopments of brownfield locations with no or hardly any economic activity. Also Environmental Impact Assessment requirements could be eased for specific development zones in the spatial plan.

## **4.2 Economic (or financial) instruments**

### **4.2.1: Tax incentives**

The Spatial Planning Act 26/2007 describes tax incentives as one of the incentives that can be used in spatial management. A respondent mentions a problem. This problem is that land tax is under the authority of central government, while redevelopment and incentive/disincentive is the business of local government. This makes tax incentives difficult to implement. Land tax is centralized, so local government cannot change this land tax. Only the minister of finance can raise or lower land tax. Before local government can use tax incentives as an instrument for spatial management, the whole system has to change.

Another respondent describes how land tax can influence the land use. The central government set a very high land tax in Menteng. Because the national government asks a higher tax, the people will be forced to move because they cannot pay the land tax. This means that the land use will change from residential area to commercial area.

However, in the future this might become an instrument that local government can use as an incentive. Currently the local tax and local charge law is being revised. In this new law the property tax might be transferred to the local government. When this is transferred, local government will be able to give some fiscal incentives to investor or citizens that want to build in a certain area, based on the spatial plan. When these investors or citizens follow the spatial plan they will receive the incentive, but when their development goes against the spatial plan they should get a disincentive. A respondent notes that currently the law hinders the local government to give some fiscal incentive in order to redevelop areas. Tax incentives cannot properly be used until the system of setting land tax will be transferred to local government, so local government will be able to use it as incentive for designated area.

## 4.2.2: Negative economical instruments

### 4.2.2.1: Making it financially painful for businesses and speculators to retain unused brownfield properties

A policy like this can make brownfield redevelopment likely to happen because it forces land owners to pay some kind of fee when their properties are neglected. This could stimulate land owners to either redevelop their property or makes them more inclined to sell their land, so other investors can redevelop the land. The questioned respondents note that Indonesia does not have an economic instrument like that. There are no economic consequences for retaining unused brownfield properties.

### 4.2.2.2: Abandoned land and land transactions could be highly taxed to discourage land speculation

According to a respondent, there is a land regulation that the maximum of ownership is two hectares for wetland/paddy field is only two hectares individually. For dry land it is about 2000 square meters. However this respondent notes that there is no control. When someone has 2000 meters in a sub district, than it is impossible to add more land in that sub district. However, in another district it is possible to add another 2000 meters. Now BPM is working very hard on an information system, so they can control much better. Currently the enforcement is not supported by a good information system.

Firman (2004) writes that land development permits (ijin lokasi) have recently been reformed through a decree of state minister for Land Affairs issued in early 1999. Now, land acquisition for housing projects and industrial estate granted to a developer is not allowed to exceed 400 hectares in one province and a maximum of 4000 hectares for the whole Indonesia, whereas that for tourist resort is limited to 200 and 2000 hectares respectively. Moreover, the validity time of the permits has also been regulated: 1 year for areas of less than 25 hectares, 2 year for those between 25 and 50 hectares, and 3 year for those over 50 hectares. The permits can be renewed for a further 1 year if the acquisition has reached more than 50 percent.

## 4.2.3: Positive financial incentives

Based on interviews it is found that funding to identify sites would be possible in Indonesia, but an incentive like that does not exist. There also is no funding redevelopment assistance for environmental testing and cleanup. It was added that there also exists no incentive to fund remediation of sites or to demolish buildings. According to another respondent, there even is not even funding available to maintain heritage buildings, in order the heritage buildings stay economically productive. This led to people demolishing these buildings and transforming them into a new modern building to fit the activity they want.

Some respondents argue that the use of incentives and disincentives that have to do with money will probably be chaotic to apply, because of the corruption that is widespread in Indonesia, when it comes to money. A thing that would work better in Indonesia is a policy where no money is used. An example of this policy where no money is used could be to force a household with two air conditioners to plant two trees as compensation.

#### **4.2.4: Investing in catalyst projects**

Old Town or Kota Tua is the heritage area of Jakarta. Jakarta puts a lot of efforts in restoration of old town, but there have not been significant results yet. They are still working on it. It looks better than 10 years ago. But not like old towns in Europe. Several interviews showed that Jakarta is currently restoring the Old Town. Processes of preservation and investing have been happening in Kota Tua. An example is the redevelopment of the old town hall at Fatahillah Square in Kota Tua. With the investment in public buildings the area started to become more attractive. Most notably the rejuvenation Kota Town Hall has given the whole square a better look and has stimulated private owners to also improve their property. Public investment triggered redevelopments that drew more visitors to the area and the privately owned brownfield locations also started to get redeveloped.

#### **4.2.5: Urban Development Corporations**

A respondent notes that there are Urban Development Corporation developing and redeveloping areas in Jakarta. An example is Lippo Kawaraci that currently is redeveloping an area in North Jakarta, together with a development corporation from Hong Kong. Urban development corporations can redevelop brownfield locations by investing in those areas.

#### **4.2.6: Locating or expanding government facilities to these places**

According to a respondent, the location of government facilities is based on the spatial plan. As long as the location of the government facility is clearly defined in the spatial plan, it is possible to locate or expand government facilities to brownfield areas. Investment like this can give the whole surrounding area a better image. It also attracts visitors to these locations so there will be a larger consumer base available. This improved profit expectancy is likely to attract more investment.

#### **4.2.7: Upgrading and/or adding key services**

This is one of the most effective incentives that are being practiced in Jakarta, for this reason it has already been described in chapter three as one of the three most practiced incentives to redirect development to certain locations. This, however, can also have negative side effects, as a respondent point out. He calls infrastructure an effective incentive. When infrastructure is provided, development will go to that direction. An example is Jakarta outer ring road. Because of this outer ring road, landowners beside this road now want to develop their own commercial projects along the road. That should be stopped by the governor, because the government does not want ribbon development in there. Development should be attracted into centres instead of along the road. This means Jakarta has to be very careful with expanding the road network. Historical developments have shown the impact of road developments in attracting development to there.

### **4.3: Communicative (or social) instruments**

#### **4.3.1: Contact with each other**

##### **4.3.1.1: Early community involvement**

DKI Jakarta Provincial Spatial Plan 2010 describes the public/community participation in articles 84 to 87. Public participation in the spatial planning process comprises of the following activities:

1. Giving input for direction of regional (provincial) development;
2. Indicating various potentials and problems for development. Clarifying the rights of space in urban area and implementing the spatial planning;

3. Contributing to the formulation of provincial spatial planning;
4. Giving out information, suggestion, consideration or opinion for the formulation of strategy and structure of the provincial spatial use;
5. Submitting the objection on a Spatial Plan;
6. Cooperation on research and development, and or support from the expert.

About the empowerment of public participation the provincial master plan (1999:49) writes:

1. "The government provides information about spatial structure and plan in a fast and practical manner through a printed and electronic media or through a discussion forum;
2. The public can initiate the exertion of public rights and obligation of implementation guidelines through a discussion, advisory, education and training to achieve the spatial structuring objective;
3. In order to carry out the improvement of the implementation guide of public rights and obligation, the government implements an empowerment to increase public awareness, empower and improve public responsibilities in spatial structuring process.
4. The empowerment as mentioned above is carried out by an competent authority by ways of the followings:
  - a. Providing and organizing a discussion, an exchange of ideas, a support, a protection, a service, a technical and legal assistance, an education and/or training;
  - b. Disseminating all information related to the spatial structuring process to the public in indiscriminating manner;
  - c. Publishing and disseminating the spatial plan to the public;
  - d. Respecting the rights of the public;
  - e. Compensating the communities with a decent compensation for giving up their rights caused by the spatial development activities;
  - f. Protecting the public rights to participate in the spatial planning process, and prospering from the spatial use that has a good quality and advantaging from the added value caused by the spatial plan;
  - g. Paying attention and following up any suggestion, opinion and objection from the public in order to improve the public service."

According to a respondent, early community involvement especially happens in Kampung Improvement Programs. Residents are encouraged to make their own 'community action plan'. This is only for neighbourhood scale. The government only facilitates and the residents try to develop their neighbourhood by themselves. This does not only include physical improvements, but also social and economic development.

This is one way of informally redeveloping an area. In Indonesia other informal ways to use space occur. It has been described how many residents in Kemang have converted their houses into commercial land uses even without a permit. Also unused pieces of land often get used by informal settlements. This can be seen at the river banks where informal squatters are using the designated green space to live. Brownfield locations could also be made available for informal small scale entrepreneurs.

#### 4.3.1.2: Collaboration between government agencies

According to a respondent, in Jakarta there is already some partnership or coordination between local government institutions. Actually they tend to rely on the governor decision. In theory there is

vertical and horizontal coordination, but the horizontal coordination is very hard to practice. If, for example, the head of one dinas or division in Jakarta tries to invite other heads of divisions from other sectors, they do not want to come for that invitation of coordination, because they are in the same level. That is the bureaucratic behaviour in Indonesia. Some kinds of coordination should therefore be conducted by the upper level, inviting the lower levels. Lower levels of government should go to the governor for a decision. This is not very good in Jakarta. The problems are very dynamic. All of those problems should go to the governor as head of the local area. There should be some subsidiarity between the top levels. The top level gives the decision making authority at the lowest level it can be made. Some of the problems only deal with a very low level. Decisions on those problems should be made at that level not in the upper level.

A respondent describes how currently within PPUT there is good collaboration between government agencies. It consists of some institutions that deal with the spatial planning. They decide upon issues like whether incentives or even disincentives should be given in certain development. Jakarta spreads the tasks/functions of the spatial planning into some institutions. There are institutions for the decision making process. There also is a deputy governor of spatial planning. But in the implementation organization there are dinas, specific divisions of spatial planning. In the planning agency, in Bappeda there are special sections to deal with the spatial planning in terms of programming. There are institutions for decision making, for implementation, or for programming. There also is the local secretary biro for spatial planning; it deals with the administration aspect. Jakarta has many different agencies to deal with the spatial aspects. All those agencies are invited into special meetings, chaired by the governor, to decide on specific subjects. From some interviews it became clear that at Jakarta local government it is unclear what kind of regulations other departments or divisions have.

#### 4.3.1.3: The government has to participate in stakeholder engagement, partnership formation, leadership development, and knowledge creation and learning

As written before, in the provincial master plan it is described that a discussion and an exchange of ideas with the public should be provided and organized. This is already practiced as can be seen in The Jakarta Post (2006, and 2009). Here the newspaper reports about a seminar, and a workshop held that involved the city administration, stakeholders, architects and NGOs.

Ideally government and investors learn together about brownfield redevelopment, according to a respondent. An idea is to learn together with investors in land consolidation, to involve the private sector. Then a part of the land will be dedicated to the investors, so they can make a business in the consolidated land. For government it will be cheaper to consolidate the land, because there is funding covered by the businesses. This mechanism is not yet in operation though. It has not really been practiced during the past 15 years. However, since the Spatial Planning Act 26/2007, it is hoped that plans can be prepared together with stakeholders and planners. The practice of this regulation is still in progress.

#### 4.3.1.4: Collaboration between government and investors in developing plans

According to an interview, government and investors cannot collaborate in making the general spatial plan, this is the public domain. However, it is possible for the detailed spatial plan to be conducted by government and investors together. This practice is described by another respondent. Investors are asked to formulate an urban design guideline for the area they want to redevelop. This

guideline will be assessed by people from the community, university, and association of architects. After this the developer can build according to the urban design guideline or will be forced to modify the plan. Developers can make a plan if they won the land, but it has to be approved by the government. It should be stipulated as local regulation.

An example described by an interviewee is BSD new town. This is built by investors, but the investors and the local government made the plan together, before it got endorsed by the government. In the example of the Ancol development, local government and investors do business all together. They designed the plan together and also do the management together. They have some revenues from that park. Local government makes a profit from Ancol.

#### 4.3.1.5: Help developers identify brownfield redevelopment locations

According to a respondent, this exists for redevelopment. The specific case probably is for kamung redevelopment. Local government then wants to redevelop the slum area into multi storey buildings with some open area. Local government practices this all together with the private sector, but they give for example the private sector some land to specific usage for example for commercial area, because they do the redevelopment, but they receive compensation from the government to have a spatial plan and use in this area for example for commercial uses.

### 4.3.2: Availability of knowledge

#### Is there knowledge available on how to redevelop brownfield locations

Several interviewees think the knowledge exists already; there is a very high level of knowledge available in local governments. Most government employees in Jakarta have some high level of education. Some even have doctoral degrees, but because the bureaucracy this doctoral degree is not much needed. There are some restrictions and obstacles. There is knowledge about, for example, very high levels of zoning terms or of transfer of development rights. Government officials already know about this, but they cannot implement it because some restrictions from formal law or related law. They know about how to have partnerships between local government and private sector. But there are some specific arrangements of the law that restrict this to be an easy way to build or to implement. Some respondents point out that there are many forums that give ideas about how locations should be redeveloped. Many studies exist on how Jakarta should be rebuilt, but a problem is that the government does not have enough money for the program.

### 4.3.2: Knowledge – educating

#### 4.3.2.1: Educating public on the benefits of brownfield redevelopment

According to some respondents, Indonesian government is trying to educate the public on the benefits of redeveloping the heritage area in old town, of redeveloping the old buildings there, but there are no significant effects. Some other respondents add that people in slum areas also get educated on the benefits when local government wants to redevelop that area into a better housing area.

#### 4.3.2.2: Educating and training government officials

A respondent notes that there are a lot of programs to educate local government officials. For land consolidation the educating is the work of BPN. The ministry of Public Works educates government officials on zoning regulation and preparation of the detailed plan.

### 4.3.3: Exchange of knowledge

#### 4.3.3.1: Using knowledge of ngo's and making plans together with government.

It is possible for NGOs and government to develop plans together. However, according to a respondent, this can only be done together with the government.

#### 4.3.3.2: Promotional messages, maps of sites and other information that shows the advantages of these locations

A respondent explains that currently there is no explanation why investors should invest at certain locations. That kind of promotion does not yet exist. The new master plan, however, will promote areas to attract investors. The new master plan will consist of a description about every lot in this area. The new master plan will be a different format consisting of zoning text and zoning map. The new format will give information about the function and policy of every piece of land. In 2010 the zoning regulation will be finished. This zoning regulation will give information about every parcel of land, showing if parcels are meant for housing, for investment or for business development. The new master plan will promote locations to investors and show what locations will have incentives. The difference with the 2010-2030 Master Plan is that the old Master Plan only has zones, while the new Master Plan explains per lot about what kind of land use is meant to be there. Besides this, investors can already get information about investment at BKPMMD.

## Conclusions

The conclusion will show some implications of the planning theory and the planning practice. It will try to develop a synthesis between the theory from chapter two and the practice as described in chapters 3 and 4. This chapter will describe some characteristic trends, the locations with brownfield locations and an overview of the instruments that used in Jakarta. After this, it will give some recommendations for Jakarta. Finally the conclusion will answer the main question. This main question is 'can brownfield redevelopment be a possible solution to redirect the focus of development in Jakarta away from the green zones'.

## Brownfield locations in Jakarta

Chapter 3 has showed how a couple of trends can be seen in Jakarta relating to the development of brownfield locations. The first trend that can be seen is how after new developments the original settlements of the city became less in demand. Current brownfield locations can mostly be found in the area of the first settlements in Jakarta. A second trend that can be seen is how after the Second World War, industry was moved out of the city, this left behind typical brownfield locations. Nowadays almost all of these locations have already been redeveloped. The centre of the city experienced enormous economic growth, redeveloping many brownfield locations in this area. The redevelopment of Jakarta's brownfield locations was slowed down by uncontrolled peri-urban developments. Further, planning policies try to control developments.

The interviews conducted for this research showed that Jakarta has many areas with brownfield locations. Many slum areas need to be redeveloped. There also is some industry left that has not yet been moved towards special industrial zones. The locations that most respondents point out are the old colonial first settlements. In this area many colonial buildings relating to the trading activities of the Dutch East India Company were built. In this area a large amount of brownfield sites can be found. Examples are old warehouses. Brownfield locations cannot be found only at those locations. The red dots in figure 5.1 show locations that should be renewed according to the Master Plan 2010. They are all located in purple coloured areas on the map of figure 5.1. This shows that most of them are designated to be redeveloped into commercial land uses.

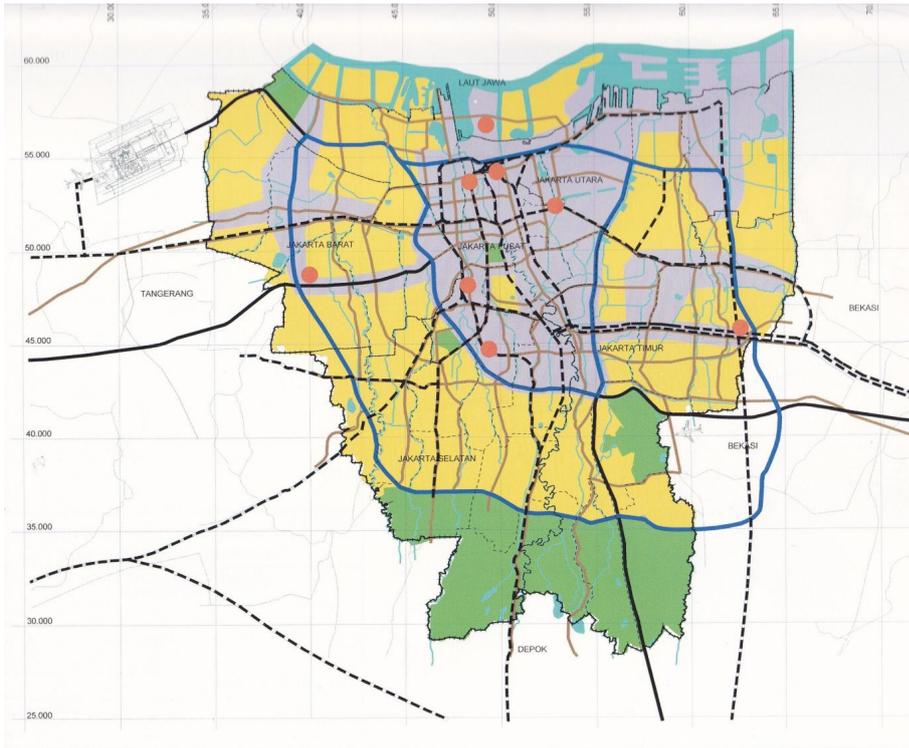


Figure 5.1: DKI Jakarta Spatial Structure Plan (source: Master Plan Jakarta 2010)

## Practice of brownfield redevelopment in Jakarta

Looking back at the findings of chapter three, brownfield redevelopment in Jakarta is most commonly used to improve the living quality of slum areas and to attract developers, so locations can be redeveloped into commercial areas. In high density slum areas, apartments are being built. In low and moderate density slum areas a land consolidation will rearrange the plots, so there will be more space for public purposes, like pathways, gardens and public meeting space.

Three instruments are most commonly used to redevelop Jakarta by rebuilding areas into commercial land uses. The three most used instruments that are used to make areas interesting for developers to redevelop are the use of floor area ratio, the development of infrastructure and an easier permit system.

The spatial plan regulates the zoning of Floor Area Ratio in Jakarta. However, local government in Jakarta uses Floor Area Ratio as an incentive by allowing developers to build in a higher Floor Area Ratio than is allowed by this master plan, when the developer pays compensation. This compensation can be money, so local government can build low cost apartments, but it can also be public infrastructure or public services. Obviously this practice of allowing higher Floor Area Ratio gives developers a higher profit for their developments. This practice goes against the spatial plan.

The second instrument used for redeveloping brownfield areas is to offer infrastructure and services. This practice makes areas with low accessibility very attractive to developers. An example of this in Jakarta is where the building of a single road improved the connectivity of a slum area so much that it became in enormous demand. After building this road, the slum area developed into a thriving

CBD area with many high rise buildings. Also the building of facilities, utilities, or sanitation is used to make areas more attractive for developers

The third commonly used incentive is the practice to make it easier for developers to acquire a permit. A one stop service should allow the investor to come to only one place so there they can set up all things from land permit until they can get the building permit. This only relates to the time to process the permit, not to the fee. This practice can shorten the process of acquiring a permit.

### Implications for the literature findings

The case of Jakarta differs on a number of ways from the literature on brownfield redevelopment that was found. This subchapter is based on the analyse table that was developed in chapter 2. In table 5.1, the findings from chapter 2 are compared with the findings in the practice of Jakarta. The incentives that were found in chapter 2 are listed in the right column. The incentives shown in bold typing are incentives that are used in the practice of Jakarta, whereas the incentives shown in italic typing are not present in the Jakarta case. Implications that can be found are further discussed underneath the analyse table.

<b>Regulatory (or legal) instruments</b>	<i>Issues of liability</i>
	<i>Risk based standards related to future land use</i>
	<i>Ownership, issues of sale and purchase</i>
	<i>Zoning</i>
	<b>Planning policies</b>
	<b>Land permits</b>
	<i>Environmental Impact Assessment requirements</i>
<b>Economic (or financial) instruments</b>	<i>Tax incentives</i>
	<ul style="list-style-type: none"> <li>• <i>high tax on greenfield development</i></li> <li>• <i>tax incentives for the number of jobs created</i></li> <li>• <i>tax incentives for designated areas</i></li> </ul>
	<i>negative economical instruments</i>
	<ul style="list-style-type: none"> <li>• <i>making it financially painful for businesses and speculators to retain unused brownfield properties</i></li> <li>• <i>abandoned land and land transactions could be highly taxed to discourage land speculation</i></li> </ul>
<b>Economic (or financial) instruments</b>	<i>positive financial incentives</i>
	<ul style="list-style-type: none"> <li>• <i>funding to identify sites</i></li> <li>• <i>funding redevelopment assistance for environmental testing and cleanup</i></li> <li>• <i>funding to remediate sites and demolish buildings</i></li> </ul>
	<b>Investing in catalyst projects</b>

	<b>Urban Development Corporations</b>
	<i>Locating or expanding government facilities to these places</i>
	<b>Upgrading and/or adding key services</b>
<b>Communicative (or social) instruments</b>	<u>contact with each other</u> Early community involvement <ul style="list-style-type: none"> <li>- <b>Collaboration between government agencies</b></li> <li>- <b>Collaboration between government and investors in developing plans</b></li> <li>- <i>The government has to participate in stakeholder engagement, partnership formation, leadership development, and knowledge creation and learning</i></li> <li>- <i>Help developers identify brownfield redevelopment locations</i></li> </ul>
	<u>availability of knowledge</u> <b>Is there knowledge available on how to redevelop brownfield locations</b>
	<u>knowledge – educating</u> <ul style="list-style-type: none"> <li>- <i>Educating public on the benefits of brownfield redevelopment</i></li> <li>- <i>Educating and training government officials</i></li> </ul>
	<u>exchange of knowledge</u> <ul style="list-style-type: none"> <li>- <i>Using knowledge of ngo’s and making plans together with government.</i></li> <li>- <i>Promotional messages, maps of sites and other information that shows the advantages of these locations</i></li> </ul>

Table 5.2: relationship theory and practice

A first striking difference that can be found is the importance of issues of contamination in the literature and in the case of Jakarta. The literature shows a very strong emphasis on contamination as well as the problems this could give. The literature shows a strong emphasis from the on the case of the United States. Most of the literature deals with policies that manage contamination. In the case of Indonesia however, contamination does not play a major role. While in the United States many policies are necessary to deal with contamination and issues of liability, policies like these are absent in Indonesia and play no role in making locations attractive for redevelopment.

In the literature from chapter 2, ownership constraints are found as a problem. Indonesia does have problems with this, but does not have any policies to deal with this. This is unlike the literature that showed possible policies such as ‘en-block sales’ with majority votes that can force unwilling land owners to sell their land.

Many of the economic incentives that were found in the theory of chapter 2 consisted of tax incentives. In Indonesia however, they are not used. The spatial plan does allow tax incentives to be used, but the national government is the authority regulating land tax. Because of this local government cannot use this policy as a tool of spatial management to control developments.

A policy that can be found both in the literature and in the practice in Jakarta is the upgrading and/or adding of key services. In the case of Jakarta this is mostly practiced by the building of infrastructure to make locations connected and therefore attractive for developers.

Indonesia is not known for its implementation of regulations, therefore it would be expected to see many economic and social incentives. However, these are practiced not very often in Indonesia. The use of building intensity can be added to the regulatory instruments. Together with the planning policies and the easier process to acquire a land development permit, an emphasis can be found on regulatory instruments regularly used. When implementation would be improved, zoning and a more restricting use of permits could be chances for future development. The first steps towards this have already been undertaken by developing against the plan a criminal offence. Further, steps are undertaken against corruption.

Chapter two shows many social incentives. Jakarta is decentralizing from a very central government with inclusive planning. The spatial planning law gives options for early community involvement but the practice of this has to evolve. Public control and participation needs to grow stronger. Social incentives seem to be an option with opportunities for the future when good governance and the democratic system in Indonesia will be developed further. "Stakeholder engagement, partnership formation, leadership development, and knowledge creation and learning" are things that are starting to develop in Indonesia. This offers opportunities for improvement. Further, the new Jakarta Master Plan 2010-2030 is supposed to include additional information on every lot. This should give more information for investors. It should make brownfield locations easier to identify and should show more reasons for investors to redevelop those locations.

When looking at the practice of brownfield redevelopment, perhaps one of the two most effective incentives that can be found in the practice of Jakarta cannot be found in the literature. The policy to allow a higher building intensity is not described in the theory. In Jakarta however, it is a very commonly used and very effective method to influence redevelopment.

Another point the literature does not make is the role that the informal sector can play. In Jakarta and probably in many other developing countries as well a large informal sector exists. This innovative sector could be stimulated to use deserted buildings for some small scale economic activities. This can prevent these people from living in open green areas such as river banks, while at the same time unused buildings can be used economically.

The literature shows zoning and land permits as methods that can be used to make brownfield locations redevelop. These policies have a positive effect when used, but a negative effect when not used. When these policies are not properly implemented, this can lead to uncontrolled developments. When this leads to development of peri-urban areas that were designated to stay green, the pressure to develop brownfield locations is lowered. Improper implementation can be a cause of brownfield locations to come into existence.

Chapter two showed a number of problems that were found regarding the redevelopment of brownfield locations. They related to contamination, neighbourhoods that were not ready and o be redeveloped and ownership constraints. In the case of Jakarta ownership constraints are the only problem that was relevant. The incentives as described in chapter 4 showed that in Jakarta no incentives are used to deal with these three problems. The only one of these that seems to be

relevant is the ownership constraints. Indonesian culture relating to land ownership makes shows how acquiring land could be a problem due to ownership constraints; however, no solution exists in Indonesian policy. The problem of contamination does not play an important role in Indonesian planning culture and policies relating to them are considered to be of too high degree, because of the more basic problems Indonesia has to deal with.

Looking back at the literature review in chapter 2, three types of benefits were found. The literature gives environmental, social and economic benefits from the redevelopment of brownfield locations. In Jakarta it can be seen how brownfield redevelopment could accomplish these benefits. The industry in the centre of the city has been moved to special industrial estates outside the city. The areas that were left are now redeveloped into land uses that are not contaminating. The social benefits can be seen in the colonial heritage area. In this dilapidated area redevelopment has started. The area still has many brownfield locations, but redevelopment of the old Town Hall and other buildings that have been redeveloped are giving the main square of the area a much better look. People are already starting to visit the area, while some years ago it still was much more deserted. The economic advantages of brownfield redevelopment can easily be seen in Jakarta when looking at the development of the CBD. This area used to be slum area, but since it was redeveloped, the area attracted many employment opportunities

### **The need for incentives**

In Jakarta the use of planning obligations is practiced. The central areas of Jakarta are so attractive and offer such profit margins that it is possible for the local government to require compensation of effects, in return for allowing developers to redevelop certain areas. An example is the development of a large mall, where developers needed to build a fly over, over the road to internalize generated travel flows. When governments demand planning obligations from developers, this will cost the developer money and therefore profit. However, because Jakarta has enormous economic value, it is still economically feasible for investors to develop their project in central Jakarta even when local government tells them to build their own infrastructure. Based on their calculation it is still economically very interesting to develop their project. Developments like these fit in a tradition of multiple types of development in one development process. It also fits in a planning culture where informal negotiations are practiced regularly.

This practice shows how difficult it is for the government to stop development. Even when compensations are required from developers, such as building own road facility, the practice of redevelopment still continues. This example shows the potential that brownfield areas in Jakarta have. Many locations will be redeveloped because of their economic potential, even when planning obligations are used. This shows how for many locations incentives are not needed to start the redevelopment of these areas.

### **Lessons for Jakarta**

#### **1. More strict enforcement**

The Spatial Planning Act 26/2007 should be enforced more strictly. Chapter 2 describes planning policies and a permit system as incentives that can be used to redevelop brownfield locations. In the practice of Jakarta enforcement is weak. A strict enforcement of the land permit system can make brownfield location more attractive for developers to redevelop. When permits are only issued if the

proposed land use is in accordance to the spatial plan, this will force developers to look for locations where they can redevelop. With a less strict enforcement development can in theory take place anywhere. This puts less pressure on redeveloping dilapidated areas of the city. When a more strict enforcement is combined with a policy to make it easier to acquire a permit for specific zones with many brownfield locations, this can attract development towards these areas.

A possible solution that could help enforcement of the Spatial Planning Law is to create a fear effect. The KPK, the Corruption Eradication should not try to send only the 'big fish' to jail, but should make it clear that they will also send government officials to jail, when they approve permits that are not according to the land use plan. This should strengthen a fear effect and should make sure that government officials act according to the law. The Spatial Planning Act 26/2007 has already been strengthened compared to the 1992 act, so the legal grounds for imprisonment exist. Local officers should know what is allowed or not and should know that illegal actions will have consequences.

Further, improving the education level of local government officials could be an opportunity. This has already been pointed out in the literature in chapter two. It could be helpful to offer additional training to teach these government officials not only what the plan is, but also the reason behind land use plans. These officials should know what negative effects on the sustainability and liveability of Jakarta will occur, when they give out permits that are not according to the spatial plan, or allow wrong land uses. Government officials should know the effects of their actions when they 'do not want to' allocate sufficient room for green areas. The willingness of local government officials to act by the law could be improved when additional education is offered on the reason why green areas are important.

## **2. Stimulate the informal sector**

In Indonesian planning culture implementation is a weak point. When implementation is a problem, another, less formal, way to make brownfield locations redevelop is to influence the actions of the informal sector. The existence of a considerable informal sector in Indonesia gives thought about informal possibilities of brownfield redevelopment in Jakarta. This innovative sector could re-use brownfield locations on a small scale. This sector already uses informal locations, as can be seen in the example of kampung areas developing on empty pieces of land, despite that they were not planned as residential area. This can also be seen in the usage of river banks. When empty brownfield locations would be used by the informal sector, this could give brownfield locations some economic activity, making sure the locations are used.

## **3. Improve coordination within parts of the government**

Chapter 2 describes the collaboration of government agencies as something that is helpful in making brownfield locations redevelop. When the coordination is good, government agencies will not send out mixed messages and will know of all relevant policies and incentives that are in use. In Jakarta the coordination between different parts of the government can be improved. Jakarta has a problem with horizontal coordination. On the local government level, some government sectors do not know about the policies, actions or incentives that are practiced by other sectors in the same organization. Further, there is a top-down problem of coordination. Local government is still waiting on guidance from the Ministry of Public Works on how to implement the incentives and disincentives as described in the Spatial Planning Law 26/2007.

Currently, the new Jakarta Master Plan 2010-2030 is being developed. The master plan is due in 2010. In this year also the guidance from the Ministry of Public Works on the use of incentives and disincentives will be finished. The introduction of the new Spatial Planning Law 26/2007 made it necessary for the Jakarta's Master Plan to be adjusted to the new regulations. However, it is being revised without knowledge of all the relevant guidance from the Ministry of Public Works. The Ministry of Public Works should finish all guidelines from central government to local government regarding green zones as soon as possible. On this way local government can learn from it and possibly be used for the new Master Plan. A Master Plan should be developed with maximum guidance from higher authorities.

#### **4. Transfer land tax to local government**

In the theory of chapter 2, a large part of the economic instruments is based on tax. One example of the way land tax could be used is in combination met zoning. Local government could designate a zone to be redeveloped. To make this area more attractive for developers, land tax could be lowered. In the practice of Indonesian planning this is not possible however. National government is in charge of setting the land tax. Local government cannot change land tax in order to guide development to certain regions. The Spatial Planning Law 26/2007 mentions the use of tax as one of the incentives possible in spatial management. This can only be implemented when the rights to set the land tax are transferred to local government. Only then local government can use this as a tool of spatial planning.

#### **5. Positive and negative financial incentives**

In chapter 2 the other economic instruments that are described are positive and negative financial incentives. These instruments can make it either economically unattractive to remain unused brownfield properties or give funding to identify or demolish brownfield locations. When these policies would be combined, owners would be more willing to either sell their brownfield location to a developer or to redevelop their properties by themselves. Another example of a financial incentive that was found in the case of Jakarta is a cheaper permit for certain zones. It was noted however, that this will only be helpful for small scale developments. In large developments, the price of the permit is too small of a percentage on the total budget to be influential. A cheaper permit can be useful on certain locations to stimulate small scale developments. For small scale developments redevelopment could be stimulated by offering funding to find brownfield locations or to demolish buildings. One point that should be taken into account is the corruption in Indonesia. Perhaps the country is not yet ready for financial incentives because of the risk of corruption that is involved.

#### **6. Funding for redevelopment heritage buildings**

Brownfield locations can also be heritage buildings. Chapter 2 showed how the brownfield locations in the United States and in England developed from locations that played an important economic role in the development of cities. Chapter 3 showed this same principle in Jakarta. Many of the current brownfield locations can be found in the colonial area where the Dutch United East India Company used Jakarta as a basis for commerce. This area consists of many heritage buildings. The case study showed that heritage buildings in Jakarta are not being renovated by the owners, because there is no money available to renovate them. When there would be money available to renovate them, the old heritage buildings can have new economic function without getting demolished. When buildings are used for quality museums and creative industry is stimulated to locate in Jakarta Kota, the area can become a flourishing area with a lot of activity.

## **7. Doing what works**

Chapter 3 and 4 showed how in the case of Jakarta developing key services and infrastructure is a policy that works very well. When Jakarta wants the maximum effectiveness of invested money to get an area to redevelop, it should improve the road network and the public transport system. This improves the connectivity of the area and therefore offers more chances for development. It has proven to be an effective instrument.

## **8. Use of Environmental Impact Assessment**

Strict enforcement of Environmental Impact Assessment requirements hinders development because of the extra obligations that need to be complied with. Jakarta should relate the requirements for Environmental Impact Assessments to the current land use; this could serve as a disincentive for greenfield development. Because greenfield development is more restricted, it is more attractive to redevelop a brownfield location. This is especially the case when Environmental Impact Assessment requirements are eased for brownfield locations. Jakarta could study the indicators that are included in Environmental Impact Assessments. The assessment could play a role in making brownfield redevelopment relatively more attractive compared to greenfield development. To do this, the percentage of consumption of green area can be included in Environmental Impact Assessments.

## **9. Use of zoning**

Chapter 2 described the use of zoning as an option to make areas attractive for redevelopment. In certain zones regulations can be implemented differently. In zones, that the government wants to redevelop, it should be possible to use a shorter permit procedure to attract investors to this area. Zoning can also be used to prevent certain land uses from happening in other zones. When development is restricted to the areas that are allowed by the land use plan, development is forced to other zones. The practice in Jakarta has shown that these regulations are not implemented well. They are not properly practiced in real.

Jakarta should enforce zoning regulations strictly. This can be helpful to redevelop brownfield locations. When restricted areas are protected, development can be directed to areas that need to be redeveloped. Strict enforcement of the zones in the land use plan can be combined with positive policies. Local government can invest in these areas, in order to realize a multiplier effect, when public investment is followed by private investment. When land tax would be transferred to local government, zoning could also be used to lower land taxes and attract investment in areas that local government wants to be redeveloped.

## **10. Public-private mismatch**

Chapter 3 has shown a mismatch between government and developers plans. While Jakarta was investing in a special development zone, a nearby area was developed by the large developers. This shows two things. First, regardless of the investment and incentives from local government, the developers are the ones with the final power. For the government it is possible to direct development to a certain location, by providing key services, such as infrastructural works and raising the floor area ratio. However, the decision to develop lies with the developers; they cannot be directed to where they do not want to invest. This was already described in chapter 2. According to the literature, brownfield locations will only be redeveloped when profit is expected. A second

thing that is shown is the mismatch between government and developer. Government does not always know how developers chose their location.

Considering the mismatch that exists between government and developer, Jakarta should research two things. The first is to research the reasons developers have for deciding why certain locations are profitable and why they think some government supported locations are not. In line with this, it should be researched what developers consider to be the most attractive incentives to be given by the government.

### **Main question**

This subchapter aims to answer the main question as proposed in chapter 1. The main question this thesis tries to answer was: 'can brownfield redevelopment be a possible solution to redirect the focus of development in Jakarta away from the green zones.' The conclusion to this question should be a description of how likely brownfield redevelopment is to be successful in Indonesia.

This thesis has shown that brownfield redevelopment has enormous potential. Almost all industrial brownfield locations in Jakarta have been redeveloped already. The growth and expansion of the CBD shows how high the demand is to redevelop urban areas. New constructions can be found in many places in Jakarta. It can clearly be seen that a willingness to redevelop urban areas exists.

Further, in Jakarta a couple of highly effective incentives are used. Building key services, most notably infrastructure; the offering higher building intensity to developers and an easier permit system are all policies that have proved to be effective in making brownfield locations redevelop and steer developments in certain directions. The conclusion from these last two paragraphs could only be that brownfield redevelopment indeed is very likely to be successful in Indonesia.

However, this thesis has also shown that government can influence public actions only until a certain degree. Developers still have the final power. When developers want to realise certain developments, they are most likely to succeed. Local government in Jakarta can ask for major compensations and developers will comply because they still make a large profit from their redevelopments of urban areas in Jakarta. Further, it was shown how development will only occur when the developers are willing to develop. The case of Jakarta showed how large government investments, including investments in infrastructure will not result in redevelopments when developers choose another location to develop. Even when this other location is a greenfield area.

Brownfield redevelopment is very likely to be successful in Indonesia, but a stricter enforcement of the Spatial Planning Law, Master Plan and local regulations is necessary to truly redirect the focus away from the green zones. Green zones will only be fully protected when everyone has the willingness to protect them, when building against the land use plan will be strictly punished and when no plans will be approved off when they are not in line with the law or spatial plans.

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## Appendix A: interview protocol

### 1. Explanation goal research:

The research objective is to understand if brownfield redevelopment can be a way of protecting the green areas in Jakarta, by making redevelopment of previously build land more attractive. The research aims to find out what kind of policy instruments are possible in the case of Jakarta and what kind of policy instruments can be helpful to improve the probability of redeveloping brownfield locations in Jakarta.

Definition brownfield redevelopment:

Brownfield redevelopment is defined as the redevelopment of any previously built land that has lost its economic function, that now is idle or underused and where a process of redevelopment would physically and economically improve the location

### 2.

- Is brownfield redevelopment taking place in Jakarta?
- Do you have experiences with redevelopment of brownfield locations?
- What type of brownfield redevelopment takes place
  - Redevelopment of industry, offices, kampung
- What kind of policy instruments do you use?

### 3. Analysis table

Do you use these types of instruments?

### 4. Analysis table (based on chapter 2)

Would these instruments be an option?

### 5. Locations

Where in Jakarta would u say recent brownfield redevelopment has taken place, and where do you think are now potential brownfield locations?

<b>Regulatory (or legal) instruments</b>	Issues of liability
	Risk based standards related to future land use
	Ownership, issues of sale and purchase
	Zoning
	Planning policies
	Land permits

	Environmental Impact Assessment requirements
<b>Economic (or financial) instruments</b>	Tax incentives <ul style="list-style-type: none"> <li>• high tax on greenfield development</li> <li>• tax incentives for the number of jobs created</li> <li>• tax incentives for designated areas</li> </ul>
	negative economical instruments <ul style="list-style-type: none"> <li>• making it financially painful for businesses and speculators to retain unused brownfield properties</li> <li>• abandoned land and land transactions could be highly taxed to discourage land speculation</li> </ul>
	positive financial incentives <ul style="list-style-type: none"> <li>• funding to identify sites</li> <li>• funding redevelopment assistance for environmental testing and cleanup</li> <li>• funding to remediate sites and demolish buildings</li> </ul>
	Investing in catalyst projects
	Urban Development Corporations
	Locating or expanding government facilities to these places
	Upgrading and/or adding key services
<b>Communicative (or social) instruments</b>	<u>contact with each other</u> Early community involvement <ul style="list-style-type: none"> <li>- Collaboration between government agencies</li> <li>- Collaboration between government and investors in developing plans</li> <li>- The government has to participate in stakeholder engagement, partnership formation, leadership development, and knowledge creation and learning</li> <li>- Help developers identify brownfield redevelopment locations</li> </ul>
	<u>availability of knowledge</u> is there knowledge available on how to redevelop brownfield locations
	<u>knowledge – educating</u> <ul style="list-style-type: none"> <li>- Educating public on the benefits of brownfield redevelopment</li> <li>- Educating and training government officials</li> </ul>
	<u>exchange of knowledge</u> <ul style="list-style-type: none"> <li>- Using knowledge of ngo’s and making plans together with government.</li> <li>- Promotional messages, maps of sites and other information that shows the advantages of these locations</li> </ul>

## Appendix B: Interview respondents

Agus Sutanto	Ministry of Public Works
Krisno Yuwono	Ministry of Public Works
Lisniari Munthe	Ministry of Public Works
Mr. Firsta	Ministry of Public Works
Iwan Kurniawan	Dinas Tata Ruang
Izhar Chardir	Dinas Tata Ruang
Nunu Noviandi	Research Ministry
Bangbang Triantoro	National Land Agency
Beni Agus Chandra	Bappeda Provinsi DKI Jakarta
Andi Oetomo	Institute Teknologi Bandung