

ECOCITY FOR JAKARTA HISTORICAL AND CONCEPTUAL APPROACH

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ABSTRAK

Salah satu sisi negatif dari perkembangan ilmu pengetahuan dan teknologi adalah kehancuran dari alam karena inefisiensi dalam pemakaian energy. Hal ini banyak dialami terutama oleh kota-kota besar seperti Jakarta. Solusinya adalah penggunaan energi yang efisien, dan perencanaan kota yang ramah lingkungan. Tulisan ini mencoba mengungkap kemungkinan penerapan prinsip-prinsip *ecocity* untuk Jakarta.

Kata kunci: Jakarta, *ecocity*, kota berkelanjutan, alam

INTRODUCTION

Jakarta is one of the fastest growing cities in the world, especially since the late twentieth century (Silver, 2008).¹ In the colonial era in 1900, Jakarta was the capital of Netherland Indies. It had approximately 150.000 citizens. In the second half of twentieth century, it has changed into giant metropolis with more than 9 million inhabitants, and by 2000, it has reached nearly 18 million citizens in urbanized region. This situation has many consequences for the people there (Ginsburg, 1955).² The state and private interest play a big role in this transformation. The ambition of the Indonesian politician combined with the drive for profit that is inherent in the capitalistic private sectors is the main cause of this radical transformation (United Nations 2002, access on October 18th 2016).³

In its earlier years, Jakarta, or Batavia at that time, was a slave to the colonial rule. It was formed to fill the needs of certain minorities, namely the Europeans and Asians. The Dutch established administrative center that later became some kind of natural barriers to the development of Jakarta. Concerning this matter, Silver wrote,

“Only after independence from the Dutch in 1950 did the city cast off the shackles of geography, and spread out in all directions. This

rapid growth phase coincided with the period when planning institutions assumed a prominent place in the apparatus of local and national government as Jakarta began to assume the form and appearance of a much more substantial metropolis.” (Silver, 2008)⁴

The political independence of Indonesia, combined with the ambition of its politicians, changed the paradigm of urban planning in Jakarta from backward small city pledged to serve the colonial rule to the dynamic modern megacity in the late 20th century and the beginning 21st century.

Jakarta is a changing city. Those who have been living here for ten or twenty years will not recognize Jakarta today. The period between 1990s-2000s was the most formative period in the history of Jakarta. Silver describes this whole new formation of Jakarta as catastrophic formation. Compared to Jakarta in 1990, Jakarta in year 2007 is almost double in size. It was a network of villages than transformed to multi-urban area. The crisis in 1997 hit Jakarta quite hard. It halted the economic growth and at the same time destabilized the political regime. Jakarta was hit by multidimensional crisis, from political crisis to almost economic meltdown. Factories bankrupt. Unemployment reached sky high in parallel with the cost of basic goods. There was also big outflow of foreign investments (Silver, 2008).⁵

The crisis at the end of 1990s created a critical distant on the paradigm that was used to plan and develop Jakarta. The old paradigm, which was used by the New Order regime in Indonesia, was rampant with corruption, nepotism and collusion. At first, the people only demanded that the government used effective measures to face the multidimensional crisis. However, this demand soon turned to a more radical one, namely the call for new government and total political reform. From 1998 to 2002, Indonesia was in the political crossroad. This period changed the complete political process as well as the management of national economy (Budiman, 1999).⁶ On the bright side, this crisis opened the door to more democratic and participatory form of governance. The effect can also be seen in the urban planning of Jakarta, which now is more open to various considerations and interests.

At the beginning of 2000, there was an air of pessimism in Jakarta. The end of the New Order government was seen as a disaster not just in the local economy in Jakarta, but also in the national economy as whole. However, the reality was quite different. The new democratic pattern in Jakarta did not bring chaos and destruction to the social system. New values emerged as consequence of this radical but relatively peaceful transformation from the authoritarian regime to democracy. There were four main values, namely sustainability, environmentalism, inclusiveness and equity. However, the growth and dynamic of Jakarta, as the consequences of more open political climate, was not in balance with the environmental concern. Silver wrote,

“Ironically, the return of more favorable economic conditions in Jakarta by late 2003, coupled with a more open and tolerant political environment, spurred a development rush that made sustainability and preservation of environmental amenities even more difficult to realize.” (Silver, 2008)⁷

The political decision making process in Jakarta did not change despite the political revolution that happened at the national level. In 2003, President Megawati again appointed Sutiyoso for the second term as the governor of Jakarta. This was a top down process, typical of the New Order regime in Indonesia that appointed Sutiyoso for the first time in 1997. However, there was a big difference during his second term. His decisions were constantly questioned and challenged by various parties, from the local legislators to competing political parties (Kusno, 2004).⁸ This, actually, was a good sign that democratic decision-making process in term of urban planning existed as political reality in Jakarta. His urban planning paradigm was national urbanism. The essence of this paradigm is to sustain Jakarta as the center of the national pride, identity, power and political influence of Indonesia.

In this relatively peaceful, democratic and open era, urban planning has become an important theme. There is the so-called strategic plan to develop Jakarta as the megacity of the 21st century. For majorities of the people, life in Jakarta shows little change, despite of its grandiose appearance as megacity that is full with modern and luxurious skyscrapers. Several challenges exist, such as uncontrolled urbanization that eventually creates new slum areas, traffic problems, criminality and social conflicts. Silver wrote, “Unemployment remains high despite the return of economic growth, income disparity has increased, and there is the general perception that social institutions are not able to suppress ‘increasing conflict among social groups’.” (Silver, 2008)⁹ The atmosphere of distrust against governmental institutions is rampant in the air.

It is an old problem Indonesia, that the education and health cannot be accessed equally. This creates multidimensional problems that are rooted in the high number of unemployment, because of the lack of abilities to work in formal and professional sectors. Most of the unemployed people work in the informal sector, such as street vending, which in turn will create various problems in the urban area, such as traffic jam and the lack of pedestrian area to walk. These factors contribute to the larger problem of the city, namely financial crisis and the old infrastructure that cannot support the dynamics of Jakarta as capital city of Indonesia. Another negative consequence also exist, such as limited clean water supply, annual floods, lack of houses for low-income families, bad waste management and environmental problems. The last problem, namely environmental problem, is particularly disturbing. Lack of open spaces and catastrophic air and water pollution are the main challenges, especially because of too much emphasize on economic developments without

regards to environmental factors. These conditions contribute to the new nickname for Jakarta, namely the third highest polluted city in the world (Rencana Strategis DKI Jakarta, 2002-2007).¹⁰

The biggest obstacle to fix these problems is mostly political. For years, lack of trust from the citizens to the government has made every possible effort to overcome various social problems in Jakarta ineffective. This atmosphere is caused by the political apathy of the citizens, which in turn creates more problems, for example low democratic participation in various elections. The new paradigm after the fall of the New Order regime was decentralization, which gave big authority to the local government. This sudden transformation created a big challenge for the local government officials. They lack the support, skills and experiences to receive and implement this new responsibility. The rise of Joko Widodo and Basuki Tjahaja Purnama as Governor and Vice Governor in 2012 provided new hope for the city. When Joko Widodo was elected President of Indonesia in 2014, Basuki, or Ahok, was automatically appointed as the new governor of Jakarta. His social identity as minority in Indonesia created new tensions, especially for the new election that will take place in 2017.

Despite problems and transformations, the people of Jakarta still have the same vision as before, namely to build a humane, competitive and efficient city as the capital city of Indonesia. This city must also be supported by prosperous, well behave and participative citizens in a safe and healthy ecosystem. The old challenges, such as traffic jam, flood management, slum areas and criminality, still have to be dealt with effective efforts. However, for a megacity in 21st century, Jakarta has to fulfill also the expanding needs of its citizens, such as high quality education and health care. To achieve these objectives, a thoughtful and realistic planning is necessary. However, urban planning is essentially a political and social process with physical manifestations as consequences, such as better infrastructures. Because of its social and political dimension of its nature, urban planning is full of power dynamics. Ideas, concepts and dialogs play also important role in this context. The discourse on ecocity as an alternative for the future of Jakarta finds its relevance here.

ECOCITY: CONCEPTUAL APPROACH

The concept of ecocity was developed in 1970s and 1980s in Russia and United States (Register, 1987).¹¹ This concept was seen as part of larger discourse, namely the effort to create urban sustainability (*nachhaltige Stadt*) (Breuste, 2016).¹² Both concepts have the same normative content as an effort to develop an ideal city for future generation. The basic assumption is that an ideal city for the future is a form of ecological city. The balance interrelation and coexistence between societies, state,

human and nature is of great importance in this context. It creates an environment to maintain and develop the sustainability of urban community.

The central challenge for every city in the 21st century is the use of un-renewable energy. An ideal city of the future, such as ecocity and sustainable city, uses energy in a very efficient and effective way. The procedures for recycling and the use of renewable energy, such as wind and sunlight, are clear and manageable. Public gardens are also part of public facilities that can be used safely and comfortably by the citizens. One of the most important values for an ecocity is the compatibility with the nature (*Einklang mit der Natur*). Nature is seen as an ethical object and at the same time as an ideal of beauty itself that requires nurture and respect from human society (Hoffjan, 1994).¹³ The effort to develop a conceptual and normative approach of ecocity is always understood as an interdisciplinary approach from architecture, urban management, art, sociology and social philosophy.

It is also helpful to understand the historical development of the concept of ecocity. According to Joss, the seed of the ecocity discourse is the environmental movement in the 1970s and the debate on sustainability in 1990s (Joss, 2011).¹⁴ In the last twenty years, according to Breuste, this discourse is already part of the global awareness on sustainability (Breuste, 2016, p. 220).¹⁵ In this context, ecocity is understood as “a healthy city based on self-regulatory and resilient structures and functions of natural ecosystems and living beings”. (Breuste, 2016, p. 220)¹⁶ It is also seen as unity of space (*Raumeinheit*), where living beings and the nature as a whole coexist together in dynamic harmony. This unity of space cannot be valued merely just with economic standards (Ecocity Builders, 2013).¹⁷ The tendency to do so will create unbalanced ecosystem that is dangerous for living beings that live on it.

The effort to formulate an exact understanding of ecocity as sustainable city is an ongoing process. New aspects come to light and then gave new dimensions to the understanding of ecocity. As a concept, ecocity is an ideal model for existing cities. There is no such thing as a perfect ecocity in this world today. What we can find is several aspects of ecocity that exist in a certain city, but not all. Several cities can fulfill almost all aspects of ecocity (Ecocity Builders, 2013).¹⁸ Meanwhile, other cities, such as Jakarta, still have a lot to do to reach this stage. Downton formulates ten principles of ecocity. Central in this principles is the notion of nature as standards for sustainable city planning and architecture.

The first principle is renaturation (Downtown, 2009).¹⁹ It means the restoration of bio diversities that exist in certain areas to restore natural balance in the ecosystems that previously exist. This principle connects directly to the second principle, namely the integration in the bioregion. Every building project must harmonize its principles and constructions with the existing bio ecosystems. The third principle is balanced development between human needs and the other existing bio

diversities. The fourth is compact settlement. It means minimizing the use of space for human settlements. It is connected also the fifth principle, namely the optimized use of energy. Space and energy must be seen as resources that need to be maintained and nurtured at the same time.

In many cases, this balance is disturbed for the sake of economic interests. That is why the sixth principle is very important, namely the organizing economic interests of corporations and developers through effective political policies. The role of the government is crucial at this point. The main point of these principles is to guarantee the health and safety of all the existing bio diversities and nature as whole. This is also the seventh principle. The anthropocentric principle that only considers the needs and interests of human being in term of development is incompatible with the whole idea of sustainability and ecocity. These whole efforts need an active support not just from the government, but also from the local community. This support, which is the eight principle, can be seen also as part of two aspects. The first is the effort to create social justice (9th principle) and to enrich the ecological culture (10th principle). Ecocity as sustainable city for the future must fulfill these ten principles.

Wittig also adds six key principles of an ecocity (Wittig, 1995).²⁰ The first principle is a healthy community life in harmony with the natural ecosystems as a whole. This includes the effective and efficient use of natural energy, which is the second principle. The third principle is efficient recycling management in terms of material uses in industrial and home appliances. This effort is part of a bigger picture, namely the protection of all conditions that create and sustain life, such as air, soil and water, which is the fourth principle. The fifth principle is the protection of wildlife and open spaces that sustain existing bio diversities, especially in their movement. The last principle is microscale structuring which includes various differentiations. It means the avoidance of creating big projects that often ignore existing balanced ecosystems. These six principles require a form of responsibility consciousness (*Verantwortungsbewusstsein*) from the local citizens on the interdependence of life.

In various discussions, the term health and the improvement the quality of life are seldom discussed (Lötsch, 1994).²¹ As far as I know, only Downton uses both terms of a part of the principles of an ecocity. He understands the concept of ecocity as sustainable city. There is no difference between the two concepts. In the previous discussion, such as by Register, the central concept of an ecocity is the balance with the nature as whole. There was no concrete discussion on the relation between ecocity and sustainable city, although there are some similarities in it. However, today, the concept of an ecocity is put on the much bigger picture, namely with close attention to the cultural, social, health, safety and economic aspects of the ecosystems. In this

discourse, the concept of an ecocity is identical with the concept of sustainable city (Breuste, 2016, p. 221).²²

As I mentioned before, Wittig developed the main principles of an ecocity. He emphasized the importance of physical and psychological health and also the development of the biological ecosystems as a whole (Wittig, 1995).²³ From various discussions on ecocity, and also from Wittig and Register, there are several key factors that are worth mentioning in relation to ecocity, namely the efficient use of energy, free mobility, healthy living space, the availability of decent work for the citizens, stable and well distributed wealth and economy, development of the ecological culture in the city and the support for social and political participation of the citizens. Nature as metaphysical category of an ecocity that existed in the early discussion exists as a background in the contemporary discourse.

Another, but still interconnected, principles is formulated by Lötsch (Lötsch, 1994).²⁴ He described the criteria of an ecocity, namely energy, traffic, waste management, efficient use of resources, water management, ecological building, health regulations concerning building, forest management, access to children and elderly people and, finally, free space for mobility and recreational purposes. These criteria can be compared with the principles formulated by Tübingen University in Germany (Breuste, 2016, p. 222).²⁵

Ecocity (Tübingen University, Germany, 2006)

1. Universal access, not just for the rich or for the healthy
2. Public space for daily life, such as gardens, large pedestrians etc.
3. Compatible with the existing natural ecosystems
4. Integration with green areas of the city
5. Bioclimatic comfort or the geographical location of the city
6. Minimal uses of space for buildings, or space management
7. Good access for bicycle and other form of environment friendly vehicles
8. Waste management and recycling options
9. Water management
10. Balanced space management and city plan
11. Accessible road for pedestrian
12. New relation between concentrated area and decentralize planning in terms of city planning
13. Accessible networks between different areas
14. Renewable energy management and development
15. Health, safety and comfortableness
16. Sustainable lifestyle of the citizens
17. Healthy and manageable population density

18. Humane living conditions
19. Strong local economy
20. Democratic decision making in terms of city planning
21. Concentration of specific areas for specific activities, such as business area, sport, etc.
22. Reliable network with surrounding areas
23. Minimal use of energy
24. Integration with global communication network
25. Development of local cultural identity and integration with other cultures

These criteria were developed further by Breuste and Riepel²⁶ and also by Sperling (Sperling, 1995).²⁷ They called it an *ecological criteria catalogue for ecocities*, namely free spaces, energy, healthy traffic, water management, waste management, ecological building material, environment quality in the buildings, and space management for various buildings and projects.

In current the ecocity project, such as in Hamburg and Seattle, it occupies a territory that is connected with the previous existing city, but has certain degree of autonomy in term of energy resources and general management. In short, the existing ecocity project is a city inside a city. It contains also various parts, such free space, space for buildings with specifics purpose, houses water management system. The basic paradigm is the same in that an ecocity is a projection of our vision concerning city of the future that puts a lot of focus on sustainable development in relation to the whole ecosystem. In the existing cities, it is possible to change the whole supporting structure to adapt to the standards and principles of an ecocity. However, this effort must be done gradually, so it will not disturb the flowing of social life. In the new cities specific for ecocity project, the pattern of development is quite different. This table on the ecocity in Seattle can explain several dimensions of the project (Steven, 2013).²⁸

Natural Area	Building Area	Social Area	Social Life
Enough clean water	Healthy and humane living environment and community	Equal and universal health provider system	Strong sense of belonging
Healthy environment for all	Developed sustainable economy	Sustainable food provider system	Happy, safe and satisfied citizens
Sustainable biodiversity	Responsible use of soil	Social and income justice for all	Democratic decision making process in city planning

Protection of natural ecosystem	Sustainable transportation system	Affordable and healthy living spaces for all	High quality education and possibility for lifelong learning system for all
Responsibility of natural ecosystem management	Clean production process	Sustainable industries	
	Climate protection system	Responsible use of energy	
	Green buildings with efficient use of energy		

An ecocity is not created overnight. It needs certain processes that require various aspects to be fulfilled first. Joss et al describe at least three phases in building an ecocity, namely in planning phase (1), in the building process (2) and in the finalization (3). Three components are crucial in all the phases. These components are closely interconnected, namely the technological innovations (1), excellent planning management (2), and citizens engagement. (3) (Joss, 2011)²⁹

Several people might think that an ecocity is a modern project for western nations, which already have the technological prowess and strong democratic tradition and institutions to support such project. This cannot be more far from the truth. The development of ecocity is a worldwide phenomenon. Most of the project exists in China (Joss, 2011).³⁰ In this context, China has been known as the initiator and experimenter in the field of the ecocity project. However, the initiative to start an ecocity project in China, and in another Asian country, comes from the government. The focus is technological innovations and excellent planning management. This fact does not ignore the importance of citizen's engagement in such a process.

ECOCITY FOR JAKARTA: POSSIBILITIES AND CHALLENGES

One of the desires of the citizens of Jakarta is the implementation of the ecocity principles in Jakarta. Of course, as a hope, it does not yet exist as a reality for more than 19 million people who live there. The efforts to realize this dream are often hindered by mostly political process that are full of collusion, corruption and nepotism (Wattimena, 2012).³¹ These three corrupt qualities are one of the inheritance from the New Order Regime in the past, which unfortunately still exists and even grows in today's Indonesian politics.

The fact is Jakarta already in the way to become one of the megacities of the

world. The lack of supports and for energy efficiency, waste management and providing high quality education and health care for all is still shadowing this noble vision as mega-ecocity. In this context, several points are worth noting.

First, Jakarta must be designed to be a humane city that opens for all people from various backgrounds. This means that Jakarta can provide the required basic goods for a decent human existence. Everyone, without exception, can access this possibility. One of the central characteristics of an ecocity is its universal accessibility.

Second, harmony with the natural ecosystems is of central importance for an ecocity. For years, government officials in Jakarta forget this factor. It is too often, that economic interests downplay all other factors, especially the sustainability and development of the existing natural ecosystems. It is time that this old inadequate developmental paradigm will change.

Three, a clean, reliable and energy efficient public transportation is a must in the ecocity of the future. This factor touches at least two aspects, namely the mobility of the citizen in managing their professional and social life, and the existence of reliable public transportation will help the city to manage its limited resources, especially those related to non-renewable energy. The existence of reliable public transportation for a city must be seen as investment, and not as cost. The return of this kind of investment is huge in term of economic standards (Schobel, 2006).³²

Four, the “soft” factors of Jakarta must be also renewed, such as its ability to provide high quality education and health care for all of its citizens. In this context, education does not mean only institutional education in schools and universities, but also political education in term of the development of the democratic participatory of the citizens in the context of political decision-making. It means also the development of the so-called political awareness (Wattimena, 2016).³³

Five, ecocity is also about civilized behaviors of its citizens, especially in the public spaces, such as roads, gardens and pedestrians. It means also certain degree of obedience to the laws and rules that is already been established before. From all the factors, this factor is probably the most difficult to realize. The culture and tradition of old paradigm, that rules and laws are there to be violated, are still deeply embedded in the mind and habit of the people in Jakarta. This requires a radical reform of the basic education in term of the content of the curriculum and teaching pedagogy.

Six, Jakarta as an ecocity must also facilitate and encourage the democratic participation of its citizens in term of city planning (Wattimena, 2007).³⁴ This planning of the ecocity cannot be made in isolation only for the interests of the wealthy and powerful. Public discussions, on line and off line, must be made accessible for all the citizens to create a meaningful dialog in the context of urban planning of Jakarta.

However, several challenges must be dealt accordingly. They stand in the way of the people of Jakarta to build an ideal ecocity. *First*, the old problems in Indonesia, namely corruption, collusion and nepotism are still deeply embedded in both political system and everyday culture of the people. They systematically cut every effort to make Jakarta a humane and ecological city.

Second, in many areas, the development projects in Indonesia are still heavily dependent on foreign interventions. This situation creates unbalanced positions between local government and corporations on the one hand, and foreign governments and corporations on the other hand. The inferior feeling from many Indonesian in front of foreign partner also enables this unbalanced situation. The root of this inferiority feeling can be traced back to the history of colonialism in the previous centuries.

Third, in many ways, the behaviors of many citizens in Jakarta do not reflect their will and vision to become an ecological mega city of the 21st century. The habits of ignoring traffic rules that essentially are really important for their own safety and littering on the streets are still widespread. Various possible solutions have been implemented. But, the results are still yet to be seen.

CONCLUSION

Jakarta can become an ecocity in the future. It means that Jakarta can exist in harmony with its natural ecosystems that support it. Natural ecosystem paradigm has a special place in urban planning and city management hence the whole development project must see the nature as a metaphysical foundation. At the end, the struggle to shape Jakarta as an ecocity is not just a technological challenge, but also a cultural and political ones.

LIST OF REFERENCES

- Breuste, J. et.al. (2016). *Stadökosysteme: Funktion, Management und Entwicklung*. Berlin: Springer.
- Breuste, J., Riepel, J.. (2007). "Solarcity Linz/Austria – a European example for urban ecological settlements and its ecological evaluation". in: *The Role of Landscape Studies for Sustainable Development*. Warsaw Univ., Faculty of Geography and Regional Studies (Ed.), 627–640.
- Budiman, A., et.al. (ed.). (1999). *Reformasi: Crisis and Change in Indonesia*. Clayton, Victoria: Monash University.
- Downton, P.F. (2009). *Ecopolis: Architecture and Cities for a Changing Climate*, Dordrecht: Collingwood.

- Ginsburg, N.S. (1955). "The great city in Southeast Asia". *American Journal of Sociology*, 60:438–445.
- Hoffjann, T. (1994). *Arbeitsschritte für eine ökologisch orientierte Stadtentwicklung*. LOBF-Mitteilungen, 2:13–18.
- Jakarta, DKI. (2002). *Rencana Strategis Daerah Propinsi: DKI Jakarta Tahun 2002–2007*. Jakarta: Jakarta Metropolitan Government.
- Joss, S. (2011). "Eco-Cities: The Mainstreaming of Urban Sustainability: Key Characteristics and Driving Factors". *International Journal of Sustainable Development and Planning*, 6(3):268–285.
- Kusno, A. (2004). "Whither national urbanism? Public life in Governor Sutiyoso's Jakarta". *Urban Studies*, 41(12):2377–2394.
- Lötsch, B. (1994). Kriterien der ökologischen Stadt“, in Morawetz, W., (ed), *Ökologische Grundwerte in Österreich, Modell für Europa?*, Verlag der österreichischen Akademie der Wissenschaften, Wien, 163–191.
- Register, R. (1987). *Ecocity Berkeley: Building Cities for a Healthy Future*. Berkeley: North Atlantic Books.
- Silver, C. (2008). *Planning the Megacity: Jakarta in the Twentieth Century*. London: Routledge.
- Schöbel, A. (2006). *Optimization in Public Transportation: Stop Location, Delay Management and Tariff Zone Design in a Public Transportation Network*. USA: Springer.
- Sperling, C. (Ed.). (1999). *Nachhaltige Stadtentwicklung beginnt im Quartier. Ein Praxis- und Ideenhandbuch für Stadtplaner, Baugemeinschaften, Bürgerinitiativen am Beispiel des sozial-ökologischen Modellstadtteils Freiburg-Vauban*. Forum Vauban e. V./ Öko-Institut e. V., Freiburg.
- United Nations. (2002). *World Urbanization Prospects The 2001 Revision Data Tables and Highlights*, <http://www.un.org/esa/population/publications/wup2001/wup2001dh.pdf> access on October 18th 2016.
- Wittig, R., et.al. (1995) „Wie soll die aus ökologischer Sicht ideale Stadt aussehen? – Forderungen der Ökologie an die Stadt der Zukunft“. *Zeitschrift für Ökologie und Naturschutz*, 4:157–161.
- Wattimena, R.A.A. (2012). *Filsafat Anti Korupsi*. Yogyakarta: Kanisius.
- Wattimena, R.A.A. (2016). *Demokrasi: Dasar Filosofis dan Tantangannya*. Yogyakarta: Kanisius.

Wattimena R.A.A. (2007). *Melampaui Negara Hukum Klasik*. Yogyakarta: Kanisius.

ONLINE

Biro Pusat Statistik (BPS), <http://data.jakarta.go.id/dataset/jumlahperusahaandantenagerajaasingdkijakarta> October 27th 2016.

Kompas Daily News paper <http://megapolitan.kompas.com/read/2016/01/08/13593701/Ini.Masalah.masalah.yang.dikeluhkan.Warga.Jakarta.Sepanjang.2015> October 27th 2016.

Ecocity Builders. (2013). ecocity. <http://www.ecocitybuilders.org/> October 10th 2016.

Stevens, C. (2013). *Sustainable Seattle: From Measuring Progress to Changing the Future*. www.sustainableseattle.org.

NOTES

¹ Inspired by Silver, Christopher, 2008, *Planning the Megacity: Jakarta in the Twentieth Century*, London: Routledge.

² See Ginsburg, N.S., 1955, “The great city in Southeast Asia”, *American Journal of Sociology*, 60, 438–445.

³ See United Nations, 2002, *World Urbanization Prospects The 2001 Revision Data Tables and Highlights*, <http://www.un.org/esa/population/publications/wup2001/wup2001dh.pdf> access on October 18th 2016.

⁴ Silver, 2008, 1.

⁵ See *ibid*, 214.

⁶ Compare to Budiman, A., et.al. (ed.), 1999, *Reformasi: Crisis and Change in Indonesia*, Clayton, Victoria: Monash University.

⁷ Silver, 2008, 214.

⁸ See Kusno, Abidin., 2004, “Whither national urbanism? Public life in Governor Sutiyoso’s Jakarta”, *Urban Studies*, 41(12), 2377–2394.

⁹ Silver, 2008, 236.

¹⁰ See Jakarta, DKI, 2002, *Rencana Strategis Daerah Propinsi: DKI Jakarta Tahun 2002–2007*, Jakarta: Jakarta Metropolitan Government.

¹¹ See Register, R., 1987, *Ecocity Berkeley: Building Cities for a Healthy Future*, Berkeley: North Atlantic Books.

¹² Inspired by Breuste, Jürgen, et.al., 2016, *Stadökosysteme: Funktion, Management und Entwicklung*, Berlin: Springer.

¹³ Discourse on “Ecopolis”: Hoffjann, T., 1994, *Arbeitsschritte für eine ökologisch orientierte Stadtentwicklung*, LOBF-Mitteilungen 2:13–18.

¹⁴ See Joss, S., 2011, “Eco-Cities: The Mainstreaming of Urban Sustainability: Key Characteristics and Driving Factors”, in *International Journal of Sustainable Development and Planning* 6(3): 268–285.

- ¹⁵ See Breuste, 2016, 220.
- ¹⁶ *Ibid.*, „eine gesunde Stadt, basierend auf selbstregulierenden, widerstandsfähigen (resilienten) Strukturen und Funktionen natürlicher Ökosysteme und von Lebewesen.“
- ¹⁷ See Ecocity Builders (2013) ecocity. <http://www.ecocitybuilders.org/> October 10th 2016.
- ¹⁸ *Ibid.*
- ¹⁹ See Downton, P. F., 2009, *Ecopolis: Architecture and Cities for a Changing Climate*, Dordrecht: Collingwood.
- ²⁰ See Wittig, R., et.al., 1995, „Wie soll die aus ökologischer Sicht ideale Stadt aussehen? – Forderungen der Ökologie an die Stadt der Zukunft“, in *Zeitschrift für Ökologie und Naturschutz* 4:157–161.
- ²¹ Compare to Lötsch, B., 1994, „Kriterien der ökologischen Stadt“, dalam Morawetz, W., (Penyunting), *Ökologische Grundwerte in Österreich, Modell für Europa?*, Verlag der österreichischen Akademie der Wissenschaften, Wien, 163–191.
- ²² See Breuste, 2016, 221. He wrote, „Die eigentlich klaren Bezüge der Okostadt auf die Natur werden zu genereller Nachhaltigkeit unter dem gleichen Namen Okostadt erweitert. Das macht es nunmehr erklärbar; warum oft beide Inhalte synonym verstanden werden – Okostadt = Nachhaltige Stadt.“
- ²³ Compare Wittig, 1995.
- ²⁴ See Lotsch, 1994.
- ²⁵ As quoted by Breuste, 2016, 222.
- ²⁶ See Breuste, J., Riepel, J., 2007, “Solarcity Linz/Austria – a European example for urban ecological settlements and its ecological evaluation”. in: *The Role of Landscape Studies for Sustainable Development*, Warsaw Univ., Faculty of Geography and Regional Studies (Ed.), 627–640.
- ²⁷ See Sperling, C., (Ed.), 1999, *Nachhaltige Stadtentwicklung beginnt im Quartier. Ein Praxis- und Ideenhandbuch für Stadtplaner, Baugemeinschaften, Bürgerinitiativen am Beispiel des sozial-ökologischen Modellstadtteils Freiburg-Vauban*, Forum Vauban e. V./ Öko-Institut e. V., Freiburg.
- ²⁸ See Stevens, C., 2013 *Sustainable Seattle: From Measuring Progress to Changing the Future*, www.sustainableseattle.org;
- ²⁹ See Joss, 2011.
- ³⁰ See *ibid.*
- ³¹ Compare to Wattimena Reza A.A., 2012, *Filsafat Anti Korupsi*, Yogyakarta: Kanisius.
- ³² On the possible optimization of public transportation, see Schöbel, Anita, 2006, *Optimization in Public Transportation: Stop Location, Delay Management and Tariff Zone Design in a Public Transportation Network*, USA: Springer.
- ³³ On the meaning of political awareness in democratic society, see Wattimena, Reza A.A., 2016, *Demokrasi: Dasar Filosofis dan Tantangannya*, Yogyakarta: Kanisius.
- ³⁴ On the meaning and aspects of democratic participation see, Wattimena, Reza A.A., 2007, *Melampaui Negara Hukum Klasik*, Yogyakarta: Kanisius.