

**ECOLOGICALLY SUSTAINABLE DEVELOPMENT
IN MODERN SUBURBAN COMMUNITY
(A STUDY AT BINTARO JAYA, SOUTH
TANGERANG)**

UNDERGRADUATE THESIS

Presented to the Final Examination
Faculty of Administrative Science

Submitted By:

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**BRAWIJAYA UNIVERSITY
FACULTY OF ADMINISTRATIVE SCIENCE
DEPARTEMENT OF PUBLIC ADMINISTRATION
MINOR IN DEVELOPMENT PLANNING
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2014**



***"ABOVE ALL,
TO THINE OWN SELF BE TRUE"***

Tribute

I dedicate this special page to those I love most.

*First and always first in my life, I thank God, Allah SWT for giving
so much than I deserve.*

Papie & Mama.

*Tante Dolly, Tante Lucie (almh), Oom Enky (alm), Oom Ismed, Tante
Tity.*

Bu Karno.

Kak Fahri, Kakak, Kak Vita, Kak Sri, Mbak Inem.

*Those whom I call best friends. My little circle of humans who helped
me through it all. We did it!*

All my friends in Development Planning class of 2010.

*Lastly, the woman whose voice and life touched my heart in a special
way,*

Whitney Houston.

I finally found the greatest love of all inside of me.

APPROVAL PAGE

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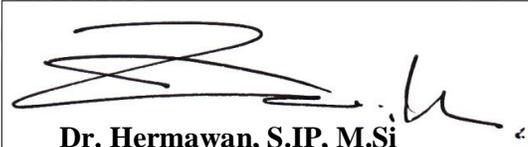
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SUMMARY

Septian Ilahude, 2014. **Ecologically Sustainable Development In Modern Suburban Area (A Study at Bintaro Jaya, South Tangerang)**, Drs. Andy Fefta Wijaya, MDA, Ph.D, Dr. Hermawan, S.IP, M.Si, 211 pages + xiv.

For Indonesia, Jakarta is not only a capital the center of economic activity marks by its rapid regional development, high velocity of money, and its big number of population. Jakarta rapid development gives big impact to its suburbs area, one of them is South Tangerang Municipality. South Tangerang currently has transformed into a buffer zone of Jakarta which provides a a variety of public facilities and infrastructure to support its community's high mobility. The region then becomes one of the most wanted regions to live in due to the existing of big developers. The growth of this region that implicates to the rise of number and needs of its people then makes ecological aspect is ignored. PT. Jaya Real Property as developer of Bintaro Jaya area attempts to put ecological aspect as an important part of a workable, livable, and sustainable area of living. Objective of this study is to know, to describe, and to analyze development planning in Bintaro Jaya in order to create an ecologically sustainable area. Method used in this study is descriptive with qualitative approach.

By the result of this study it is known that in the development of Bintaro Jaya area, PT. Jaya Real Property applied some concept of land development such as *mixed-use land* and *garden city*. In addition, PT. Jaya Real Property also launched a program called *ECOMMUNITY*, a program formulated as a management framework of the area that also invites its community to apply ecological-friendly lifestyle. The *mixed-use land* applied laid on a block of multifunctional land that can be the center of commercials, business, and offices all at once, while *garden city* applied by the provision of green parks in every cluster and trees along the road median and vacant land. In the development of Bintaro Jaya area, its developer coordinates with the city government about the spatial planning and in solving other problem like flood and traffic congestion.

This study generates some findings in the form of inhibiting and supporting factors face by developer. The inhibiting factors are human resources problem and lifestyle of the community itself which still needs to be educated about the importance of a harmony between economical, social, and ecological aspect. While the supporting factors such as creativity of the developer itself in socializing eco-friendly lifestyle to the community and good feedback from Bintaro Jaya community itself.

Keywords: Urban Planning, Ecological Sustainability, Bintaro Jaya.

RINGKASAN

Septian Ilahude, 2014. **Ecologically Sustainable Development in Modern Suburban Area (A Study at Bintaro Jaya, South Tangerang)**, Drs. Andy Fefta Wijaya, MDA, Ph.D, Dr. Hermawan, S.IP, M.Si, 211 halaman + xiv.

Bagi Indonesia, Jakarta bukan hanya pusat pemerintahan negara namun juga pusat perekonomian yang ditandai dengan perkembangan wilayah yang pesat, perputaran uang yang tinggi, dan jumlah populasi yang besar. Pesatnya perkembangan Jakarta membawa dampak besar bagi wilayah penyangganya, salah satunya wilayah Kota Tangerang Selatan. Tangerang Selatan saat ini telah bertransformasi menjadi kota penyangga Jakarta yang menyediakan beragam fasilitas dan infrastruktur penunjang mobilitas masyarakat yang tinggi. Wilayah tersebut saat ini juga menjadi salah satu kawasan hunian paling diminati oleh masyarakat karena keberadaan pengembang-pengembang besar. Perkembangan wilayah yang kemudian berimplikasi pada meningkatnya jumlah dan kebutuhan warga, kini membuat aspek lingkungan menjadi hal yang tidak diutamakan. PT. Jaya Real Property sebagai pengembang Kawasan Bintaro Jaya berupaya meletakkan kembali aspek lingkungan sebagai bagian penting dari suatu kawasan hunian yang *workable*, *liveable*, dan *sustainable*. Tujuan penelitian ini adalah untuk mengetahui, mendeskripsikan, dan menganalisis perencanaan pembangunan di Kawasan Bintaro Jaya dalam rangka menuju kawasan yang berkelanjutan dalam hal lingkungan. Metode yang digunakan dalam penelitian ini adalah deskriptif dengan pendekatan kualitatif.

Dari hasil penelitian diketahui bahwa dalam pengembangan kawasan Bintaro Jaya, PT. Jaya Real Property menerapkan beberapa konsep pengembangan lahan seperti *mixed-use land* dan *garden city*. Disamping itu, PT. Jaya Real Property juga meluncurkan program bernama *ECOMMUNITY*, suatu program yang disusun sebagai kerangka pengelolaan kawasan yang juga mengajak warganya untuk menerapkan gaya hidup yang lebih ramah lingkungan. Pola *mixed-use land* yang diterapkan mengandalkan suatu blok lahan multifungsi yang dapat menjadi pusat perdagangan, bisnis dan perkantoran secara sekaligus, sedangkan *garden city* diterapkan dengan penyediaan taman di setiap cluster dan pepohonan di sepanjang median jalan dan lahan-lahan kosong. Dalam pengembangan kawasan Bintaro Jaya, pengembang berkoordinasi dengan pemerintah kota tentang perencanaan ruang dan penyelesaian masalah-masalah lainnya seperti banjir dan kemacetan.

Penelitian ini juga menghasilkan beberapa temuan berupa faktor-faktor penghambat dan pendukung yang dihadapi pengembang. Faktor penghambatnya antara lain persoalan mengenai sumberdaya manusia dan gaya hidup warganya sendiri yang masih memerlukan edukasi tentang pentingnya keharmonisan antara aspek ekonomi, sosial, dan lingkungan. Sedangkan faktor pendukungnya antara lain kreatifitas pengembang dalam sosialisasi gaya hidup ramah lingkungan dan penerimaan yang baik dari warga sendiri.

Kata Kunci: Perencanaan Perkotaan, Keberlanjutan Lingkungan, Bintaro Jaya.

PREFACE

Gratitude to The Almighty God who poured out His blessings and grace so the author can finalize the undergraduate thesis entitled “Ecologically Sustainable Development in Modern Suburban Community (A Study in Bintaro Jaya, South Tangerang)” well.

This undergraduate thesis is submitted as a final project by the author’s course. The study theme is about the importance of considering environmental sustainability in development process in suburban areas. The author hopes that this study will be a meaningful reference and information especially to Development Planning Program.

The author realizes that this undergraduate thesis would not be here without supports and assistance from various parties. Therefore, the author would like to give thanks to:

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Author

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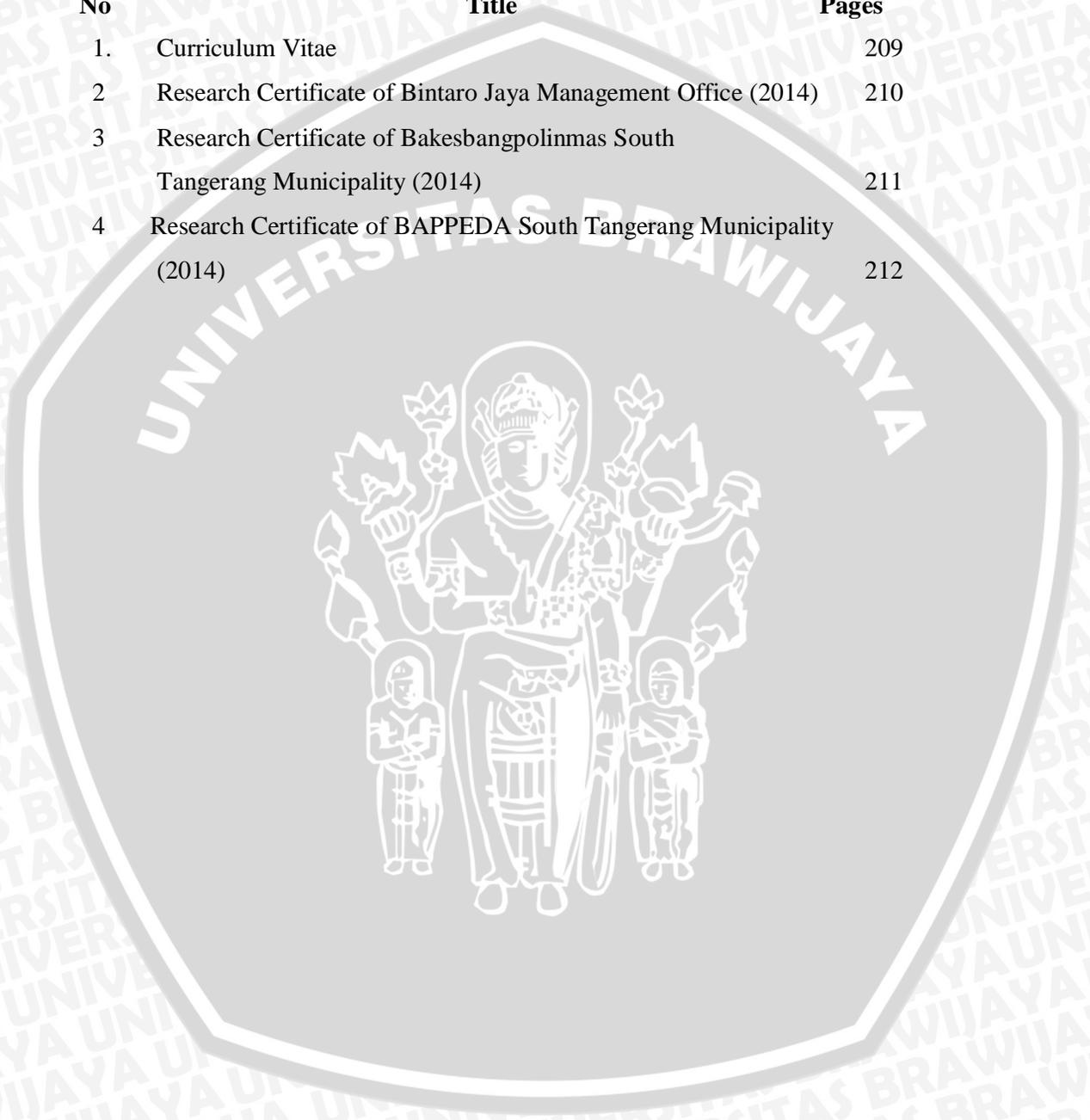


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CHAPTER I

INTRODUCTION

A. Background

In recent years, Indonesia has made great strides in economic growth and development. This growth has been accompanied by rapid urbanization that has transformed Indonesian cities. Indonesia has been entering an urban era, marked primarily with the real fact of growing high-speed level of people settled in cities. Similar phenomenon has happened in most of Asian countries in the postwar years when development has become focus of what government want to do. One cannot deny the evidence that cities are becoming primary destination for most people (AusAID: World Bank: Swiss Economic Development Cooperation: BAPPENAS, 2010:2).

Industrialization became the *driving force* behind the rapid urbanization. It grows fast in urban areas and the suburbs which tend to have better facilities than in the rural such as infrastructure, technology, and human resources. These often the cases in almost all developing countries like Indonesia. The growth then encourages people to move to urban area. People considered that urban areas are promising a lot of opportunity for their career in the future. Complete and modern facilities also become the strong factors why people start leaving rural area (Kuncoro, 2012:2).

BPS data showed that urbanization is slowed down in recent years, but the population growth of surrounding districts continued to accelerate. However, Jakarta is still the main metropolitan city of Indonesia which economically liberal and the global economic integration is more supportive. People want to get better social facilities, more entertainment, better quality of education, and modern public facilities. Jakarta and its suburbs considered fulfilling all the desires and so it becomes the strongest magnet for urbanization (AusAID; World Bank; Swiss Economic Development Cooperation; BAPPENAS, 2010:2).

One of Jakarta buffer city which also grows rapidly following the dynamics mobility of Jakarta people is South Tangerang. The city which borders next to West Jakarta and South Jakarta has become an autonomous region since 2008. The city well known as a modern city of residential where 61,79% of its land used for housing both small and medium density housing. With total area of 147,19 km², population density of South Tangerang reaches 9.547 people/km² by 2012. As the city turns become a modern suburban area, the population not only grows by the birth rate of its people, but there is also a tendency of migration into South Tangerang included people from Jakarta (South Tangerang Municipality, 2013:15). The following table is data about the number of population urbanized to Jakarta after Eid since 2004:

Table 1: Number of Population Urbanized to Jakarta After Eid Since 2004.

No	Year	Number of Population (People)
1	2004	190.556
2	2005	180.167
3	2006	124.427
4	2007	109.627
5	2008	88.473
6	2009	69.554
7	2010	59.215
8	2011	51.875
9	2012	46.155

(Source: Department of Population and Civil Registration of DKI Jakarta, 2013)

The table above shows there is a declination in the number of people who move to Jakarta. The decrease is allegedly caused by people do not move to Jakarta but to its suburbs city such as South Tangerang, Cibubur, and Bekasi. What makes South Tangerang different with the other suburb cities is the existence of some large-scale developers like Bumi Serpong Damai (BSD), Alam Sutera, and Bintaro Jaya. They became such an attraction to those who need residential area with complete facilities, easy access to Jakarta, and comfortable to live in. In the other hand, it is a new challenge for South Tangerang to manage its rapid development so that the transformation can be controlled socially, economically, and ecologically (South Tangerang Municipality, 2013:67)

Such fast urban transformation has not been simple to manage. In one hand, big cities have long been considered as a leading catalyst of economic growth and symbol of civilization. They have been symbols of development of a country. For Indonesia, Jakarta is not only a capital, but it is also the center of Indonesia's economic activities. A development that does not have a clear focus in Jakarta raises a myriad of issues such as high levels of unemployment and poverty, economic and social disparity, social conflicts, high crime rate, traffic density, public services problems, and environmental degradation. Focusing on economic growth for years, Jakarta gave poor attention on its sustainability as a metropolis (Kirmanto, et al: 2011:2).

Central Bureau of Statistic (BPS) has projected that in 2025, 68% of Indonesia population will live in urban area. There is always a strong correlation between urbanization and development of a city. The Development of a city would cause urbanization and urbanization will affect the condition of a city in a variety of aspects. As the center of Indonesian economic activities where 70% of the velocity of money occurs in it, Jakarta is like a pile of sugar in the eyes of ants (Kirmanto, et al: 2011:5).

The United Nations Human Settlements Programme (UN-HABITAT) in 2010 released data that large cities in Southeast Asia face severe problem of city slums with about 72 million slum population and Indonesia is at the first rank by having 28 million slum population, Philippine with 22 million. While Vietnam with 9 million, Myanmar with 7 million and Thailand with 2 million. In Jakarta, slum areas are the view people can see everyday in almost every corner of the

city. With its very limited land, Jakarta which also the capital of The Republic of Indonesia, certainly cannot afford for all economic activities such as industry, trades, offices, and settlement all at once (Wunas, 2011:21).

In such condition, ecosystem of the city received the biggest negative impacts. A development that focusing only on the economy and putting environment issues aside in Jakarta has led to the imbalance between human and their environment (disequilibrium). With a total population of 9.809.857 occupies area around Jakarta Bay which covers 662 km², Jakarta becomes one of the most densely populated areas in the world (Source: Regulation of the Minister of Home Affairs No. 66 Year 2011). The consequences are 4.250 MW electrical loads, 6.525 tons of waste production, 20 million m³ of groundwater extraction per year through 4.011 drilled wells. Also, Jakarta has only 9,8% of Green open space (RTH) from its total land area, far below the minimum level as stipulated on Law No. 26 of 2007 (Pontoh and Kustiwan, 2010:99).

Limited land of Jakarta for its all activities gave deep impact for the suburb areas like Bogor, Depok, Tangerang, and Bekasi. The rapid development of Jakarta has spread and reached those areas and automatically made them the integral parts of Jakarta development. Those suburbs area developed into Jakarta buffer zone where we can find many modern areas of offices, factories, commercials, and settlements. Aware of the rapid development of Jakarta that cannot be separated from its suburbs as the buffer, in 1974, the Minister of Home Affairs and the Minister of State Apparatus proposed expansion of the concept of metropolitan Jakarta as Jabotabek (a name formed by combining the initial

syllables of Jakarta, Bogor, Tangerang, Bekasi) to the president. Then by Presidential Instruction No. 13 of 1976, three ministers; the Minister of Economy, Finance, & Industry, the Minister of Home Affairs, and the Minister of Public Works & Power were given the authority to align Jabotabek plan according to the attachments of the instruction which essentially break the activities concentration from Jakarta to those cities and then develop them into new growth centers and attractive locations for housing and commercial (Nurzaman, 2012:225).

As the rapid growth of Bogor – Tangerang – Bekasi today, Jakarta is actually in the process of becoming a megapolitan city. Megapolitan is a concept of a development of a very big city, which is in a network with its surrounding cities. By the concept of Jabotabek, the government began to move activities concentration from Jakarta to its suburbs since 1977. Depok City which previously was a subdistrict of Bogor Regency has become an autonomic city and makes the concept of Jabotabek becomes Jabodetabek today. For industry, the development is concentrated in Cibitung and Cikarang (Bekasi Regency) and Cikupa (Tangerang Regency). For housing, many developers are building suburbs equipped by supporting facilities such as schools, malls, markets, hospital, and entertainment. These kinds of areas are emerging in Bekasi City, Tangerang City, Serpong (Tangerang Selatan), Depok City and Cibubur (Nurzaman, 2012:226).

The rapid growth of this region should be directed to a sustainable development. With 28.019.545 population, Jabodetabek is one of the world's largest conurbations in term of number of inhabitants. Sustainable development will create a livable, valuable, and sustainable region. Sustainable development

has emerged in past few decades as a famous development issue. There is a lot of non-governmental and governmental organization that adopts it as new paradigm for development. There are some definitions of sustainable development, but the most common definition given by its proponents is a statement found in the Bruntland Report, *Our Common Future*, released during the 1987 United Nations World Commission on Environment and Development which said; “*Development that meets the needs of the present without compromising the ability of future generations to meet their own needs*” (Source: *Our Common Future: Report of the World Commission on Environment and Development* in <http://www.un.org>).

That definition is accepted to all those who debating the meaning of the phrase. In sustainable development, there are three main aspects that will be sustained; they are economic, social, and environment. Sustainable development provides moves toward the development that is not only focusing on the needs of today's society, but also the ability of tomorrow's society to meet their needs. The paradigm is very needed for regions with imbalanced development. Interestingly, this concern of ecological aspect in development process is impacted the realm of public administration that today that there is ecology of administration.

Ecology, which first used to refer to the interactions between living, non-human species and their environment, developed by sociologist as “social ecology” in their work on human habitations, especially in cities. Now we can find also demographers discuss about “human ecology” when examining interrelations between people as population and its environment and “ecological public administration” which discussing about administration and its environment.

When ecology is applied to public administration, it refers to the origin, importance and impact of public administration to Bintaro Jaya environment. It means the influences of all natural, political, socio-cultural, and economic factors that influenced the growth of the certain area. The concept of Jabodetabek emerged in 1974 by the central government is a proof how public administration impacts all aspect of development in Jabodetabek area, includes Bintaro Jaya as one of the suburbs of Capital Jakarta. This big awareness of the importance of ecological aspect change the paradigm from “environment vs development” to “environment and development” and then “environment for development” today (Bowman, et al : 2007).

Jabodetabek is absolutely needs this paradigm according to some indications that the suburb of Jakarta began to grow rapidly with increasing population number. This indication is supported by data released by National Development Planning Agency (BAPPENAS) about the decline in population in some areas in Jakarta in 2006-2007, i.e. East Jakarta 1,83%, West Jakarta 0,56%, Central Jakarta 2,43%, dan North Jakarta 2,21%. The decline then followed by the increasing number population in “Bodetabek” region i.e. 4,3% in Bogor, 4,6% in Bekasi, 4,2% in Depok, and 5,4% in Tangerang. Today, “Bodetabek” region which covers 90% of Jabodetabek land, has an important role because 60% of the Jabodetabek population living there (Source: Department of Population and Civil Registration of DKI Jakarta, 2013).

As explained at the previous page, suburb of Jakarta currently becomes the region of interest by the people to live. The region is providing housing areas that

is at least more comfortable than in crowded communities in Jakarta. In the suburb areas, people can choose a lot of green and comfortable housing area by staying connected directly to Jakarta through modern facilities like toll road and commuter rail. If once the people had to live inside Jakarta because they work in Jakarta, now people particularly the professionals and middle-class society with high mobility but they still want to have a complete and comfortable community tend to choose suburb area as their home. (Wunas, 2011:4).

In the terms of rules and regulations, Indonesia actually has the law which urges all stakeholders to implement the concept of sustainable development in their development activities. The Act No. 32 of 2009 on Environmental Protection and Management stated that national economic development must be based on the principles of environmental sustainability. And in order to make it real, every important activity on environment must be analyzed on Analysis of Environmental Impact (AMDAL). The government realizes that it is not only government who is responsible to protect and manage the environment, but also private sector and community (Law No. 32 Year 2009 on Environmental Protection and Management).

Rules and regulations on environment are very important to make sure that sustainable development is implemented well in the process of development in urban and suburban areas. The emergence of Jabodetabek concept gives big impact to Jakarta and its suburbs. Bintaro Jaya area as an example is now a modern community that has complete modern public facilities in its independent

area. As Jakarta suburb, Bintaro Jaya has easy access to the center of Jakarta by bus and commuter line (PT. Jaya Real Property, 2012:9).

Bintaro Jaya developed by PT. Jaya Real Property, a subsidiary of PT Pembangunan Jaya which majority shares are owned by DKI Jakarta Provincial Government, since 1979. Bintaro Jaya is the company's pride project which was first pioneered the concept of *garden city* in Indonesia. Since 2005, Bintaro Jaya transformed into a region that has a complete supporting facilities, well-designed physical and social environment. The region continues to be a developed into a self-contained city. Bintaro Jaya owns and manages about 2.000 hectares community that offers a diverse range of residential and commercial properties, supported by high quality educational, recreational and health care facilities and excellent transportation links to all parts of Jabodetabek (PT. Jaya Real Property, 2012:12).

Bintaro Jaya also has a community named ECOMMUNITY that invites people to adopt eco-friendly lifestyle, both macro and micro covering; provision of green space, ecological value utilization of green space, and reduce the reliance of private vehicles. Those activities carried out by the people and developer to create a comfortable and sustainable area. Uniting communities to run a great concept can be an effective way to implement the concept. In this case the implementation of the concept of sustainable development certainly cannot be executed only by one side (PT. Jaya Real Property, 2012:14).

However, the efforts made by Bintaro Jaya are not an easy task in the middle of strong impetus by party such as investors who offer regional economic

boost but tends to sacrifice the environmental aspect. This day, Bintaro Jaya faces problem such as lack of land and traffic density. As a state-owned company, Bintaro Jaya's consistency on implementing an ecologically sustainable development is under pressure.

Thus, it will be important to do research in order to get details description about the development in Bintaro area by Bintaro Jaya. Finally, the author conducted a research titled **"Ecologically Sustainable Development in Modern Suburban Community (A Study at Bintaro Jaya, South Tangerang)"**.

B. Research Questions

Based on the background, the author stated the problems as following:

- 1) How is the development planning in Bintaro Jaya today?
- 2) How is the ecologically sustainable development being applied in Bintaro Jaya?
- 3) What are the inhibiting factor and supporting factor in developing ecologically sustainable development in Bintaro Jaya?

C. Purpose of Study

- 1) To know, to describe, and to analyze how the development planning in Bintaro Jaya.
- 2) To know, to describe, and to analyze how the concept of ecologically sustainable development attempted in the development of Bintaro Jaya.

- 3) To know, to describe, and to analyze the inhibiting factor and supporting factor face by Bintaro Jaya in its process towards ecologically sustainable development.

D. Significance of Study

The result of the research is expected to give valuable contributions to several parties:

- 1) Academically, the result of the research can give contribution as an additional reference to other students and researchers about ecologically sustainable development in suburb area. This research includes some theories that rarely mentioned in public administration world like ecology of public administration and its relation to sustainable development and urban planning. Furthermore, the research also can give academical contribution in developing the development planning science.
- 2) Practically, the result of the research can beneficially give an overview on how developer and other stakeholders actively participate in developing a sustainable suburban community.
- 3) Becomes a consideration and input for policy makers in urban and suburban to pay attention to the harmony of economic, social, and environment in developing a region.
- 4) Becomes an insight for community in the terms of ecologically sustainable development.

- 5) For the author, the result of the research will be a masterpiece considering it is the finest script the author ever writes. Hence, it will give the author much experience and knowledge for the author's future.

E. Structure of Study

Structure of study meant that the content of each chapter in this study can be understood clearly and easily. Adapted to the format set by the Faculty of Administrative Science, structure of this study is:

CHAPTER I: Introduction

This chapter explains how large cities and in this particular case Jakarta, experiencing rapid growth and becomes very crowded by urbanization process. The high population number then gives big impact to Jakarta's suburbs because the high number of population made Jakarta cannot stand by itself. In such condition, the suburb cities like Bogor, Tangerang, Depok, Bekasi, and Tangerang are transformed and became modern community. In the high economic growth, social and environmental aspect received poor attention. Social problems and environmental degradation emerged as the big problems now. The idea of sustainable development then becomes very popular in developing new community in Jakarta and its suburbs. For about three decades, PT Jaya Real Property as developer has developed a modern suburban community named

Bintaro Jaya and now it becomes a favorite place in Jakarta suburb to live. As a pioneer of the concept of garden city in Indonesia, Bintaro Jaya has a program for its community called “ECOMmunity” which urges the people to care more about their environment. The problem statements are related to how is the development planning of Bintaro Jaya, how Bintaro Jaya applied the concept of ecologically sustainable development and what are the challenges and supports in achieving the concept particularly in to create an environmentally friendly community. The research objectives are emphasized on the application of ecologically sustainable development related to the development planning and the inhibiting factor as well as the supporting factor face by Bintaro Jaya. Research contribution is aimed as valuable contributions for additional references about ecologically sustainable development in suburban community. The structure of discussion tells about the common explanation in each chapter of the research.

CHAPTER II: Review of Literature

This chapter commonly explains about the theories frame relates to the urban planning and sustainable development, also containing some descriptions about ecology of public administration, ecology, suburban, garden city, mixed-use land and Bintaro Jaya.

CHAPTER III: Research Method

This chapter explains about the research method used in the research, involves the type of research, research focus, research location and setting, kind and source of data, techniques of data collection, research instruments, and data analysis.

CHAPTER IV: Data Display and Data Analysis

This chapter explains research findings and analysis, the elaboration of all datas, consisted of data display in the research location; the data displays the application of the concept of sustainable development in Bintaro Jaya communities, and the barriers and challenges faced in applying ecologically sustainable development concept by Bintaro Jaya community.

CHAPTER V : Concluding Remark

This last chapter consists of the conclusion and recommendations from the research result.

CHAPTER 2

REVIEW OF LITERATURE

A. Urban Planning

1. Definition of Urban Planning

Urban planning is an important tool for cities to achieve sustainable development. It helps to formulate medium- and long-term objectives that reconcile a collective vision with the rational organization of the resources to achieve it. Planning makes the most of municipal budgets by informing infrastructure and services investments, and balancing demands for growth with the need to protect the environment. It also distributes economic development within a given area to reach social objectives, and creates a framework for collaboration between local governments, the private sector and the public at large (UN-Habitat, 2013). The Merriam-Webster dictionary defined “urban” as something relating to cities and the people who live in them. While Tjokroamidjojo (1985) defined planning as:

“Planning in its broadest sense is a process of systematically preparing activities to be undertaken to achieve certain goals; way of achieving goals as well as possible with the resources available to make it more efficient and effective; setting goals to be achieved or will do, how, and by whom” (Tjokroamidjojo, 1985:12).

Nigel Taylor (2007) defined urban as a political and technical process that concerned on use of land and design of the urban environment, including its

transportation networks, to guide the elderly development of settlements and communities. Urban planning concerns itself with research and analysis, strategic thinking, architecture, urban design, public consultation, policy recommendations, implementation and management. A plan can take various forms including strategic plans, comprehensive plans, neighborhood plans, regulatory and incentive strategies, or historic preservation plans. Planners are often also responsible for enforcing the chosen policies.

The modern origins of urban planning lie in the movement for urban reform that arose as a reaction against the disorder of the industrial city in the mid-19th century. Urban planning can include urban renewal, by adapting urban planning methods to existing cities suffering from decline. In the late 20th century, the term sustainable development has come to represent an ideal outcome in the sum of all planning goals (Taylor, 2007:31).

On the other hand, The American Planning Association defined urban planning or regional planning as a dynamic profession that works to improve the welfare of people and their communities by creating more convenient, equitable, healthful, efficient, and attractive places for present and future generations. Urban planning enables civic leaders, businesses, and citizens to play a meaningful role in creating communities that enrich people's lives. Good planning helps create communities that offer better choices for where and how people live. Planning helps communities in envisioning their future. It helps them find the right balance of new development and essential services, environmental protection, and innovative change (American Planning Association, 2013).

The paradigm of planning and architecture shifted at the turn of the 20th century. In the 1920s, the ideas of modernism began to surface in urban planning. The industrialized cities of the 19th century had grown at a tremendous rate, with the pace and style of building largely dictated by private business concerns. The first major urban planning theorist was Sir Ebenezer Howard, he initiated the garden city movement in 1898. This was inspired by earlier planned communities built by industrial philanthropists in the countryside, such as Cadburys' Bournville, Lever's Port Sunlight and George Pullman's eponymous Pullman in Chicago. All these settlements decentralized the working environment from the centre of the cities, and provided a healthy living space for the factory workers. Howard generalized this achievement into a planned movement for the country as a whole. He was also influenced by the work of economist Alfred Marshall who argued in 1884 that industry needed a supply of labor that could in theory be supplied anywhere, and that companies have an incentive to improve workers living standards as the company bears much of the cost inflicted by the unhealthy urban conditions in the big cities (Peter Hall in http://en.wikipedia.org/wiki/Urban_planning).

Like most disciplines, urban planning actually developed to solve a problem. Prior to the mid-19th century, metropolitan areas were created as existing towns spread out; Jakarta, London, Paris, and Tokyo started out as small towns and simply kept getting bigger as more people moved to them. The addresses and streets in the older sections of these cities can be confusing, even to natives, because they were established with little thought as to how the area might

change and grow in the future. While people have always engaged in some type of town or city organization, whether settling near a body of water or on higher ground for self-defense, the late 19th century is when modern urban planning began to develop.

The lack of organization in housing areas, industrial sections, and the placement of hospitals and schools often created problems for the safety and health of residents in older cities. Architects and engineers, in partnership with their local government, began planning ways to solve these problems in existing urban areas, and to prevent them from developing in new areas. While finding solutions for existing situations in cities is often more complicated than planning a new city or urban area from scratch, both are equally important parts of the field (Riddell, 2004:54).

Physically, urban area is a built up area located nearby each other/concentrated, and spread out from its core to its fringe. In this definition, modern city consists of: (1) buildings and activities on the ground; (2) underground installations; (3) activities in wide open space of sky (Pontoh & Kustiwan, 2008). Wheeler, in his 2004 book, defines sustainable urban development as "development that improves the long-term social and ecological health of cities and towns." He sketches a 'sustainable' city's features: compact, efficient land use; less automobile use, yet better access; efficient resource use; less pollution and waste; the restoration of natural systems; good housing and living environments; a healthy social ecology; a sustainable economy; community

participation and involvement; and preservation of local culture and wisdom (Stephen Wheeler in http://en.wikipedia.org/wiki/Urban_planning).

2. Urban Planning in Indonesia

Indonesia has been entering an urban era, marked primarily with the real fact of growing high-speed level of people settled in cities. Similar phenomenon has happened in most of Asian countries in the postwar years, as consequence of a massive economic growth. One cannot deny the evidence that cities, no exclusion for Indonesia, are becoming primary destination for most people. However, such fast urban transformation has not been simple to manage. In one hand, cities have long been considered as a leading catalyst of economic growth and symbol of civilization advancement. Cities are the ideal places for innovations, where brilliant ideas are not only flourishing, but also competing one to another in search of higher efficiency in the life of urban community. Cities are also places where spatial conflicts occur, demanding more urban services for the sake of economic growth, but often at the expense of environmental degradation. The challenges for Indonesian cities will even be more serious due to climate change and limited resources.

Planning must be compatible with the high pace of urbanization that occurs. A static conventional planning has no longer been adequate to effectively respond the challenges. In contrast, a dynamic action-oriented planning, translated into innovative programs and workable action plans is vital. In Indonesian cases, green cities approach may be considered as a breakthrough. It is not a national

policy experiment. But as part of planning reform since the last 10 years, green city approach is a strong driver for a significant urban sustainability movement, transforming planning into concrete and positive actions. Urban planners, urban designers, and architects must work in close collaboration with local administration and communities to ensure that integrated planning and design thinking is performed, under the platform of green city (Kirmanto, et al, 2011).

One of the valid indicators of rapid urbanization is a high number of populations settling in urban areas. In 2010, more than 112 million people reside in urban areas, equivalent to 52.03 percent of total Indonesian population. The annual growth rate is estimated at 1.49 percent. Data from UN Department of Economics and Social Affairs in 2009 revealed that Jakarta metropolitan area, as Indonesia's most populated urban agglomeration, was ranked in 24th place of 30 world's biggest metropolitan's list. In many Indonesian cities, urban sprawl has been extremely difficult to contain due to attractive land market in periphery. As these cities spread horizontally, they are unfortunately not supported with good transport infrastructure and facilities. Therefore, commuting becomes a complicated-routine activity due to traffic congestion, given the fact that most of the population must rely on private vehicles. But, this practice does not merely belong to Indonesian cities.

The real facts of climate change and high-speed urban change have triggered the need for making planning practices more progressive, so called "fast-forward planning", which is compatible to the pace of recent urban development. Planning must be reframed, to be capable to respond effectively the

big challenges and issues encountered by Indonesian cities, through its translation into action-oriented approach that embraces sustainable urban development principles. It emphasizes on the balance between economy, social and environmental aspects, and attempts to transform knowledge into concrete and systematic steps. One of the emerging responses is by bringing the concept of green city to take place. The concept is related to the concept of sustainable development. A troubled megapolitan area like Jabodetabek absolutely needs to consider the application of such concept to bring back the harmony between economic growth, social impact and environmental sustainability.

3. Sustainable Urban Planning

A wider awareness of environmental issues during 1980s led to a new focus on environmental management within and around urban areas. Environmental problems can be created by various forms of industry which can be essential to the employment base of a city. It can be provoked by the wealthy through increased car ownership and solid waste production, but it also can be provoked by the lack of land and services for large proportions of the population (Paul Jenkins *et al.*, 2007: 146).

The Brundtland Commission most quoted definition of sustainable development as 'development which meets the needs of the current generation without jeopardising the needs of future generations' (WCED 1987) is only one link in along debate over the interaction between environment and development. The environmentalist views that development planning and nature must be linked,

and sustainable development can be achieved through regenerative settlements, renewable resources and recycling. While the economist views that decision making should combine environment and economics, achieving sustainable development through the market system. This debate has become increasingly complex. A key debate of direct relevance to human settlements and urban development is that between urban environmental issues related to environmental health and those linked to ecological sustainability. Conflicts arise over the priority each of these agendas should be given, particularly in urban areas in the rapidly urbanising world (Paul Jenkins *et al.*, 2007: 202-203).

McGranahan and Satterthwaite in Paul Jenkins *et al* (2007) stated that although there are conflicts between the proponents of the agenda in relation to priorities, it is important not to create a false dichotomy. Both of them point out that a concern for greater equity is central to both, and suggest environmental improvements that serve both agendas. For example, land use management linked to high-quality public transport, good traffic management, and other controls on private car use can address brown agenda concerns over low income groups' needs for health, air quality and good public transport, as well as green agenda concerns to reduce fossil fuel use and ecologically damaging air pollution. They suggest that reconciling the brown and green agendas in urban development requires institutions and processes that: 'reduce the inequities that are of concern to both the brown and green agendas; enable collective and democratic responses to the public aspects of both green and environmental problems; and provide a

better understanding of the environmental issues that different cities face' (McGranahan and Satterthwaite in Paul Jenkins *et al*, 2007:205).

Urban planning, as an attempt to synthesise the diverse activities, perspectives, aspirations and resources into a composite whole is a complex and dynamic process. Urban planning should essentially synthesise various components of sustainable development, such as:

- a. The potential carrying capacity, water conservation/supply and reducing ecological footprint of urban system for low carbon city development.
- b. Economic development and poverty related challenges.
- c. Energy, transportation and water resources constraints and opportunities.
- d. Environment, pollution control and climate change related challenges.
- e. Heritage and conservation potential.
- f. Governance and institutional capacity.

Effective participatory planning among all the stakeholders, mediation between competing or conflicting interests would help in bringing about change and lasting improvements to the living environment. To translate the sustainability principles by city design, the following six critical areas can be identified (A.K. Jain, 2011:43):

- a. Jobs: Job sites located within communities reduce time spent travelling to work.
- b. Corridors: High density commercial and residential corridors focus growth along transit routes.
- c. Walkability: Interconnected street systems link residents with the services they need.
- d. Green space: Green spaces provide recreation opportunities and connect people with natural systems.
- e. Infrastructure: Integrating natural systems based on the principles of conservation of natural resources and recycling that reduce infrastructure costs and environment impact.
- f. Housing: a range of housing types allows residents of differing economic situations to live in the same neighborhoods and have access to the same services.
- g. Management and maintenance: aspects need to be given serious attention at the planning stage.

This means using land optimally and to create a smart and compact city together with a new paradigm of land use and flexibility, which promotes creation of jobs and reduces the need to commute. This will strive for more effective linkages between social, economic and spatial planning, improvement of the efficiency of cities and their infrastructure, strengthened local governance and better institutional and inter-sectoral cooperation, as well as cost-effective forms

of public-private partnerships (A.K. Jain, 2011:44). Another major factor for the sustainable urban planning process is the implementation stage, during which the project's execution is permanently evaluated and monitored and implementation technical sheets are defined with the aim to provide efficiency profits to all levels of sustainability (M.P. Amado *et al*, 2010: 2).

A sustainable urban planning process has to show an open and flexible methodology, always guided by the principles and strategic goals leading to sustainable development. Only through a new planning process approach is possible to walk in the path of Sustainable Development. The presented sustainable urban process, given its open and flexible structure, permits interventions on different realities and site dimensions, allowing the analysis of the characteristics on each case, its potentialities, weaknesses and opportunities, guiding the project's planning process. Furthermore, community participation enabled that the intervention area resources (human, natural, economic and cultural) are valued by the local agents and thus constitute the basis for the creation of proposed new sustainable activities, developing employment and wealth, preserving natural values and promoting an appropriation of public space with greater social sensitivity and responsibility (M.P. Amado *et al*, 2010: 6-7).

4. Urbanization

As stated in the background section, urbanization is a major problem that impacts Jakarta and changes its interaction with the surrounding cities. It is undisputable that big cities of Third World are growing rapidly. It is also

undisputable that urbanization is the major factor of Jakarta growth. A projection of United Nations indicated that from 2000 to 2030, the world's urban population will grow at an average annual rate of 1,8% and is expected to rise to 61% in 2030. The speed and scale of this growth emerge big challenges, and monitoring these developments and creating sustainable urban environments remain crucial issues on the international development agenda (Jenkins, 2007:26).

Paul Jenkins (2007) stated that urbanization normally refers to the demographic process of shifting the balance of national population from rural to urban areas. This shifting is not new and its roots go back to early history but it only started to grow in a significant way following the industrial revolution, particularly in Western Europe and the United States during 19th century. In Southeast Asia, urban and rural activities are interpenetrating. Rural economics and lifestyles increasingly assume characteristics that were formerly considered urban. More urban people work outside agriculture, rural economics are increasingly diverse, mixing agriculture with cottage industries, industrial estate, and suburban development. In the other side, many rural people are linked to city life by migration and commuting. In some rapidly urbanizing regions, it is difficult to say where the certain city begins and ends because the urban areas' growth has blurred the boundaries (Jenkins, 2007:34).

One of the first theorists to acknowledge the deep and important impact of urbanization on human social life was a German named Georg Simmel. Simmel developed a sociology which focused on particular ways that forms, like the numbers of people in groups, influenced social life. In his famous article entitled

“The Metropolis and Mental Life,” Simmel argued that there were some features of the modern metropolis that rendered it different from all prior forms of social organization. For example, life in the metropolis requires that people engage in social interactions with large numbers of different people. It also requires that they carry on their social life with a good deal more rapidity than other forms of settlements (Peng, 2009:4).

Today’s urbanization is different from its form in the past. One of the few significant forms is suburbanization. Urbanization that produces new residential communities on the outskirts of major cities has become known as suburbanization. In big city like Jakarta, suburbanization has become a trend where suburbs taking root outside virtually of Jakarta. Urbanization will continue as long as people form communities, move from one place to another, and settle in sites complete facilities can be found. Whether it will tend to improve the condition of humankind, or detract from it, depends on many things. Humans and social institutions can play a far more important role in the shaping of urban areas than early twentieth-century theorists ever thought it is possible (Pontoh & Kustiwan, 2008).

5. Mixed-use Land

The problem of land is a problem exists in every urban area today for it is limited while the urban area keep growing rapidly. Over the past few decades, mixed-use development has taken the stage in urban planning and real estate development world. Whether it is Smart Growth, Compact City, or any other

name for this movement, it is relating to the improvement of the built environment that mixing land use. The concept is being embraced by both the public and private sectors, and by each of the major parties involved in the real estate development process: the end users who demand space such as developers, investors, and the planner or policy makers that regulate space.

Mixed-use development at first seems like a relatively straightforward concept. It suggests real estate development that combines more than one land use. The term “mixed” frequently appears in the planning and real estate literature, the definition of mixed-use development is rarely elaborated. The definition by Urban Land Institute is probably the most prevalent definition of the concept. In 1976, ULI was the first organization to address the concept in-depth with the publication of their first book on the topic entitled *Mixed-Use Developments: New Ways of Land Use*, and while the concept has evolved over the years, their original definition has essentially remained in tact. Currently, the second edition of their *Mixed-Use Development Handbook* characterizes mixed-use development as consisting of (Herndon, 2011: 14):

- a. Three or more significant revenue-producing uses such as retail, office, entertainment, residential, hotel, recreation center that in well planned projects are mutually supporting
- b. Significant physical and functional integration of project component including uninterrupted pedestrian connections; and
- c. Development in conformance with a coherent plan that stipulates the type and scale of uses, permitted densities, and related items.

Mixed use zoning sets standards for the blending of residential, commercial, cultural, institutional, and where appropriate, industrial uses. The concept generally closely linked to increased density, which allows for more compact development. Higher densities increase land-use efficiency and housing variety while reducing energy consumption and transportation costs. The mixed use buildings that result can help strengthen or establish neighborhood character and encourage walking and bicycling.

In addition, mixed-use development is a strategy for arranging the physical space that is required for society to function. It supports the community by putting uses in close proximity to one another, alternatives to driving such as walking and biking become viable again. The concept also provides a more diverse and sizeable population and commercial base for supporting viable public transit. It can enhance the vitality and perceived security of an area by increasing the number and attitude of people on the street. It helps streets, public spaces, and pedestrian-oriented retail again become places where people meet, attracting pedestrians back onto the street and helping to revitalize the life of community (Herndon, 2011: 28).

Clearly there are various reasons being asserted for why mixed-use development is essential to the urban environments. The benefits from restoring neighborhood vibrancy to improving air quality, and reducing chronic disease to increasing economic activity. Moreover, even well designed mixed-use projects can struggle to generate the returns needed to succeed from a financial perspective.

B. Sustainable Development

1. Definition of Sustainable Development

In recent decades, global warming became one of the world's top issues. The phrase "sustainable development" becomes famous in development circles and even appears to replace concepts like "growth", "modernization", and "accelerated development" as the unifying concept for development activities worldwide (Estes: 1993). Defining the phrase is a difficult task. What should be "sustained" in "sustainable development," for example, have been debated for years. The word "sustainable" and "development" been paired together in literature only in past thirty years but the ideas actually have a long history in the literatures of both development and environmentalism. Today scientists, politicians, students, developers, architectures, engineer, and other stakeholders continue to study sustainable development (Erica Adams & Tamim Younos: 2008: 4).

The term 'sustainable development' was used by the Brundtland Commission, a commission under the United Nations concerning on the relation between environment and development. The concept refers to a mode of human development in which resource use aims to meet human needs while ensuring the sustainability of environment and ecological systems, so that these needs can be met not only by today's generation but also for generations to come (http://en.wikipedia.org/wiki/Sustainable_development).

There are many definitions of sustainable development coming from various disciplines and with different assumptions. The definition of sustainable

development in the Bruntland Report, *Our Common Future*, is the most accepted and often-quoted definition. The report defined sustainable development as: “Development that meets the need of the present without compromising the ability of future generations to meet their own needs” (United Nations, 1987). After the book “*Our Common Future*” by World Commission on Environment and Development has published in 1987, the phrase of *sustainable development* became very popular. The publishing of the book is a continuation from the previous results of discussion (known as Brandt Commission) which has been published in a book titled “*Common Crises*”.

The idea behind sustainability for human is trying to maintain and pass on our quality of life indefinitely. Specifically this means efficient use of resources, using renewable resources, and conserving the natural environment and the ecological services that it provides. This leads us to sustainable development. Based on this idea of sustainability, sustainable development is also development that maintains or improves the current quality of life over time by using renewable resources and protecting the natural environment (Erica Adams & Tamim Younos: 2008).

The World Commission on Environment and Development emphasized the need for new conceptions of global development that: 1) took cognizance of the fact that social and environmental problems are interconnected; 2) recognized that environmental stresses are not restricted to particular locales or geographic boundaries; 3) recognized that environmental catastrophes experienced in one world region, in the end, affects the well-being of people everywhere; and 4)

recognized that only through sustainable approaches to development could the planet's fragile ecosystems be protected and the aims of human development be furthered (Estes: 1993).

2. Basic Principles of Sustainable Development

In the perspective of environment, an ecologically sustainable system must maintain a stable resource base, avoiding over-exploitation of renewable resource systems or environmental sink functions, and depleting non-renewable resources only to the extent that investment is made in adequate substitutes. This includes maintenance of biodiversity, atmospheric stability, and other ecosystem functions not ordinarily classed as economic resources. The *Rio Declaration on Environment and Development* 1992 fleshes out the one-sentence definition of sustainable development by listing principles of sustainability which formally there is 5 principles:

1. **Intergenerational Equity Principle.** This principle means that every generation of human being has the right to receive and live the earth not in bad condition environmentally caused by their previous generation.
2. **Intragenerational Equity Principle.** This principle talks about justice in a generation of human being, where environmental problems should be the concern of whole people in a generation.
3. **Precautionary Principle.** This means that if there is an indication of environment degradation even there is no conclusive scientific proof about it, it cannot be an excuse to postpone the prevention moves.

4. Conservation of Biological Diversity Principle. The protection of biological diversity is a requirement for the success of intergenerational equity principle. It is very important to prevent environmental degradation which can negatively impact the biological diversity.
5. Internalization of Environmental Cost and Incentive Mechanism. Environmental degradation in many points is an external cost of economic activities and makes people suffer from those economic activities. So, environmental degradation should be considered in the exploitation of natural resources by integrating the cost.

The result is a set of five core principles, each with its own derived policy and operational implications. The set is fundamentally systemic in nature, meaning, that each domain affects all the others and is affected by each in return. The five domains underlying the principles interact and co-define one another and, as in a holographic image, each embodies the whole general scheme in its own sphere. When the principles are thus integrated and seamlessly inform choices and actions, a state of sustainability, which otherwise appears as a difficult, distant goal, can be realized spontaneously and completely. A balanced and full integration of all five principles is essential for conceptualizing and realizing sustainability as a state. The whole set has to be integrated into a single unity in which the five principles come together as one.

3. Issues in Sustainable Development

A sustainability issue arises whenever a valued system, object, process or attribute under threat. As told in the background section, the high economic growth in big cities has inspired a movement. Urban sprawl and uncontrolled land development become the major concern of the 21st century. There is an urgent need for land use processes that minimizes impact to the natural environment, conserves water, habitat and energy, and encourages developing self-sufficient and healthy communities. Since 1980s, the concept of sustainable development has been promoted to meet these needs.

C.A. Doxiadis, an urban planner from Greek, actually has forecasted few decades ago that cities will grow, become bigger and wider, and uncontrolled. *Polis* becomes *metropolis*, and then *megapolis*, *ecumenopolis*, and if they are still uncontrolled, they will become *necropolis*. John Ormsbee Simonds in his book “Earthspace” has warned people to be very careful in managing cities. He stated that urban planner, together with private sector and people is going to a point which he called ‘*ecological suicide*’ (Budiharjo, 2005: 2-3).

A city is a symbol of human civilization, economic growth, innovation and creation resource, cultural center, and also standard of living. Rutherford Platt in his book *The Ecological City* (1994) as quoted in Budiharjo (2005) stated that “the natural world supports the city, but the city’s human made resources, in turn, give the city its distinctive, dynamic character.” A city should grow sustainably, where the natural elements and human-made element supports each other like two sides of a coin. Neal Peirce once noted that it’s a difficult task to make a physical

jurisdiction because a metropolis is not a physical entity that is static. It is organic, it grows following the power of economy. What we called as 'city' is actually a metropolitan area consists of city, satellite city, and the other governmental jurisdiction (Budiharjo, 2005: 22).

Big metropolitan is a geographical, political, socio-cultural, economical, and environmental entity which connected one and another and became a characteristic of community in 20th century. Business, competition, messages, information, money; these made the cities became the life of the world. Big number population in urban area has increased significantly after the World War II. And the urban area received the pressure to make sure that people have enough food, power, water, and land. A big city certainly cannot make it sure by itself. That is why there is a development shift from urban to suburban.

In such condition, there are few things that contributing to unsustainability in urban and suburban areas. They are overconsumption, population growth, dependence upon non-renewable resources, pollution, environmentally and socially destructive development patterns, inequities in resource distribution, and limited public participation. These are now the challenges that sustainable development faced in practice (American Planning Association: 2000).

4. Indicator of Sustainable Development

Still another way to define sustainable development is in how it is measured. But finding an appropriate set of indicators of sustainable development for a community, a city, a region, a country or even the world is not an easy task. It

requires knowledge of what is important for the viability of the systems involved, and how that contributes to sustainable development. The number of representative indicators should be as small as possible, but as large as essential.

Each of the three domains of sustainable development is commonly referred to as a system: economic systems, environmental systems, and social systems each have their own logic. Despite the uncertainty of the direction of sustainable development, it is necessary to identify the essential component systems and to define indicators that can provide essential and reliable information about the viability of each and of the total system. This implies that we can use different indicators to measure different dimensions of sustainability. Indicators imply measurement; measurement implies the theoretical definition of concepts to measure (Bossell, Hartmut, 1999: 2).

Essential indicators are not always obvious. Learning to handle a complex system means learning to recognize a specific set of indicators, and to assess what their current state means for the health, or viability, of the system. Often this learning of indicators is intuitive, informal, subconscious: a mother learning to recognize and to respond to the signals from her newborn baby, or a farmer learning to recognize the signals from the animals, plants and soils under his or her care. However, Bossel (1997) presents *Bellagio Principles: Guidelines for Practical Assessment of Progress Toward Sustainable Development (from Hardi, P. and T. Zdan, 1997. Assessing Sustainable Development: Principles in Practice)*:

1. Guiding Vision and Goals

Assessment of progress toward sustainable development should:

- Be guided by a clear vision of sustainable development and goals that define that vision.

2. Holistic Perspective

Assessment of progress toward sustainable development should:

- Include review of the whole system as well as its parts;
- Consider the well-being of social, ecological and economic subsystems, their state as well as the direction and rate of change of the state, of their component parts, and the interaction between parts;
- Consider both positive and negative consequences of human activity in a way that reflects the costs and benefits for human and ecological systems, both in monetary and non-monetary terms.

3. Essential Elements

Assessment of progress toward sustainable development should:

- consider equity and disparity within the current population and between present and future generations, dealing with such concerns as resource use, overconsumption and poverty, human rights, and access to services, as appropriate;
- consider the ecological conditions on which life depends;
- consider economic development and other non-market activities that contribute to human and social well-being.

4. Adequate Scope

Assessment of progress toward sustainable development should:

- adopt a time horizon long enough to capture both human and ecosystem time scales, thus responding to current short-term decision-making needs as well as those of future generations;
- define the space of study large enough to include not only local but also long distance impacts on people and ecosystems;
- build on historic and current conditions to anticipate future conditions: where we want to go, where we could go.

5. Practical Focus

Assessment of progress toward sustainable development should:

- an explicit set of categories or an organizing framework that links vision and goals to indicators and assessment criteria;
- a limited number of key issues for analysis;
- a limited number of indicators or indicator combinations to provide a clearer signal of progress;
- standardizing measurement wherever possible to permit comparison;
- comparing indicator values to targets, reference values, ranges, thresholds or direction of trends, as appropriate.

6. Openness

Assessment of progress toward sustainable development should:

- make the methods and data that are used accessible to all;

- make explicit all judgments, assumptions and uncertainties in data and interpretations.

7. Effective Communication

Assessment of progress toward sustainable development should:

- be designed to address the needs of the audience and set of users;
- draw from indicators and other tools that are stimulating and serve to engage decision-makers;
- aim, from the outset, for simplicity in structure and use of clear and plain language.

8. Broad Participation

Assessment of progress toward sustainable development should:

- obtain broad representation of key grassroots, professional, technical and social groups, including youth, women and indigenous people to ensure recognition of diverse and changing values;
- ensure the participation of decision-makers to secure a firm link to adopted policies and resulting action.

9. Ongoing Assessment

Assessment of progress toward sustainable development should:

- develop a capacity for repeated measurement to determine trends;
- be iterative, adaptive and responsive to change and uncertainty because systems are complex and change frequently;
- adjust goals, frameworks and indicators as new insights are gained;

- promote development of collective learning and feedback to decision making.

10. Institutional Capacity

Continuity of assessing progress toward sustainable development should be assured by:

- clearly assigning responsibility and providing ongoing support in the decision-making process;
- providing institutional capacity for data collection, maintenance and documentation;
- supporting development of local assessment capacity.

Sustainable development is not a “fixed state of harmony.” Rather, it is an ongoing process of evolution in which people take actions leading to development that meets their current needs without compromising the ability of future generations to meet their own needs. Conversely, actions that reduce the ability of future generations to meet their own needs should be avoided. Achieving progress toward sustainable development is clearly a matter of social choice, choice on the part of individuals and families, of communities, of the many organizations of civil society, and of government. Because it involves choice, change is only possible with the broad involvement of the general public and decision-makers in government and across civil society (The International Institute for Sustainable Development, 1997).

5. Ecologically Sustainable Development

The United Nations recognized the significance of the impact of development on the biosphere in 1983. There was increasing concern that continuing growth could not be sustained. It was recognized that a worldwide change in attitude was essential to create balance between economic growth, social development and the protection of the environment. The idea of ecologically sustainable development arises from the belief that current systems of resource allocation fail to account adequately for interactions between the economy and the environment, and the impact of the environment on people's quality of life and the consequences of people's current use of the natural environment for future generations (Pearce *et al* in Ian Willis, 1992:8).

The Council of Australian Governments in 1992 defines the term ecologically sustainable development as: "Ecologically sustainable development means using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained, and total quality of life, now and in the future, can be increased." Ecologically sustainable development involves a cluster of elements or principles. Four are worth highlighting (Preston, 2006: 1):

1. The precautionary principle: that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

2. Inter-generational equity: that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.
3. Conservation of biological diversity and ecological integrity: that conservation of biological diversity and ecological integrity should be a fundamental consideration.
4. Improved valuation, pricing and incentive mechanisms: those environmental factors should be included in the valuation of assets and services.

The need for sustainability arose from the recognition that the profligate, extravagant, and inequitable nature of current patterns of development, when projected into the not-too-distant future, leads to biophysical impossibilities. The transition to environmental sustainability is urgent because the deterioration of global life-support-systems which compose the environment imposes a time limit (Goodland, 1995: 6). There is no time to dream of creating more living space or more environments, such as colonizing the moon or building cities beneath the ocean.

Environmental sustainability is the ability to maintain the qualities that are valued in the physical environment. Environmental sustainability seeks to sustain life-support-systems in-definitely. That refers principally to those systems maintaining human life. Protecting human life is the main reason anthropocentric human seek environmental sustainability. Human life depends on other species for

food, shelter, breathable air, plant pollination, waste assimilation, and other environment life-support-services.

Environmental sustainability programs include actions to reduce the use of physical resources, the adoption of a recycle movement, the use of renewable rather than depletable resources, the redesign of production processes and products to eliminate the production of toxic materials, and the protection and restoration of natural habitats and environments valued for their livability or beauty (Sutton, 2004: 2).

At the personal or household level, there are a host of actions that human can take to contribute to environmental sustainability at home, when travelling or accessing services or goods, at work, or when acting as a community member or citizen or as an investor of personal funds. Some useful examples are including living close to work where possible and walking, using a bike or using public transport. These are good options to save energy and reduce greenhouse gases. Buying products made of recycled materials will generally save materials and energy, cut greenhouse gases and toxic pollution, and reduce impacts on living things in the wild. Involvement in or donations to community environmental groups can help with practical projects like revegetation or by building support for effective government policies. And investing savings in ethical investments can help accelerate the creation of an environmentally sustainable economy (Sutton, 2004: 8).

C. Ecology

1. Brief History and Definition of Ecology

It is important to realize that humans enjoy a unique position in nature due to their exceptional ability to influence and mould the ecology. The word “ecology” is derived from *oikos* meaning ‘household’ and *logos* meaning ‘study.’ Hence, the study of the environmental house includes all the organisms in it and all the functional processes that make the house habitable. Then, literally, ecology is the study of “life at home” with emphasis on “the totality or pattern of relations between organisms and their environment.” In primitive era, every human needed to really know their surroundings to understand the forces of nature and living things around them in order to survive. In fact, the beginning of civilisation coincided with the use of fire and other tools to modify the environment. The technological progress that humans achieved makes humans seem to depend less on the natural environment for their daily activities. It seems like many of us forget our continuing dependence on nature for air, water, and indirectly, food, not to mention waste assimilation, recreation, and many other services supplied by nature. Humans tend to think that natural resources are unlimited or somehow replaceable by technological innovations. This thought makes humans ignore ecological aspect in life and put economic primarily. Until there is a crisis, humans tend to take natural goods and services for granted (Odum and Barret: 2001).

The science of ecology has had gradual if spasmodic development during recorded history. Even though in the writings of Hippocrates, Aristotle, and other

philosopher of ancient Greece clearly contain references to ecological topics, the Greeks did not have a word for ecology. The word *ecology* is having been proposed by German biologist Ernst Haeckel in 1869. Haeckel defined ecology as “the study of the natural environment including the relations of organisms to one another and to their surroundings.” Before this, many scholars had contributed to the idea, though the word *ecology* was not in use. As a recognized and distinct field of science, ecology dates from about 1900, but the word became part of general vocabulary only in past few decades (Odum and Barret: 2001).

During the 1970s, almost every theorist became concerned about natural resources, biotic diversity, population growth, food and energy, and pollution, as indicated by wide coverage of environmental issues in the media; the global warming issue. Some referred the 1970s as the “decade of the environment,” marked by the first Earth Day on April 22 1970. It is in 1980s and 1990s that environmental issues were pushed into the political matter by concerns for human relations – problem like crime rate, the cold war, government budget, and welfare of people. The concern continues to escalate as the issue of human abuse of Earth arised. Actually, the public attention had a profound effect on academic ecology because before the 1970s, ecology was viewed largely as a sub of biology and ecologists were only taffed in biology departments. Although ecology remains rooted in biology, it has developed from biology as a new and integrative discipline that links physical and biological processes and forms a bridge between the natural sciences and the social sciences (Odum and Barret: 2001).

2. Ecological Principles

The principles of ecology are basic assumptions about ecosystem and how they function. The principles basicly built to draw key conclusions that can then guide human applications aimed at conserving biodiversity. The principles are (Volt and Buffett: 2008):

1. Protection of species and species' subdivisions will conserve genetic biodiversity: at the population level, the important processes are genetic and evolutionary because these processes maintain the potential for continued existence of species and their adaptation to changing conditions.
2. Maintaining habitat is fundamental to conserving species: A species habitat is the ecosystem conditions that support its life requirements. Our understanding of habitat is based on our knowledge of a species' ecology and how that determines where a species is known to occur or likely to occur.
3. Large areas usually contain more species than smaller areas with similar habitat: It happens because the large areas usually contain more species than smaller areas with similar habitat because they can support larger and more viable populations.
4. All things are connected but the nature and strength of those connections vary: In communities and ecosystems, species play many different roles and are connected by those roles to other species in different ways and with varying degrees of strength.

5. Disturbances shape the characteristics of populations, communities, and ecosystems: the type, intensity, frequency and duration of disturbances shape the characteristics of populations and ecosystem including their size, shape and spatial relationships. Natural disturbances played a key role in shaping and maintaining natural ecosystems by influencing their structure including the size, shape and distribution of patches.
6. Climate influences terrestrial, freshwater and marine ecosystems: climate usually defined as all of the states of the atmosphere seen at a place over many years. Climate has a dominant effect on biodiversity because it influences meteorological variables like temperature, precipitation and wind with consequences for many ecological and physical processes. Thus, rapid climate change profoundly changes ecosystems.

3. Ecological Issue

The rapid urbanisation and collapse of urban planning, with increased informalisation of land use and massive expansion of generally low-rise informal housing, have been a major factor in negative impacts on urban environments. However, these trends are paralleled by critical forms of use of land and ecological resources promoted by government, such as permitting inward foreign direct investment to operate virtually free of ecological controls, and to prioritise forms of environmental improvements to higher-income groups, using up limited available budgets in the process. The result is that many urban ecological problems that have been inherited from the colonial period are growing to very

serious proportions and impact on not only the growing urban population but other populations such as those downstream or in the wider environmental footprint of a city or urban region. Some of the issues that pose major ecological sustainability problems include (Paul Jenkins *et al*, 2007:248):

- destruction of the living environments (habitats) of native species
- discharge of polluting chemicals and other materials into the environment
- emission of greenhouses gases into the atmosphere than can cause climate change
- depletion of low cost oil and other fossil fuels

Some ecological issues are largely of local significance while others have regional or even global relevance. Although biodiversity conservation is becoming a general ideal for nations and development agencies, there is no agreement on how much should be conserved, nor at what cost. Usually, when ecological problems arise, the ecological managers work out how to reduce the damage or wastage. But it is not always easy to work out exactly when and where threats will have their effects and often the impacts are hard to reverse. So increasingly ecological managers adopt strategies aimed to prevent damage being done in the first place. A full sustainability policy needs to include actions to prevent threats and impacts from arising, actions to protect the ecology from threats and damage, and restoration to reverse damage already done. Sustainability issues arise wherever there is a risk of difficult or irreversible loss

of the things or qualities of the environment that people value. And whenever there are such risks there is a degree of urgency to take action (Goodland, 1995: 8).

4. Ecological Public Administration

The landscape of public administration both in theory and practice has fundamentally changed in recent years in terms of unprecedented shifts in its ideological underpinning, structural configuration, and normative indication largely based on market-driven assumptions or principles. These paradigmatic changes are encapsulated often as New Public Management that continues to draw considerable attention, especially in the form of divergence-convergence debate. For Fred W. Riggs, the ideas of comparative public administration and its trends examined in this article could be explored in several sources, including the practical context of World War II, the Cold War, and American contemporary diplomacy. More specifically, on the one hand, the Second World War led to the international exposure of American scholars to the administrative systems in non-American settings (especially European and Asian) and made them interested in comparative studies (Haque, 2010).

Fred W. Riggs (1962) in Haque (2010) identified three major trends in the comparative study of public administration. The first trend represents the shift from a normative approach emphasizing the ideal or desirable and universal principles of administrative behavior to a more empirical approach (covering both ideographic and nomothetic studies) based on analyses of actual administrative

situations. The second trend is the transition from an ideographic approach (reflected in studies of a single agency or country) to a nomothetic approach giving greater priority to generalizations, laws, and theory-building based on regular patterns of administrative behavior or institution. The third trend is the shift from a non-ecological approach to a more ecological approach that emphasizes interaction between institutions and their contextual factors such as tradition, culture, and religion (Riggs, 1961).

Biological sciences definition of ecology stated above is a line between living organisms and their natural habitat or environment. Human ecology examines humans and their interactions with their natural environments. Ecology provides greater insight into the evolutionary histories of species and provides contemporary examples of factors that influence historical evolutionary events. When applied to public administration, it means a foundation term for a variety of projects that involve the origin, importance and impact of Public Administration to the environment in which it operates. In effect, it means the influence of all natural, historical, political economic, socio-cultural, religious factors and other major national experiences that influenced the growth and development of Public Administration of any nation. It studies the relationship between the society and its natural environment. It is concerned with the study of how different policies in different parts of the world are parts of the global structure through which one polity exploits or compliments the other. This is necessary since the world is gradually becoming a global village. Political ecology is actually more in line

with the interactions of the society and states rather than the populations and species, as well as politics as it relates to ecological issue.

As a concept, ecological public administration in this context is mostly concerned with how the differences in social, cultural and environmental factor paired with historical experiences affect the way in which public administration is conducted and also how administrative actions affect the society in which it plays a part. Ecology of public administration further means how Public Administration relates with itself internally as well as how it relates with its external environment in terms of politics, social, culture, economy, and technology, legal and so on (Nwamaka, 2012:31).

The first principle of ecology is that each living organism has an on-going and continued relationship with other elements that make up their environment. It should be noted that Public Administration has no universal application rather it has to be analysed within the ecological attributes of each administrative system in which it operates. In order words, Public Administration does not exist in vacuum but rather exists within a socio-cultural and political environment. Richardson and Baldwin (1976) in Nwamaka (2012) collaborates that Public Administrator perceives the problems to be resolved, the alternative possibilities within which choices can be made, the resources to be employed, the support and oppositions to policies and programmes, the client to be served or regulated, the market forces which establishes the cost of goods and services, interest groups that are concerned about what the Public Administrator does, the private and

public institutions all form the environment of public administration (Nwamaka, 2012:32).

The need for ecological policies is ubiquitous in our times. Every state in our world is confronting serious environmental issue. The more industrialized and the larger a society, of course, the more complex are its environmental problems. Shortly, it will be more secure to view public administration as an envionred and contextualized open system, rather than as a closed system. It must keep its wide and flexiblility to be developed to offer more contribution as the dynamic of development studies especially in solving problems (Riggs, 1961).

5. Environmental Sociology

In many aspect, particularly when social and environmental aspect are paired in the concept of sustainable development, actually there has been a concept called “environmentally sociology” that defined as the sociological study of societal-environmental interactions. It simply studies and shows the interaction of human cultures and environment. The focus of the field is the relationship between society and environment in general, but the environmental sociologists mostly studying the social factors that cause environmental problems, the societal impacts of those problems, and efforts to solve them. The field emerged as a coherent subfield of inquiry after the environmental movement of the 1960s and early 1970s. It later transformed to include environmental forces in social explanations (Buttel and Humphrey in Dunlap and Michelson, 2002:33).

There was scattered sociological attention to both urban problems and natural resources issues back in 1970s. However, environmental sociology developed in 1970s as sociology's response to the environmental problems. Sociologist tended to limit their attention to analyzing societal response to environmental problems, rather than examining the problems themselves. But as the attention to environmental issues arised, some sociologists began to look beyond societal and the biophysical environments. Environmental problems such as pollutions, resource scarcities, and overpopulation are the result when human overuse the ability of environment to fulfill their needs (Dunlap and Michelson, 2002).

The focus of environmental sociology which is on the biophysical environment makes the field distinct from others. However, the environment is a complex realm, open to various conceptualizations and operationalizations, and this was diversing the work of environmental sociologists. The environment provides human the resources and basic needs such as clean air, water, food, and shelter. Hence, the ecologists view the environment as providing the *sustenance base* for human societies or as a *supply depot* of natural resources. Many environmental sociologists focus on issues surrounding the extraction, transport, use and conservation of resources such as fossil fuels, forests, and fisheries. Secondly, in the process of consuming resources, human produces waste products. The environment must serve a "waste repository" for these waste products, either absorbing or recycling them into useful or at least into harmless substances. When the waste products exceed an environment's ability to absorb them, the result is pollution. Third, humans need a place to live, and the environment provides them

home as place to live, work, travel, and play. It means that environment functions to provide humans a *living place* or habitat for human populations and the other species (Dunlap and Michelson, 2002).

The issue for the sociologists is to examine how people's thoughts of nature are formed by social processes. It is not seen as the sociologists' task to assume that any particular understanding of nature is the right one. On the side of realist, there are also major differences of opinion about the social causes of environmental and what would have to happen in society to deal with the environmental issues (Beck, 1995:47-51).

D. Suburban

1. Modern Suburban

It is logic to say that as people gain wealth, they usually tend to do the same thing: spread out. A common dream shared among people of all cultures is to have a piece of land to call their own. The suburbs are the place that many urban dwellers turn to because it offers the space needed to satisfy these dreams. A suburb is a residential area or a mixed land use area, either existing as part of a city or urban area, or as a separate residential community within commuting distance of a city. Some suburbs have a degree of administrative autonomy, and most have lower population densities than inner city neighborhoods. Suburbs first emerged on a large scale in the 19th and 20th centuries as a result of improved rail and road transport, which led to an increase in commuting. Suburbs tend to proliferate around cities that have an abundance of adjacent flat land. Any

particular suburban area is referred to as a "suburb", while suburban areas on the whole are referred to as "the suburbs" or "suburbia", with the demonym for a suburb-dweller being "suburbanite" (<http://en.wikipedia.org/wiki/Suburb>).

Geography intern Colin Stief also defined suburbs as the communities surrounding cities that are usually made up of single-family homes, but are increasingly including multifamily homes and places like malls and office buildings. Emerging in the 1850s as a result of a fast rising urban population and improving transportation technology, suburbs have remained a popular alternative to the city even today. Suburbs are generally spread out over greater distances than other types of living environments. For instance, people may live in the suburb in order to avoid the density and untidiness of the city.

Since people have to get around these vast stretches of land automobiles are common sights in suburbs. Transportation (including, to a limited extent, trains and buses) plays an important role in the life of a suburban resident who generally commutes to work. People living in the same suburb usually share similar backgrounds with regard to race, socioeconomic status, and age. Often, the houses that make up the area are similar in appearance, size, and blueprint, a layout design referred to as tract housing, or cookie-cutter housing (UNEP, 2007). Bintarto in Daldjoeni (1987) zoned the interaction of urban and rural area in a concentric model as following:

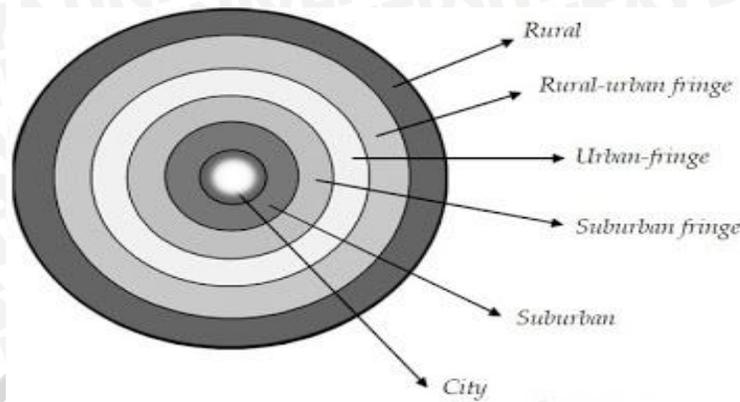


Figure 1. Urban Concentric Model

Source : Bintarto in Daldjoeni: *Geografi Kota dan Desa* (1987).

- a. City: the core of all activities.
- b. Suburb: the area near to the core which usually used as residential area of inhabitants work daily in the core area.
- c. Suburban fringe: the area that surrounds the suburban areas and the an area of transition from urban to rural.
- d. Urban fringe: the border area between urban and rural that has similar characteristic to urban area.
- e. Rural-urban fringe: area whicg is in the path between the rural and urban areas.
- f. Rural: area of villages whose inhabitants live simply culturally.

A major change is underway in where and how we are choosing to live.

Jakarta as a metropolitan cannot solve all its population. A myriad problem of social and environment in the big city made its suburbs growth. The expansion

then made suburb areas developed into a modern area for people to live. Government and the private developed suburb areas become a modern community with all the public facilities and easy access to the core of the city with many public transportation choices. This then made suburb areas become a desirable place for people who work daily in the city but not need to live in the city either. Most people choose to live in modern suburb areas with its complete public facilities and greener area than the core of the city (AusAID; World Bank; Swiss Economic Development Cooperation; BAPPENAS, 2011).

The suburban style of road building, plot provisioning, and separated use zonings associated with higher levels of car ownership and expanding rates of car usage arose, according to Hawken, Lovins and Lovins in Riddell (2004) because 'Current zoning typically mandates land use patterns that maximise distance and dispersion, forbid proximity and density, segregate uses and income levels, and require universal car traffic'. Kenneth Jackson in Riddell (2004) identifies four distinguishing characteristics of the settler society suburban experience:

- A strong penchant for home ownership.
- A widening disparity between residents of central cities and those of their surrounding suburbs.
- The (considerable) length of the average journey-to-work.
- The absence of sharp divisions between town and country.

A characteristic of all that is conventionally suburban is conformity. Indeed monotony toned up as conformity is structurally laced and patterned into

'grey' suburbs displaying a repetitive permutation of streets, houses, berms, yards and lawns – all different, yet in reality very much the same. For a big city, suburbs is very important as its buffer. That is also the reason of why planners today give much concern on suburban (Riddell, 2004:222).

2. Garden City

It is important to understand what is “garden city” since Bintaro Jaya claimed that it is the first in Indonesia to adopt that concept. It is Ebenezer Howard's Garden Cities that marked the beginning of large-scale comprehensively planned new communities. Howard set out details of a new form of settlement, called the 'garden city' in his book *Tomorrow: A Peaceful Path to Real Reform*. Howard was skeptical about central government involvement, putting his trust instead in voluntary effort (The Town and Country Planning Association, 2011:7).

Comprehensively planning a new place, whether as a stand-alone village, a market town or an extension of an existing settlement, provides a unique opportunity to shape the physical form and social fabric of the community. The garden city are underpinned by a famously strong vision. A garden city city is a town designed for healthy living and industry, of a size that makes possible a full measure of a social life, but not larger; surrounded by a rural belt, the whole of the

land beng in public ownership, or held in trust for the community (M. de Soissons in The Town and Country Association, 2011:16).

The Commission for Architecture and the Built Environment (CABE) has summarized the elements in making a successful place as follows (The Town and Country Association, 2011:19):

1. The quality of the buildings and spaces and their management;
2. The way that these come together to create unique places;
3. Built form in relation to history, culture and landscape;
4. The provision of services;
5. The engagement of local people and users in defining and being involved in the process of change;
6. The economic and financial realities; and
7. The role of different agencies in delivering investment and change.

It is not an easy task for developers and government. So flexibility must be built into the action as unforeseen circumstances are always likely to arise. The first major challenge in delivering a masterplan lies in the unexpected changes that may occur during development – from lifestyle changes that make original concepts outdated, through to changes such as a major road having to be diverted along a different route, affecting the movement of traffic. Secondly, there is the need for adaptability in the built environment to cope with the requirements of changes in technology and lifestyle (The Town and Country Association, 2011:22).

3. Bintaro Jaya as Jakarta Modern Suburban Community

Many residents of metropolitan regions work within the central urban area, and choose to live in satellite communities called suburbs and commute to work via automobile or mass transit. Others have taken advantage of technological advances to work from their homes. Due to the difficulty and expense of assembling land, there is a tendency for modern residential community projects to locate in outer suburban areas. Industrial development has also expanded into the suburban fringes of the Jakarta Metropolitan Region, since it is also easier and cheaper to assemble land in these areas. The expansion of the toll road system has facilitated this spatial restructuring. With the expansion of the toll road system, Jakarta is transforming itself from a monocentric to polycentric spatial structure (AusAID: World Bank: Swiss Economic Development Cooperation: BAPPENAS, 2011).

Bintaro Jaya is satellite city of Jakarta develop by PT. Jaya Real Property Tbk. Some often said that Bintaro Jaya is one of the most success satellite city ever built near Jakarta. The city formed in 1979 and grew as Jakarta-Bintaro toll road project finished. Earlier, Bintaro Jaya was in South Jakarta only but then it became bigger and reached out Tangerang and South Tangerang.

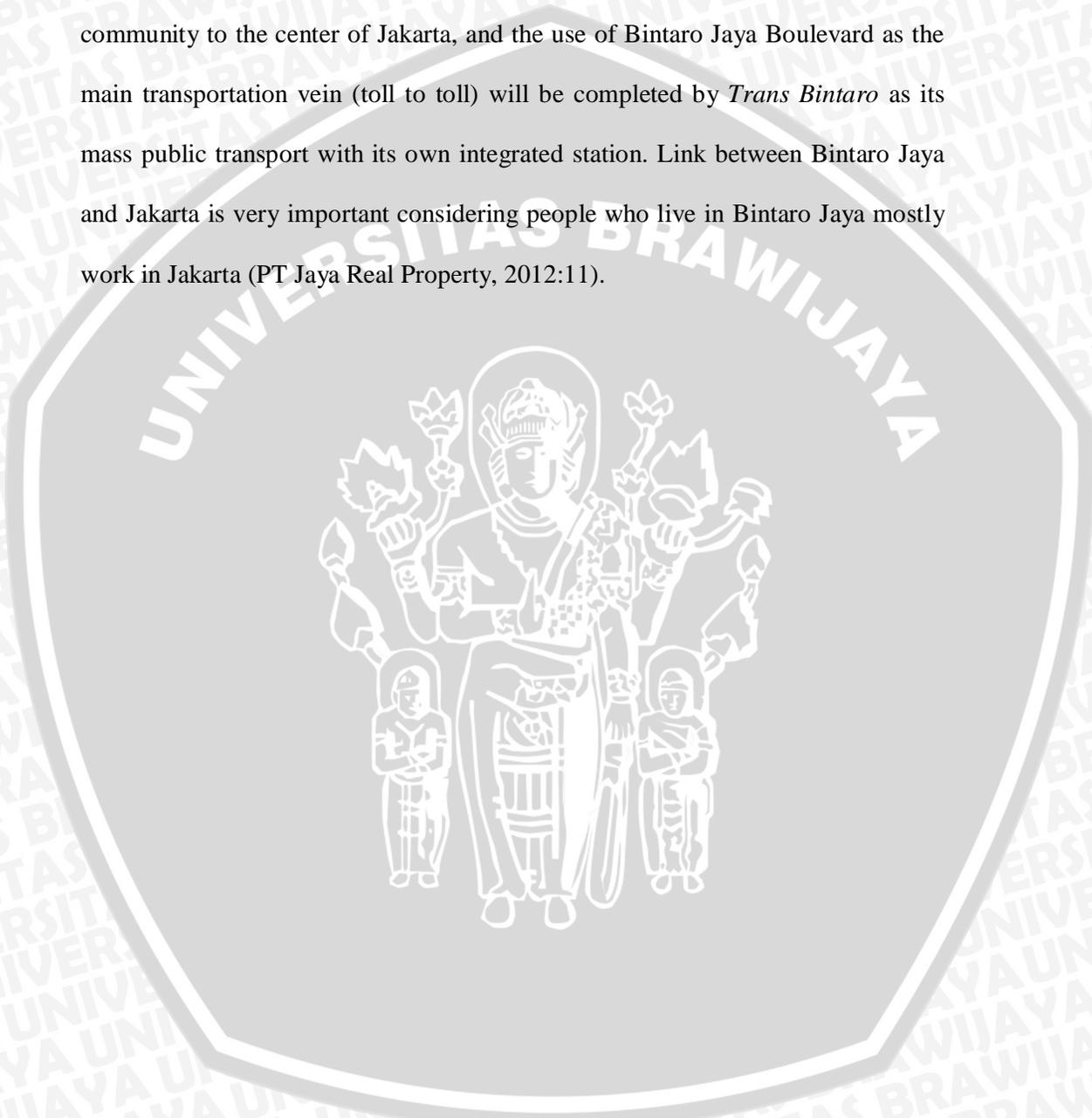
Located in South Tangerang, Bintaro Jaya has many accesses to its surrounding area. Buses, minibuses and taxis are the main methods of transportation available. The public transportation mostly goes to Jakarta since many of the residents of South Tangerang commute into Jakarta. There are feeder

buses for Transjakarta. The feeder buses are from Bintaro Jaya to downtown Jakarta in Senayan. There are two toll roads servicing the city, namely Jakarta-Serpong Toll Road and Jakarta-Tangerang Toll Road. There are also several toll roads currently under planning. The plans are for a Serpong-Balaraja Toll Road which will continue the Jakarta-Serpong toll road, and Jakarta Outer Ring Road 2 which will be connecting the city to Soekarno-Hatta International Airport in the near future (South Tangerang Municipality, 2013:12).

Bintaro Jaya as a proud project of PT Jaya Real Property Tbk with 2000 hectares of land, it is the first to promote the concept of *garden city* in Indonesia. Today, Bintaro Jaya uses *The Professional's City* as its tagline to focus as the best choice for professionals of Jakarta to live. Supporting facilities and physical environment designed and developed by concerning environmental sustainability (PT Jaya Real Property, 2012:7).

Environmental issues have a big impact in the development of Bintaro Jaya. Entering the age of 35, developer of Bintaro Jaya develops the housing concept called *ECOMmunity*. ECOMmunity is a community with new lifestyle that is more caring and friendly to the environment. With environment as its major focus, ECOMmunity provides features and facilities that consist of Energy Care, Earth Care, and Health Care. Health Care features provide clean air and healthy water. Earth Care features promote soil and forest conservation by minimizing the use of woods and preserve earth resources. Energy Care features help community to safe energy hence minimize the electricity cost. This is certainly the strategy on micro level. On the macro level, to create a sustainable environment for the

people, the developer through the master planning creates more green open space (RTH) and reduces the use of private car. Busway feeder linking Bintaro Jaya community to the center of Jakarta, and the use of Bintaro Jaya Boulevard as the main transportation vein (toll to toll) will be completed by *Trans Bintaro* as its mass public transport with its own integrated station. Link between Bintaro Jaya and Jakarta is very important considering people who live in Bintaro Jaya mostly work in Jakarta (PT Jaya Real Property, 2012:11).



CHAPTER 3

METHOD OF RESEARCH

A. Type of Research

This research aims to describe and understand strategies in the development of Bintaro Jaya towards ecologically sustainable development. This research uses qualitative research method by using descriptive approach. Qualitative data are a source of well grounded, rich descriptions and explanations of processes in identifiable local contexts. With qualitative data one can preserve chronological flow, see precisely which events led to which consequences, and derive fruitful explanation (Miles and Huberman, 1992). Qualitative researchers feel strongly that a person's experiences, perceptions, and social interactions are not reducible to numbers and categories. They are much too complex and situated in the context of a person's life. The researcher must attempt to understand experiences, perception, and social interaction must enter into a person's life-world and let the participant's words and accounts lead the researcher to understandings that would remain hidden without deep and open-minded exploration (Munhall, 2007). Thus, qualitative researchers go into their exploration with as few assumptions as possible.

Descriptive research has their roots in philosophy and the human sciences, particularly in history, philosophy and anthropology. The methodology centres on the way in which human beings make sense of their subjective reality and attach

meaning to it. Social scientists approach people not as individual entities who exist in a vacuum but explore their world within the whole of their life context.

B. Focus of Research

Research focus is very important in determining the bounds of the research so the researcher can surely know which data that is related to the research and which data that is not related to the research. Based on that reason, this research focuses on environmental sustainability in Bintaro Jaya area, South Tangerang, exactly in the aspect of ecology. The descriptions are:

A. Development planning in Bintaro Jaya area:

1. Physical development of Bintaro Jaya.
2. Provision of public and social facilities in Bintaro Jaya
3. Impact of the development in Bintaro Jaya to its community

B. Application of ecologically sustainable development in Bintaro Jaya area:

1. Application of ECommunity program.
2. Coordination of related stakeholders in the process of developing an ecologically sustainable development in Bintaro Jaya area.
3. Result of the application of ecologically sustainable development in Bintaro Jaya.

C. Inhibiting factors and supporting factors in the process of developing an ecologically sustainable development in Bintaro Jaya area:

1. Internal and external inhibiting factor.
2. Internal and external supporting factor.

C. Location and Site of Research

Research location is a place where the phenomena observed. While research site is a place where researcher can observe the real condition of the object, where the research can be data and information that needed for the research aims. Location that has been chosen for this research is in Bintaro Jaya. Bintaro Jaya has been chosen for it is the first community in Indonesia that developing a *garden city* concept. As a suburb area of Jakarta, Bintaro Jaya has a distinct condition environmentally.

Following the research location and problem statements, the settings of the research are PT. Jaya Real Property as the developer of Bintaro Jaya and the housing area in Bintaro Jaya.

D. Type and Source of Data

1. Primary Data

A research needs data to describe and to answer research questions. The data is facts obtained in the process of this research. In this research, researcher used two types of data; primary data and secondary data. Primary data obtained by direct observation from the informan which used to support the analysis. Primary data of this research is collected from the Government of South Tangerang and PT. Jaya Real Property as the developer of Bintaro Jaya area. The data from the

local government is needed in order to get detail information about development planning in South Tangerang. The data from PT Jaya Real Property is required in order to get a clear view of how Bintaro Jaya developed from the beginning, how then it becomes a sustainable area environmentally and how the developer maintains it.

2. Secondary Data

Secondary data is data obtained by researcher from documents, mass media, journals, reports, and articles, ditinjau dari kebutuhan penelitian whether it is publicized or not. The supporting documents are The Directory Book of Bintaro Jaya 2012, Report of ECommunity Program, South Tangerang Municipality Profile Book 2013, South Tangerang Urban Spatial Planning (RTRW) 2011-2016, South Tangerang Medium-Term Regional Development Plan (RPJMD) 2011-2016, and South Tangerang in Numbers 2013.

E. Techniques of Data Collection

Techniques of data collection are the way used by researcher to get data and information from research location and setting about the observed phenomena.

The researcher perceived there are needs to use some techniques as follows:

1. Interview

Researcher will do an interview by asking questions directly about the concept of environmental sustainability in Bintaro Jaya community to its developer. The interview will be face-to-face with the informant dialogically so that researcher will get an accurate data.

2. Observation

Researcher will observe the situation in research location environment and community to see the implementation of sustainable environment.

3. Documentation

Documentation will be done by examining sources of data on location. Report of the developer, old documents and pictures about the development of Bintaro Jaya are the examples of data that researcher will examine.

F. Research Instruments

Research instruments are tools used by researcher to collect data and information about the issue that became researcher's object. It helps researcher to answer questions and gain aims of research.

1. The researcher

The key instrument of this research is the researcher itself by doing the research and study directly about phenomenon happens in research location and settings.

2. Support tools

Help when doing observation, interview or research action. The tools are laptop, notebook, recorder, and stationeries.

3. Interview guide

Interview guide is a list of questions that will be asked to the developer and community of Bintaro Jaya.

4. Field note

Field note is needed to write about what happen in research location so the researcher will not forget the phenomenon happened while doing his research.

G. Data Analysis

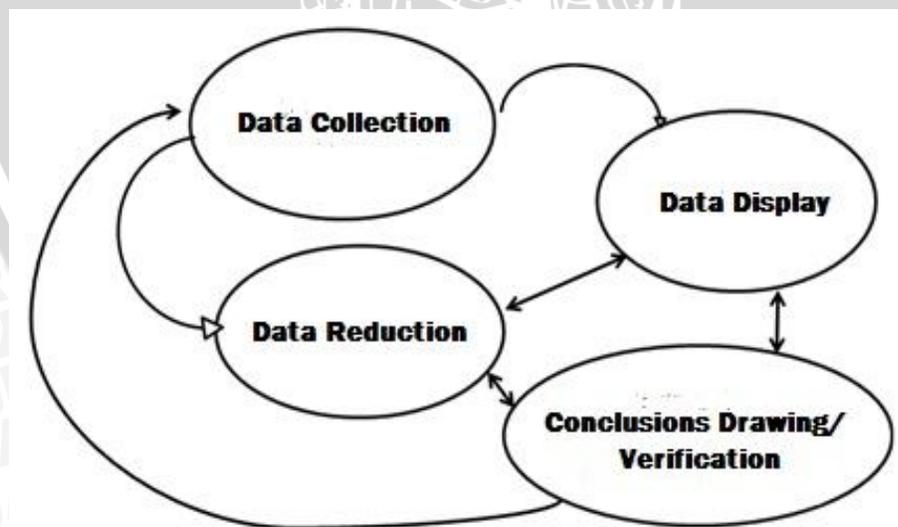
Miles and Huberman (1992) observed that qualitative analysis comprises three concurrent flows of activity: data reduction, data display, and conclusion drawing/verification'. As the research is a qualitative research which is process-oriented and the conclusions will be obtained in this study is tentative, it is necessary to choose the most suitable methods of data analysis to ensure that the data is treated thoroughly and the conclusions drawn can be substantiated. Miles and Huberman (1992) developed a model of data analysis that assists the researcher by providing a visual reference as to how data can be tackled.

The model below presents analysis as a continuous, iterative process involving four phases that constantly impact upon each other and are carried out simultaneously. These four phases will be integral to this study and their application is explained as follows:

1. *Data Collection*: Data for this research will be collected by doing interview, observation, and documentation in Bintaro Jaya.
2. *Data Reduction*: Researcher will select, summarize, and focus on important points. Data reduction will be going until the research finished.

3. *Data Display*: Researcher will display all information and data as a clear picture before the conclusion made. This will helps researcher to see comprehensively what is going on in Bintaro Jaya about its ecological sustainability.
4. *Conclusions drawing/verification*: Verification and conclusion in qualitative research is continuously along the research process. It starts from the first step researcher doing this study, collecting data, analyzing data, finding pattern, hypothesis and making conclusion, they are all tentative. By the enrichment of data and information in the verification process, the grounded conclusion can be made (Miles and Huberman 1992:16)

Figure 2. Components of Data Analysis: Interactive Model from Matthew B. Miles and A. Michael Huberman



Source: Miles and Huberman (1992: 12)

BAB IV

DATA DISPLAY AND DATA ANALYSIS

A. Overview of Research Location

1. Overview of South Tangerang Municipality

a) Geographical Condition of South Tangerang Municipality

South Tangerang Municipality is a city of the youngest officially secede from 2008 from Tangerang District, located in the eastern part of Banten Province is geographically located between 6°39' - 6°47' south latitude and 160°14' - 160°22' East longitude with an area of 147.19 kilometers square (km²), or by 1.63 percent of the total area of Banten Province. South Tangerang Municipality passed in the house of representatives plenary meeting RI Wednesday, October 29, 2008 with the enactment of Act No. 51 of 2008, after a long struggle since 2000 through the discourse formation of City Cipasera. The expansion is done with a purpose to improve the service in bureaucracy, development, social, and to improve the ability in optimizing regional potency.

Below are the boundaries of South Tangerang Municipality:

- In the north are boundaries by Tangerang Municipality and DKI Jakarta.
- In the east are boundaries by Depok Municipality and DKI Jakarta.

- In the south are boundaries by Bogor Regency and Depok Municipality
- In the west are boundaries by Tangerang Regency.

The territory of South Tangerang Municipality crossed by some rivers, they are Angke River, Pesangrahan River, and Cisadane River as its administrative boundaries in west. Geographical location of South Tangerang Municipality which bordered by DKI Jakarta Province at the north and east give some opportunity as a satellite for Jakarta. South Tangerang Municipality also connects Jakarta to Banten Province and Banten Province to West Java Province. Pondok Aren is the largest district in South Tangerang Municipality with total area of 29,88 square kilometer, meanwhile Setu is the smallest district with total area of 14,80 square kilometer.



Figure 3. Map of South Tangerang Municipality
Source : *South Tangerang Municipality Profile 2013*

Below is the table of each district percentage in South Tangerang. By the strategic location, South Tangerang City grows into a developed city.

Table 2. Land Use in South Tangerang Municipality

No	District	Total Area (Ha)	Percentage of City Total Area (%)
1	Serpong	2404	16,33
2	Serpong Utara	1784	12,12
3	Ciputat	1838	12,49
4	East Ciputat	1543	10,48
5	Pamulang	2682	18,22
6	Pondok Aren	2988	20,3
7	Setu	1480	10,6
South Tangerang		14719	100

Source : *Tangerang Selatan City Profile 2013*

Most of South Tangerang Municipality area is lowland and relatively flat topography with an average slope of 0 – 3% while the height of the area between 0 – 25 m above sea level. The outline slope consists of two, they are:

1. The slope of 0 – 3 % covers Ciputat District, East Ciputat District, Pamulang District, District dan Serpong Utara District.
2. The slope of 3 – 8 % covers Pondok Aren District and Setu District.

South Tangerang Municipality is relatively flat. Some districts have undulating land like at the border between Setu District and Pamulang District also some parts in East Ciputat District. Geologically South

Tangerang Municipality is alluvium rock, which consists of clay rock, silt, sand, gravel, and boulders. This rock type is *workability* in its use. Its element of resistance to erosion is good enough therefore South Tangerang city area is still quite viable for urban activities.

Considered from the distribution of soil types, South Tangerang generally suitable for agricultural/plantation because the red latosol association and reddish brown latosol. However, in fact there are changing in its using for non-agricultural activities. For some region like in Serpong District and Setu District, the soil type contains sand particularly in the area close to the Cisadane River.

Climate conditions based on info from Observation Station of Region II Ciputat at coordinates $06^{\circ} 18' 15.2''$ South Latitude - $106^{\circ} 45' 38.2''$ East Longitude and elevation of 41 meters in 2012, are data about air temperature, humidity and the intensity of the sun, rainfall and average wind speed. Air temperature is on average $26,7^{\circ}\text{C} - 28,6^{\circ}\text{C}$ with the minimum in July on $23,8^{\circ}\text{C}$ and maximum air temperature in September on $35,4^{\circ}\text{C}$. Average humidity is 79.1%, while the state of highest rainfall occurs in January, which is 430.7 mm, while the average rainfall is 182.9 mm in a year. The highest rain days in January with the rain as much as 28 days.

b) Local Government Administration

In its regional administration, South Tangerang Municipality has devices like districts which consisting of multiple sub-districts. South Tangerang Municipality has 7 districts with total of 54 sub-districts. While there are 711 neighborhood association and 3.650 neighborhood sub-associations. District with most sub-district is Pondok Aren with its 11 sub-districts. The table below shows the number of district in South Tangerang Municipality:

Table 3. Number of District in South Tangerang Municipality

No	District	Sub-district	Neighborhood	Sub-neighborhood
1	Serpong	9	106	440
2	Serpong Utara	7	101	438
3	Ciputat	7	104	533
4	Ciputat Timur	6	79	443
5	Pamulang	8	155	796
6	Pondok Aren	11	126	789
7	Setu	6	40	211
	Total	54	711	3650

Source : *South Tangerang Municipality Profile 2013*

Since the establishment of the South Tangerang Municipality, local government organizational structure has undergone several changes. According to Regional Act. 6 of 2010 on Regional Organization of South Tangerang Municipality, the Regional Working Units (SKPD) of South

Tangerang Municipality consists of Regional Secretariat, the Secretariat of Regional House of Representatives, KORPRI Governing Council Secretariat, Inspector, Civil Service Polic Unit, 7 boards, 13 office, 5 bureaus, 7 districts, and 1 Regional Public Hospital.

c) Population

Number of population is asset of a region which has a significant role in determining the accelerated development of the region if it is supported with good quality. Population of people has two important role economically as producer and consumer. A growth of population itself determined by birth rate, death rate, and migration.

According to 2010 population census projection result by South Tangerang Central Bureau Statistic, population of South Tangerang by 2012 is 1.405.170 people. Male population is 708.767 while the female population is 696 403. The sex ratio is 101,78, which means that male population is bigger than female population in South Tangerang.

With total area of 147,19 km², population density of South Tangerang reaches 9.547 people/km² by 2012. Highest density is in Ciputat District with 12.341 people/km² while the lowest is in Setu District with 4.914 people/km². High population density due to the trend of increasing population from time after time, that is not only caused by natural growth of

birth rate, but also by the tendency of migration into South Tangerang for its choices of housing which geographically strategic as Jakarta suburban community. The migration includes people who move from Jakarta. This makes South Tangerang needs more adequate space with new jobs to offset the increase of labor.

d) Space Utilization in South Tangerang

Mostly space in South Tangerang Municipality utilized for medium-density housing with 38,17% of the total land. Low-density housing in the second place with 23,62% of the total land. Garden or fields on the third place with 15,04%. The smallest land is utilized for state defense and security with 0,42% of the total land. There are three huge land developer in South Tangerang which are Bumi Serpong Damai (BSD), Bintaro Jaya, and Alam Sutera. To 2010, there are 192 housing neighborhood either independent neighborhood or a cluster from cluster of large-scale housing neighborhood scope. South Tangerang Municipality spatial pattern is divided into two areas, namely:

1. Protected Zone

protected zone is the area defined by the primary function of protecting the living environment which includes natural resources, artificial resources, and historical and cultural values of the nation for the purpose of sustainable development. Protected

area include local protected areas in the form of rivers and its riparian, ponds and its border, border of gas pipeline, border of high pressure airway, railway line border, and road border.

2. Cultivation Zone

a. Industry Zone

Zone for industrial development, including small and household industries and creative industries. Small industrial activities and domestic industries can be developed in residential areas with the provision that it does not cause negative impacts on the environment and the surrounding region, while the area of creative industries in all regions of South Tangerang city with the provision that the industrial activity does not result in negative impact on the environment and surrounding region.

b. Tourism Zone

Development of tourism zone covers natural tourism development and recreation which directed to Cisadane River, Lake Gintung, Lake Ciledug, Lake Pondok Jagung, city park, and urban forest, development of shopping destination directed to Pondok Aren District, Serpong District, and East Ciputat

District, also development of culinary tourism in Serpong District, North Serpong District, and Pondok Aren District.

c. Settlement Zone

Distribution of the planned residential areas are:

- Medium Density Housing Areas

Distribution of planned medium density housing areas in South Tangerang City by 2030 covers Pondok Aren District, Ciputat District, East Ciputat District, and Pamulang District

- High Density Housing Areas

Distribution of planned high density housing areas in South Tangerang City by 2030 covers North Serpong District, Serpong District, Setu District, Pondok Aren District, and Ciputat District.

d. Trades and Services Zone

Regional development plan that is intended trade and services consist of traditional markets, modern shopping malls and stores. Traditional market covers Ciputat Market in Ciputat District, Ciputat Permai Market in Ciputat District, Bintaro Sector 2 Market in East Ciputat, Serpong Market in Serpong District, and Gedung Hijau Market in North Serpong District,

then the shopping center covers development of regional-scale trading cities such as wholesale trade and large market set in Serpong District, Ciputat District, East Ciputat District, Pamulang District, and Pondok Aren District and development of home-shaped stores trading area all secondary arterial roads and secondary collector roads, while the modern stores set by mayoral regulation.

e. Office Zone

Office zone Office Zone is an area which functioned to the governance activities of village level to the city level. The areas designed for governance offices covers Ciputat District, Setu District, Serpong District, while district office spread in each district as well as the sub-district offices.

Direction of space utilization consists of main program indication, funding source indication, activities implementor indication, and implementation time. The indication of main program of space utilization includes include an indication of the main embodiment of the structure of space programs and main program indication embodiment of space pattern. Indication of funding resources consists of governmental fund, Government

of Banten Province, South Tangerang Municipality, private, and community.

Indication of implementation time consists of four stages as follows:

1. First stage, year 2011-2015, prioritized on regional development acceleration;
2. Second stage, year 2016-2020, prioritized on regional development equity;
3. Third stage, year 2020-2025, prioritized on optimizing space utilization; and
4. Fourth stage, year 2026-2030, prioritized on sustainability of spatial use.

Meanwhile, South Tangerang city was also wary of the existing potential disasters, includes embankment breaches from the ponds and flood. South Tangerang has nine ponds spread over five districts. In 2009, occurred a disaster when Situ Gintung broke down and killed many of people. Gintung Pond collapse that claimed lives and properties. Flood-prone areas, generally located in the area around the Pesanggrahan River, Ciputat River, and Angke River which cause by the overflow of its water especially during the rainy season. Besides, flood also caused by drains that not functioned well. Here is the list of reservoirs in South Tangerang Municipality:

Table 4. Number of Reservoirs in South Tangerang Municipality

No	Name	District	Capacity (m ³)
1	Parigi	Pondok Aren	10500
2	Bungur	Ciputat	6500
3	Kayu Antap	Ciputat	3260
4	Rompong	Ciputat Timur	3480
5	Legoso	Ciputat	8000
6	Gintung	Ciputat Timur	42980
7	Pamulang	Pamulang	50640
8	Ciledug	Pamulang	62880
9	Pondok Jagung	Serpong Utara	15900
South Tangerang			204140

Source : RPJMD of South Tangerang Municipality 2011

e) Education in South Tangerang Municipality

One of the macro indicators of development is Human Development Index (IPM) which is the size of the development in the fulfillment of the three elements, those are opportunities to live long and healthy, opportunities to live long and healthy, adequate knowledge and skills and the opportunity to realize knowledge in productive activities. Tangerang Selatan Human Development Index by 2012, based on preliminary calculations of South Tangerang Statistic Bureau is 76,61, increased from previous index, 76,01. The index number falls into the category of "high" and was ranked first in the Banten Province.

Education is an important sector in terms of improving the human quality. Indicator of education are Literacy Rate (AMH) and Average Length of School (RLS) which used as variables in calculating Human Development Index in addition to health indicators and economic indicators. Literacy Rate of South Tangerang by 2012 according to Central Statistic Bureau is 98,51% (increased 0,32% from previous year that was 98,19%) while the Average Length of School by 2012 is 10,98 years (increased from the previous year that was 10,70 years).

In terms of infrastructure, there are still many things that need to be improved. Today there are 208 primary schools, 20 junior high schools spread in South Tangerang where 17 schools has been operated and 3 under construction in Serpong District, Pamulang District, and Setu District. Total number of senior high school today is 12 units and 5 vocational schools. In 2013, total of state primary school classroom is 3.195 units with 167 units in rehabilitation process and 42 under heavy rehabilitation while the need of new classroom is 848 units; total classroom of junior high school is 395 units of 440 units required; total classroom of senior high school is 248 units of 277 required; while total classroom of state vocational school is 63 units of 91 required.

In an effort to reduce the burden of financing public education, besides distributing School Operational Assitance from the central

government, South Tangerang Government in 2013 has given Regional School Operational Assistance (BOSDA) to 208 primary schools more than Rp 32.6 billion, BOSDA for 17 junior high schools is more than Rp.15 billion and Education Assistance Fund (DSP) to 12 senior high schools and 3 vocational schools about Rp10,1 billion

In terms of higher education, there are 19 units of college and academy in South Tangerang such as UIN Syarif Hidayatullah, State College of Accountancy (STAN), Indonesia Technology Institute, Bina Nusantara, and Jakarta Muhammadiyah University (UMJ).

f) Health in South South Tangerang Municipality

A development success in health can be seen in public health level that is one of human development indicators. One of health indicator is Life Expectancy (AHH) that estimate the average length of life population assuming no change in the pattern of mortality by age. This indicator in its calculation obtained from Ever Born Numbers (ALH) and Still Live Numbers (AMH). Both of these numbers Both numbers are greatly affected by the health condition of the reproductive health of infants and mothers. Health service and facilities related to it are very important. Based on preliminary calculation of Central Bureau Statistic of South Tangerang, AHH of South Tangerang by 2012 is 68,77 which indicates that people of South Tangerang that born in 2012 on average can reach 68,77 years of age.

In addition to the macro indicator, health condition of people also can be seen by nutritional condition of infant, health condition of mother, health of poor family, and the health of older adults. Viewed from nutritional condition of infant, there are still infant with poor nutritional status which certainly must be receive more attention from the government. From 104.645 pondered infants, 93,87% of them is in good nutritional condition, 0,24% in poor condition, 4,21% in malnutrition condition and 1,68% is over nutrition. Although most of the infants are in good nutritional condition, there are still 4,45% of the total infant that must receive more attention and special intervention in terms of nutrition.

According to data of South Tangerang Department of Health that based on data from all Community Health Center (Puskesmas), in 2012 the visit of expectant mother is 29.580 people, and maternal mother is 28.220 people. There are much enough maternity hospital and private midwife practice also there is Basic Emergency Obstetric Neonatal Training (PONED) service. Health facility is social facility which is very important in developing health human. Therefore, development in health is done by health infrastructure fulfillment and also health service to community. Health service on community is done by Public Health Insurance (Jamkesmas), Regional Health Insurance (Jamkesda) for the poor family and health service on infant by Integrated Health Post (Posyandu). In addition, South Tangerang

Municipality always improves the service of General Hospital, Puskesmas, Pustu, and Poskesdes.

There are still much number of poor family that needs help in health. The total of Jamkesmas user is over the target, from 88.544 people of Targeted Family, included people on Jamkesmas program is 113.632 people. However, based on integrated basic data for the Social Protection Program of 2011, that in 2012 there is still 2,65% from the Targeted Family that still not covered by the health insurance. The elderly people that receive health service assistance is 65.459 people.

Health facilities in South Tangerang are hospital, community health center, clinic, and integrated health post. Total of integrated health post is 821 units consists of Posyandu Pratama, Madya, Purnama, and Mandiri with status active and total cadre of 673 staffs. Currently there are 24 hospitals in South Tangerang. One of them is Regional General Hospital located in Pamulang District. On its first development stage, the hospital has given health service to community with capacity of 66 beds for Class III hospitalization. In the year 2013 the target will have 250 inpatient beds by 22 specialist doctors and 2 dentists, as well as the existing infrastructure will be able to provide good Jamkesmas and Jamkesda service to people especially disadvantaged people. While 23 units of other hospital own by private sector. The existing of private hospital follows the existing urban core and grows

generally to serve housing residents that classified as upper middle class spread in every district in South Tangerang. There are also international hospital in South Tangerang such as Bintaro International Hospital, Omni Hospital in North Serpong, and Eka Hospital.

By 2012, total of Community Health Center (Puskesmas) is 25 units. Puskesmas with nursing place is 21 units 25 beds, 14 units of Puskesmas Branch, and 7 Mobile Puskesmas. In addition, there are also Clinis, Doctor Practices, and Maternity House. In terms of health service, South Tangerang government also releases health card starts from September 2013 simultaneously. In all Puskesmas have started free health care both outpatient and inpatient care for all citizens by showing only Citizen Identity Card as proof of citizen of South Tangerang. This is done solely to improve the health of the people of South Tangerang.

Infectious diseases are still a problem that should receive serious attention. Diseases listed by the Department of Health include dengue fever, filariasis, tuberculosis, HIV, AIDS, pneumonia in young children, sexually transmitted infections, diarrhea, leprosy, diphtheria and measles. The disease with the highest incidence rate in 2012 was pulmonary tuberculosis with 23.113 occurrences and diarrhea with 18.581 occurrences. Other diseases with a large enough number of cases was pneumonia in infants (4,705 occurrences) and dengue fever (780 occurrences). In 2012, there are 31

occurrences of HIV/AIDS recorded in South Tangerang community health center. Allegedly there are still many patients who seek treatment in hospitals both within and outside the area of South Tangerang City and iceberg phenomenon that usually occurs in this disease.

g) Transportation in South Tangerang Municipality

Road is one of the most important infrastructure as a factor in the attractiveness of investment in an area. Based on data from the Department of Highways and Water Resources of South Tangerang City, the total length of roads in South Tangerang City is 683.60 km with details 9,16 km is state road, 48,9 km is province road, 137,78 km is city road, and 487,76 km is village and neighborhood road.

According to Department of Transportation, Communication and Informatics, that in 2012 South Tangerang does not yet have a terminal, so still a lot of public transportation vehicles parked on the roadside to wait for passengers or dip that is usually located around the markets, stations, residential complexes and crossroads. This situation lead to congestion on many roads. Critical points of jams is 64 points that commonly happens around crossroads or market. These points are scattered throughout the district and most are in Pondok Aren, North Serpong and Ciputat.

Commuter line (KRL) stations are 5 and spread in most districts like Serpong (Pasar Serpong Station dan Rawa Buntu Station), Pondok Aren (Jurangmangu Station), Ciputat (Sudimara Station) and East Ciputat (Pondok Ranji Station). KRL that passes is passanger KRL and freight trains. This mode of transport chosen by many people of South Tangerang who move to Jakarta in their daily activities due to a variety of considerations such as cheap, fast, and the location of the stations adjacent to their workplace. Big number of commuters require mode of mass transportation that is fast, convenient, and inexpensive that can attract commuters to use it so they do not use vehicles especially cars so that it can reduce congestion and air pollution. KRL is one of alternatives that can be used considering the electric railway network is right in the middle of South Tangerang city.

According to the study result of South Tangerang Commuter Worker by 2011, viewed from the alternative modes of transportation, the most preferred by community for personal use is two-wheeled vehicles with percentage of 48,7%. This is likely due to the travel time that relatively faster than other transport modes. Railway transportation is also suspected of getting selected by the increasing quality of service and capacity of KRL and increasing levels of road congestion. Planning of railway network for KRL must be start by designing should begin designed with attention to the points in the residential location of stations, siting and planning of the overall

transportation system that incorporates a variety of transportation models so that it becomes more and more modes chosen by the community.

h) Energy and Telecommunication in South Tangerang Municipality

In addition to transport infrastructure, energy-related infrastructure and telecommunications is also very important. In South Tangerang City, there are four service offices of State Electricity Company (PLN), they are Serpong, Pondok Aren, Ciputat, and Pamulang. Electrical substations are 61 units with 195.352 electrical connections. In every district there are more than 15.000 electrical connections except in Setu where there are only 9.686 connections. Gas Station (SPBU) are often found in the centers and major roads. In South Tangerang City there are 54 gas stations spread across the districts. Serpong and Pamulang are district with most number of gas station with 12 and 13 units of gas station. While Setu and Pondok Aren only have respectively 2 and 3 units.

Related to telecommunications, there are 5 Telkom offices spread in 4 districts. There are 377 telecommunication tower while telephone connections are 108.529 lines. Telephone lines are most numerous in Pamulang with 26,447 connections while Setu is the fewest with 5.381 lines. There are quite a lot of internet cafes in South Tangerang as many as 338 cafes.

i) Utility in South Tangerang Municipality

According to the Department of Sanitation, Parks and Cemetery of South Tangerang, currently there are 26 Integrated Waste Disposals (TPST), which by 2012 has been able to transport 93 m³/day of market waste, 57 m³/day of street litter while household garbage by standard of upper middle settlement, waste generation rate is assumed to be as much as 2.5 to 3.2 liters/person/day, then the waste generation in 2012 with population number 1.405.170 reaches $\pm 3.512,93 - 4.496,54$ m³ waste.day.

In terms of water supply services, piping network in South Tangerang was still served by PDAM Tirta Kerta Raharja Tangerang Regency. The number of water consumers by 2011 in region IV is 8760 direct lines and 9 direct lines of bulk water. In residential areas, water service is given by the developer through deepwell pump, which means still using ground water. Similarly, people living in non-residential areas also use water pump to get ground water for daily activities.

j) Industry, Trading, and Services in South Tangerang Municipality

Industry is not a major sector that drive the economy of South Tangerang. However, its role is still bigger than primary sector such as agriculture. There are some kind of industries in South Tangerang such as convection industry, food and drinks, papers, printing and publishing, industrial electronic devices and the components, as well as electrical tools

and the components. Based on Foreign Investment (PMA) and Domestic Investment (PMDN) data there are some national-scale investors, in 2012 there are 216 foreign companies with details of the amount of investment registration and permit investment principles as much as 148 companies, investment business license as many as 19 companies, and based on LKPM as much as 49 companies. Domestic Investment company number is 24 consists of applicants and permit investment investment principle by 10 companies, investment business license by 2 companies and LKPM by 12 companies. This indicates that South Tangerang remains a destination for potential investors to invest their capital. The PMA investment value by 2012 is bigger than the PMDN value. The PMA value is US\$. 2.934.539.497,6,- while PMDN value is Rp. 340.687.976.000,-.

Trade and services sector contributes significantly to the economy of South Tangerang City. Trade and services activities are spread almost in all regions of South Tangerang City. However, the most prominent is a trading and service corridor along the main roads such as Jalan Raya Serpong, Jalan Raya Ceger, Jalan Raya Bintaro Utama – Jalan kesehatan, Jalan Raya Pondok Betung - Jalan Raya WR Supratman, Jalan Raya Pamulang – Ciputat, Jalan Raya Pamulang – Pondok Cabe dan Jalan Raya Ir. H Juanda (Ciputat Raya).

Trading facilities and services are available in the form of markets, both modern and traditional, banks, credit banks, cooperative units, shop complex and minimarts. Traditional market located on land owned by local governments is 6 units, those are Pasar Ciputat, Pasar Ciputat Permai, Pasar Jombang, Pasar Bintaro Sektor 2, Pasar Serpong, dan Pasar Gedung Hijau. They all are active except Pasar Gedung Hijau. In total, the land area occupied by these markets is 25.721 m² with 1,966 stalls, 875 stands and 1,795 vendors.

PDRB growth of South Tangerang shows improvement from year to year as well as PDRB per capita. In 2012, based on constant PDRB, Economic Growth Rate is 8,24%. Acceleration of economic growth in South Tangerang City in 2012 was mainly supported by the acceleration in the tertiary sector such as hotel and restaurant, transport and communications, banks and financial institutions, and services that grows significantly. With total population of 1.405.170 by the middle of 2012, the PDRB per capita is Rp10.654.000 while the constant adh PDRB per capita is Rp4.486.000.

Based on preliminary data of PDRB by 2012, economic structure of South Tangerang city was dominated by the tertiary sector, the trade, hotels and restaurants; transport and communications; banking and financial institution and services that contributes to 73,22%. Secondary sector (processing industry, electricity, gas, water, and buildings) contributes

25,95% and primary sector (agriculture, mining, and excavation) only contributes 0,83%. In recent three years, the tendency of service-based sectors role is increased each year except for the financial sector, renting and business services that slightly decreased. While the role of agriculture sector in recent three years is declined. This is influenced by the level of the high purchasing power of urban people and the decreasing of agricultural fields and also by the declining interest of young workers on agriculture. Then the other options available are working in the industrial sector or working in the service-based sectors.

Location of South Tangerang city that next to the capital leads the economy running quickly and by that there are more jobs which is an attraction for people from the other region to transmigrate to South Tangerang. According to South Tangerang BPS calculation, labor force participation rate in 2012 is as much as 64.90%, the number gives illustrates that there are about 65% of the working age population in South Tangerang City which has the potential to earn revenue / income, although it includes those who are looking for work. While open unemployment rate is 8,07% from the labor force. Based on the distribution of employment in the field of business sector, most of the labor force is absorbed by the services sector that is equal to 33.61%, trading, hotel and restaurant 28, 01%, processing sector 8,34%, agriculture sector with 0,31%. The rest 29,73% works in another

sector such as mining and excavation; electricity, gas and water; buildings; transport and communication; finance; and service company. In terms of gender, female workers are mostly working in the trade and services sector (42.55% of total female workers), while the male workers in other sectors amounted to 35.42%.

k) Regional Potencies of South Tangerang Municipality

Regional investment can be improved if the region has potency, either it be natural resources or human resources. Another important thing is the ability of the region to sell their potency and create a conducive investment climate and support investment.

One of the potencies in South Tangerang is the geographical location which is very strategic. South Tangerang geographical location that lies adjacent to DKI Jakarta Province at the north and east gives opportunity to South Tangerang city as one of Jakarta buffer zone, in addition, it is also as region that connects Banten Province and West Java Province. With such a position, South Tangerang has good access at its air, because it lies adjacent to Tangerang City and Tangerang Regency where the Soekarno Hatta International Airport lies. Also from the marine view, because its distance to Jakarta where the Tanjung Priok International Port lies. As well as the land, South Tangerang is crossed by Jakarta Outer Ring Road (JORR). Besides the existing toll road, it is also planned to be built other toll roads. One of the

realized plan is Kunciran – Serpong toll road. This toll road crosses regions in Tangerang Regency, Tangerang City, and South Tangerang City.

Areas that crossed by this toll road are Kunciran, Kunciran Indah, Paku Jaya, East Pondok Jagung, Jelupang, Parigi Baru, Parigi, dan Jombang. The toll road later will become one with the other planned toll road such as Kunciran – Airport, Jakarta – Tangerang, Jakarta – Serpong, Serpong – Cinere, and Cinere – Jagorawi which included in JORR 2 network.

Other infrastructure and supporting facilities that will be developed in South Tangerang as investment potencies, are:

- a. Train. As mass transportation, rail is the mainstay of the people of South Tangerang City that connects Rangkasbitung - South Tangerang City - City of Jakarta and has double track. Commuter line stations in total are 5 stations and spread over three districts those are Serpong,, Ciputat, and East Ciputat. South Tangerang region that crossed by commuter line railway are Serpong (Serpong Market Station), Rawa Buntu Station (BSD), Jurang Mangu Station (Pondok Aren), Ciputat (Jombang Station) and East Ciputat (Pondok Ranji Station). The electric trains that crossed are passenger train and freight train. In Urban

Spatial Plan (RTRW), it was planned to develop *park and ride* as vehicle parking area that located on public transportation facilities such as train stations and terminals.

Such a facility will ease the commuters who have private vehicle to turn to public transportation.

- b. Inter-city and inter-province bus. This mode of transportation is also an activator of South Tangerang City community mobility as the primary facilities linking the activities of South Tangerang city with the city of Jakarta and other cities. Currently there is also TransJakarta feeder bus with route BSD – Jakarta, Pondok Aren (Bintaro Jaya) – Jakarta and BSD – Balaraja.
- c. Inner city transport. This mode of transportation in one of the mainstay transport modes used for everyday activities of the people of South Tangerang.
- d. Construction of Water Treatment Plant / Water Supply.
- e. Pembangunan Instalasi Pengolahan Air Bersih/Air Minum. South Tangerang City community use water for domestic, industrial and other activities. Currently the clean water needs of the people of South Tangerang comes from two main sources, that is from PDAM of Tangerang Regency

and water supplied by developer agency or ground water. In South Tangerang, there is much enough raw water sources that can be processed to clean water. South Tangerang city region at least crossed by three big rivers those are Cisadane River, Pesangrahan River, and Angke River. In addition, there are also nine ponds and lakes which water capacity is feasible to be processed. By that, South Tangerang government must have its own water instalation that managed directly under its authority.

- f. Development of vertical settlements. With population density reaches $9.547 \text{ people/km}^2$, it will becomes more difficult to build much landed houses. Thus it is possible to build super block housing like apartments, condominiums, and flats or another kind of vertical settlement to be developed considering South Tangerang location that lies next to Capital Jakarta and all of its easy accesses. Development of vertical settlement is an alternative that can develop a modern housing region with adequate infrastructure and urban community support facilities.
- g. Integrated Region of Service and Trading. Along the corridor of Pahlawan Seribu Street at BSD City Serpong

there are new magnificent buildings. Shopping centers, apartments, hotel, entertainment and culinary centers, office center, hospital, education center has been built. Land for Office Tower and other supporting facilities also provided.

Therefore, it is very prospective if the investors would invest to help develop this region. Bintaro region also has been developed into a respectful region by investors.

Infrastructures such as offices, shopping centers, hospital, education centers has been built in the region. To smooth the traffic flow, a fly over has been built in Bintaro Sector 9 that connects service and business nodes, includes education service by the development of Pembangunan Jaya University. Service and trading also continue to be developed in Ciputat – Pamulang region. As education an national-scale education center with the UIN Syarif Hidayatullah and Open University, Ciputat and Pamulang region can be developed as education service region.

- h. South Tangerang development as MICE (Meetings, Incentives, Conferencing, Exhibitions) center. As the city of commercial and service, so one of facilities that can be an icon fo South Tangerang is a convention center or a trade

exhibition center or concert hall. Suitable with the motto “Smart, Modern, and Religious”, South Tangerang needs investors to build building that is identical with the uniqueness of South Tangerang and modern at the same time. Where it can be the center of art of the city and can be used for exhibition, meeting or international conference. The development can be integrated by office tower facility or five-star hotel

- i. Industry and Warehousing Sector. Considering the available land, South Tangerang government under the direction and goals of development, not to put industry and warehousing as a mainstay. Currently land use for industry simply 1.14% of the land area of South Tangerang City, or approximately 16.67 acres. The mainstay industry has to be green industry and environmentally friendly. Selection of a suitable industry for it is an industry that does not have a lot of chemical waste. Manufacture product industry made from semi-finished materials such as ball production industry in Pondok Cabe or garment industry and other manufacture industry that ecologically friendly is an example of developed industry in South Tangerang. Besides, with the

warehousing facility in Techno Park BSD and multifunction zone in North Serpong, completing investment facility on ecologically friendly industry and warehousing sector.

1) Vision and Mission of South Tangerang Municipality

According to the current situation and conditions in target by the next 25 years, also by people aspiration and perceptions, the vision of the Government of South Tangerang on the year 2011-2016 is:

**“REALIZING SOUTH TANGERANG AS AN INDEPENDENT,
PEACE AND BEAUTIFUL CITY”**

In essence, this vision depicts South Tangerang city as living and interaction space for the heterogeneous society according to their social status, ethnic identity (genealogy, language, customs, and traditions), religion and livelihoods. Literally, this vision can be interpreted as a business city and urban residential category with the quality of physical and social space that can meet the basic needs of the community standards of cities in the economic, social, cultural and environmental.

The meaning of this vision can be interpreted as follows:

- a. Independent vision means that in essence, independence is Future thought, idea, attitude, and behavior of every citizen of the city that shows the mass-specific identity that is based on the acquisition of knowledge systems and symbolic system (altitude intention and the work of an urban society). The positive will of all stakeholders can be interpreted that the South Tangerang city with all available resources constantly strive to achieve maximum results in building a collective identity as a residential town, commercial and service city, and service city (education and health and other socio-cultural aspects) without rely partly or entirely to other parties, except that already are entitled to as stipulated in the laws and regulations.
- b. Peace Vision means that in essence, peace is s the achievement of the quality of life of the society that upholds the values (value system) are generally accepted in society. Development is basically to create peace, and simply in the context of development vision can be interpreted as an increase in the quality of social life to the heights of human dignity in an urban space that is built in harmony in a balanced relationship between humans, nature and The

Creator. Achievement of the vision of peace can be measured by the success of South Tangerang City to create a society that can meet the basic needs such as: 1) the adequacy of food; 2) feasibility of residence; 3) the provision of adequate education and maintenance of good health; 4) competitiveness; and 5) mutual respect and appreciate the differences in ethnicity, race, religion, and social status among fellow citizens and with other people.

- c. Vision of Beautiful means that in essence beauty is balance, harmony, and harmony between natural resource management, social and environmental carrying capacity in the realization of human life and ecosystem sustainability. The term beauty in the context of this vision is directed to the management and development of resources while maintaining the carrying capacity of the environment, so as to maintain, preserve and pass it to the current generation and future. Achievement of beautiful vision can be measured by the success of South Tangerang City realize such environment: 1) urban environment can be managed and developed on an ongoing basis; 2) preservation, cleanliness, beauty, fit and comfort in the management of various

resources such as rivers and lakes, groundwater, infrastructure, and housing

In order to achieve the visions above, it is very important to establish a general formulation mission which formulation of attempts that will be implemented to realize the desire of future conditions. Suitable for the visions, then formulated the missions of South Tangerang government for the period of 2011-2016, as follows:

- 1) Improving the quality of community life
- 2) Improving the harmony function of urban space with environment
- 3) Reforming the system of basic infrastructure
- 4) Improving basic services and public health education
- 5) Improve the function and role of cities as centers of trade and services.
- 6) Promote good and clean governance.

The first mission, The first mission, aimed at improving the quality of life and social interaction with the people of South Tangerang upholding religious values, social and cultural values, norms and rules of law and order and realize the convenience, public awareness of the social environment, also to improve people participation in development

The second mission, aimed at realizing a comfortable space utilization and sustainable urban development with the aspect of harmony and balance as well as intra and inter-sectoral environmental carrying capacity and sustainability.

The third mission, aimed at realizing the construction of South Tangerang city as an integrated residential city through the provision of basic infrastructure and public facilities, meeting the needs of public housing, as well as structuring settlements with supporting facilities.

The fourth mission, intended to improve public access to basic education and health services, supported by integrated service management, and improvement of facilities and infrastructure.

The fifth mission, aimed to improve the function of the city as a center of trade and services oriented to the improvement of social welfare and regional competitiveness through the expansion of employment opportunities and strive, empowerment of cooperatives and small and medium enterprises, pengembangan investment climate, as well as an increase in the growth sectors of the urban economy potential.

The sixth mission, aimed at creating good and clean governance, participatory, transparent, and accountable in order to deliver a prime public service supports by financing capacity development, regional finance and asset management, local government system and institutional structure

arrangement, as well as improving the quality of government personnel who are competent, professional, and dedicated. Along with the good governance principles, values which used as a reference in the implementation of the vision and mission of the South Tangerang City development sustainably, includes several principles as follows:

1. Prioritize functional linkages between the sectors with other sectors in an integrated, synchronized and synergistic way.
2. Accommodating aspirations of the community by problem-solving mindset.
3. Government as facilitator and regulator.
4. Development in the context of social and cultural
5. Development based on dialogue between the government and society
6. Effectiveness and efficiency
7. Participate in development
8. Transparency
9. Accountability
10. Rule of law
11. Responsive attitude
12. Visionary leadership
13. Prioritize the community empowerment

2. Overview of Bintaro Jaya Area

a. Bintaro Jaya Development History

Bintaro Jaya is a leading housing region in Indonesia located in the suburb of Capital Jakarta. Today, the region becomes more complete with all of its facility, integrated, and independent. Since developed in 1979, now Bintaro Jaya area transformed into a comfortable, green, beautiful and secure housing environment. The area begins from South Jakarta then it spread and enlarged in South Tangerang Municipality today with total area of 2000 acres. The name “Bintaro” itself was inspired by the name of the plant *Bintaro* (*Cerbera manghas*), while “Jaya” was taken by the name of the developer company. Besides listed as the first real estate in Indonesia, Bintaro Jaya is also the first developer to introduce the concept of *garden city* in Indonesia.

Managed by one of PT. Pembangunan Jaya subsidiary named PT. Jaya Real Property, the region has thousands of houses inhabited by more than 22.000 families. Stretches from Sector 1, which is included in South Jakarta, to Graha Raya, which included in Tangerang Regency. As a self-contained residential area, residential neighborhood that developed integrated with the commercial and office centers, sport facilities, education, entertainment, house of prayer, and the other public facilities such as club house, park, telecommunication network, water, mass transportation, and integrated security system.

PT. Pembangunan Jaya majority shares are owned by the Government of DKI Jakarta. While PT. Jaya Real Property itself for more than 30 years has been known as a leading real estate company in the capital. PT. Pembangunan Jaya undertakes development and project management of housing and property such as Graha Raya, Puri Jaya, Plaza Bintaro Jaya, Plaza Slipi Jaya, and Senen Trade Center Block IV-V. Jaya Real Property has been registered in Jakarta Stock Exchange since 1994. As a company, PT. Jaya Real Property has vision and mission as follows:

Vision: Being one of the best developers and property managers in Indonesia.

Mision: Achieving revenue growth above the average growth of real estate and property industry in Indonesia. Provide quality products and services that satisfy consumers. Build the quality of human resources and good working environment achieve higher performance. Optimizing productivity of all resources held for the benefit of customers, shareholders and employees. Care about social and ecological aspects in every business unit.

PT. Jaya Real Property always places consumers as its top priority in accordance with the company's quality policy. The developer company also presents the after-sales service guarantee, water management, and

environmental care and maintenance. It also does not only provide social and public facilities, but the physical quality of the houses as well. Each building is designed in accordance with the taste of the art architecture neat, distinctive, sturdy and has aesthetic value. Spatial planning, both residential and neighborhood was always prioritize harmony, beauty, beauty, and comfort for the occupants.

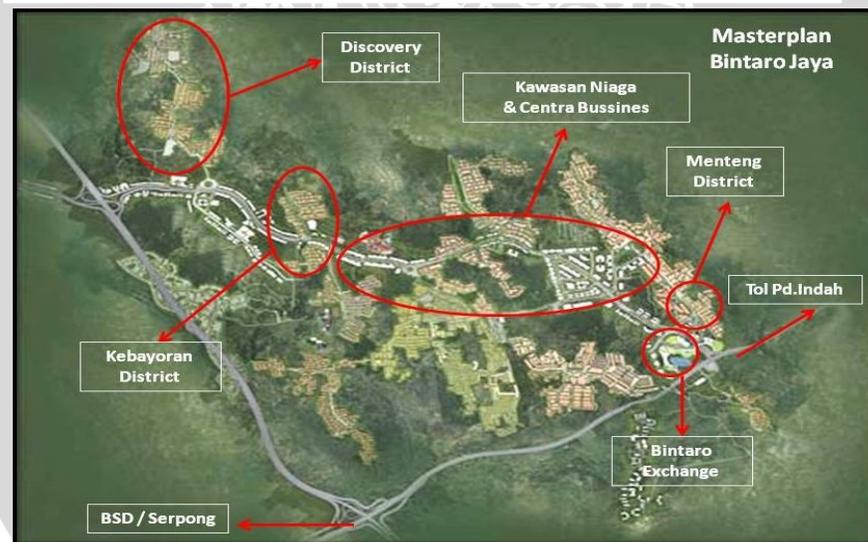
Since developed three decades ago, Bintaro Jaya has presented the works of high-value architecture. Some architectural styles ever developed and being developed are increasing the asthetic wealth aligned with the long journey this housing area. Begins from country, art deco, mediterania, modern minimalist, and yankee architectural design. For the convenience and safety of its citizens, the neighborhood is designed with cluster system. Then come the cluster names in Bintaro Jaya area. Today, there are at least nine main clusters in Bintaro Jaya, they are:

1. Taman puri Bintaro Jaya
2. Puri Town House
3. Kebayoran Height
4. Emerald Residence
5. Taman Senayan
6. Graha Taman
7. Permata Bintaro

8. Althia Park
9. Discovery Terra

In developing its region, Bintaro Jaya uses sectoral concept that is: Sector 1, 2, 3, 3A, 4, 5, 6, 7 (Central Business District), 8, 9. With the passage of the new concept, the latest area no longer use the system but the system sector of the district, namely: Menteng, Jewel, Puri, Emerald, Kebayoran, Discovery.

Figure 4. Bintaro Jaya Map With Its Distric System Today



Source : Bintaro Jaya Directory Book 2012

Bintaro Jaya location is also very strategic because it is only about 15 km away from the central of southern Jakarta. The existence of Pondok Indah – Bintaro toll increasingly facilitate the mobility of Bintaro Jaya community

to the Capital Jakarta. The toll road also connects directly with Jakarta Outer Ring Road 1, Jakarta – Cikampek toll, Jagorawi toll, Cipularang toll, and Jakarta Outer Ring Road 2.

To anticipate traffic density along with the growth of people, PT. Jaya Real Property has prepared the arterial road called the Bintaro Jaya Boulevard that connects the Bintaro – Pondok Indah toll road, Central Business District of Sector 7, Graha Raya, and JORR 2. Macro transportation system also has been designed to ease people mobility. The system will integrate other mode of transportation like bus and train. Today there are comfortable and representative mode of transportation called Trans Bintaro Jaya as a feeder of TransJakarta, commuter line with route Bintaro – Sudirman Street, and In-Trans Bintaro Jaya that freely serve the route inside the region of Bintaro Jaya. In the future, Bintaro Jaya will have Integrated Terminal as its center of mass transportation.

The design of the transportation system is one of the macro-management efforts in providing representative public transport while minimizing the effects of global warming by reducing dependence on private vehicles. In that regard, PT. Jaya Real Property launches a new lifestyle which more friendly and caring to the environment that is packaged in ECommunity Lifestyle program. The program includes the idea of Earth Care, Health Care, and Energy Care. With this new lifestyle, management with its community

join their hands together to strive to create neighborhoods which are clean, healthy, green, beautiful, and comfortable.

b. Bintaro Jaya Management Office

PT. Jaya Real Property has developed Bintaro Jaya residential region since 1979, in a region named Bintaro. By years, the development is so rapid. Today Bintaro Jaya owns more than 2000 acres of land bank and more than 60% of it has been developed as housing, commercial area, as well as the public and social facility. The region covers Sector 1 to Graha Raya. As a developer, PT. Jaya Real Property does not only sell household products. Estate management becomes after-sales service for the residents of the Bintaro Jaya. This service handed by a unit called Bintaro Jaya Management and Environmental Care which later changed to Bintaro Jaya Management Office (PKB).

Bintaro Jaya Management Office takes full responsible on the management and environmental care in throughout Bintaro Jaya area. Ranging from with road maintenance, public street lighting, tree planting, beautifying residential environment, waste management, water supply, social and public facilities, regional security, and the provision of public transport arrangements, to public relations activities. Considering the breadth of estate management scale under the control of Bintaro Jaya Management Office,

delegation of authority is divided into four sub-units, namely: Environmental Sub-unit, Clean Water Sub-unit, Facility and Transportation Sub-unit, and Public Relation & Security Sub-unit. Each sub-unit has its own authority and responsibility led by a manager.

1. Environmental Unit

This is the sub unit of Bintaro Jaya Management Office which main task is to setup, maintenance, and preservation of the environment around the residential areas of Bintaro Jaya. Especially organize and maintain the park, both located along the main road and located in the clusters. Maintenance of the garden include planting new trees, watering, and pruning the plants regularly. In some recent years, the sub unit was heavily planted in vacant lands which have not been developed. Although someday in the future the land will be used, the trees will be moved to another location, not directly cut away.

This sub unit also responsible on waste transporting from people houses. Every month after the payment of Environment Maintenance Fees (IPL), every people gets two kinds of green and black plastic bag to sort organic and non organic garbage. Trash hauling is done every day by the contractor which has been appointed. Maintenance of major roads are also under the control

of sub-units of Environmental that conducted periodically. Focus on the maintenance of damaged road done by asphalt patching. For neighborhood streets, road maintenance tasks carried PT. Jaya Real Property together with local residents. Beyond that, Environmental Unit also has the task of maintenance of waterways, polders, and rivers that pass Bintaro Jaya. Polder dredging, drains cleaning and repairing done regularly, especially before the rainy season. This is one of the efforts to anticipate puddles

2. Water Unit

Management and maintenance of water installation in Bintaro Jaya are under this sub-unit responsibility. All residents of Bintaro Jaya get water supply which distributed directly from pump houses that spread in several areas. Today, some of Bintaro Jaya residents get water supply from PDAM of Tangerang Regency, particularly the residents of Sector 9, Permata Bintaro, and Emerald Bintaro.

Water Sub-unit also performs installation maintenance patterns periodically. Among others, the repair and rejuvenation of network that have been with age. Water units also have a team ready to serve all citizens' complaints. Team work is divided into four

zones each corresponding region in order to accelerate and ease of service.

3. Facility and Transportation

This sub-unit dwell on the maintenance and management of all existing public facilities in Bintaro Jaya residential areas. Whether it is commercial areas, sports facilities, and other public facilities.

Traffic control in the area and maintenance of signs is also the responsibility of the sub-unit. Besides, regulation of advertising media throughout the area is the authority of this sub-unit. For example, banners, neon, billboards, or other promotional media.

Each client is required to take care of permits of promotion media. All forms of licensing the use of public facilities such as rental location for shooting is also through this sub unit.

Equally important task is to organize and provide public transportation for the benefit of community. Through the concept of integrated mass transportation, now available Trans Bintaro Jaya as a feeder of Trans Jakarta, In-Trans Bintaro Jaya that serve the route inside the region of Bintaro Jaya for free, and collaborates with the X-Trans Operator in providing mode of transportation to Bandung and Soekarno-Hatta Airport.

4. Public Relation and Security

Public relation is the frontliner sub-unit of the Bintaro Jaya Management Office. They are the image of Bintaro Jaya management service. Although the scope is in scale of estate management, but it still holding an important role. This is the sub-unit that pro-actively and responsively to all complaints and problems that arise in Bintaro Jaya area.

In the the social field, through its Corporate Social Responsibility program, the management of PT. Jaya Real Property shows concern for the local community by providing educational assistance to schools which are not far from Bintaro Jaya residential areas. Assistance in the form of improvements and additions to school facilities, textbooks, or computer equipment. This subunit also provide assistance to residents institutions, and surrounding communities in social activities. Speaking of security, it is also one of the responsibilities of the Public Relations and Security sub-units. Its job is to keep the protocol streets of Bintaro Jaya in cooperation with sectoral police and keep the security of new clusters which not heavily populated. For new clusters security, Bintaro Jaya Management Office helps in providing

security personnel for a year or until the cluster occupancy rate already reached at least 75%.

5. Customer Service

As a unit of an estate management, Bintaro Jaya Management Office knows the true significance of maximum service to the community of Bintaro Jaya area. Bintaro Jaya management has received ISO 9001 certification. Related to that, Bintaro Jaya Management Office formed an *one stop service*. Customer service becomes the frontliner in servicing Bintaro Jaya community. It means that this sub-unit is the first desk if people need anything related to management and service of Bintaro jaya. For example, if people want to take care any of permits to mount a promotion media, location rent for shooting, and permit of the opening of an infrastructure.

This sub unit also receives and follows up every complaint and suggestion from people. For instance, related to water service, environmental care, road maintenance, etc. Those complaint and suggestion will be delivered to the unit manager. With the *One Stop Service*, service to community can be done as soon as possible. People also do not have to seek random staff of other sub

unit in the office. People can come to the management office and directly to the customer service desk.

Bintaro Jaya Area Manager also establish some general provisions such as Residential Zone Function Provision, Aesthetic Environmental Conditions, Public Order, Neighborhood Security, Pets, and Traffic. These regulations aims to recall the things which has also been listed in the Sale and Purchasement Agreement (PPJB). Here are the contents of those regulations:

1. Residential and Regional Functions

- Should be used simply as a residence in accordance with the Sale and Purchase Agreement and the applicable regulations.
- House is not permitted for any commercial activities
- Residence which permitted simply used for business activities is in the home-shaped stores only that built by developer.
- Residents are not allowed to use the residence as a place to do all kinds of acts that violate public order, moral norms, and laws.
- If the above regulations are violated, the management either alone or with relevant authorities have the right to dismiss the subscription of water and environmental care.

2. Neighborhood Aesthetics

- The owner is obliged to maintain and preserve the cleanliness and neatness of the home yard.
- Residents should not interfere the aesthetics of environment by hanging clothes, installing a TV antenna or other objects in the yard and in the front of the house which can be seen from the front of the house.
- Residents are only allowed to put personal belongings in the ownership limits.
- Waste should be disposed of in the provided space by the developer
- Residents are not allowed to do anything which could lead to pollution such as dust, smoke, odor or unpleasant stinging, burning trash in any form.
- Residents are prohibited to cut down or damage trees and crops planted by developers, and managers have to get permission to plant trees in areas outside the ownership.
- Public facilities provided by the developer include neighborhood parks, pavement, road berms, shade trees, electrical network, telephone network, water pipeline and public buildings can not be altered without permission from the manager.

- It is Prohibited to put up billboards without permission from the manager and the manager together with the relevant authorities have the right to dismantle and degrade billboards and similar rules violation.

3. Public Order

- It is not allowed to take actions which lead to neighborhood disturbance.
- It is prohibited to conduct activities that disrupt public provisions such as a party, out loud sound of music, or other activities and actions, notify neighbors in advance, Neighborhood Association, and local security officials.
- Any form of action whether intentional or due to negligence which may interfere with the environment or other occupants considered a nuisance and violation of rules in the region.
- If the other occupants feel disturbed by the activities of other people, it can be reported the nearest security officer or through the management office.

4. Neighborhood Security

- Security is the responsibility of the developer together with neighborhood security personnel formed by community coordinate with the police to create an integrated security system.

- To avoid any risk at the time of occupancy left empty, then all doors must be locked , an abandoned vehicle was given a double safety lock, and are encouraged to notify local security officers.
- For the purpose of security, the security officer is entitled to inspect the contents of every vehicle entering or exiting the residential areas.
- Developer is not liable for loss, damage or items loss belonging to the residents and guests of residents.

5. Pets and Animals

- Residents who have pets are required to provide identification, giving rabies vaccine and not let go of their pets roam unattended so as to interfere with or endanger other residents and surrounding communities
- If the pet of occupants committing harm or harmed other person, the losses and costs incurred to another person caused by the pet, the owner of the animal shall take the responsibility.
- Residents are prohibited from maintaining or raising animals who can interfere with the surrounding neighborhood.
- Developer whether alone or together with Department of Animal Husbandry reserve the right to foreclose to pets that violate the regulation.

6. Traffic

- Developer with relevant agencies have the right to manage traffic across the Bintaro Jaya region.
- Road users are required to adhere and obey all the traffic signs located in over the residential areas.
- In case of traffic violations and accidents due to negligence of road users who resulted in damage to the facility and neighborhood of Bintaro Jaya, the Traffic Control unit Officers of Bintaro Jaya entitled to hold/secure the suspected vehicle.
- Every vehicle of the residents of occupants guest are not allowed to obstruct the entrance to another unit, so parking in the front yard dwelling units.

B. Display of Research Focus Data

1. Development Planning in Bintaro Jaya

Developed since 1979, PT. Jaya Real Property changed a region in southern Jakarta into an ideal city-scale housing area, complete with its facility and infrastructure to meet the need of dynamic and modern lifestyle of urban community. The developer of Bintaro Jaya continues to to make efforts to increase the value of the area, in order to become a convenient for habitation, prestigious, and of course environmentally friendly residential area. In the 35

years of its development, Bintaro Jaya as the first region in Indonesia who introduced the concept of *garden city* is now transformed with the tagline "The Professional's City" as a commitment of PT. Jaya Real Property in developing an ideal region for the professionals.

In doing so, developer of Bintaro Jaya continues to develop premium-class residences complete with various supporting facilities. The new clusters continue to be built to meet the needs of consumers. Every year, developers are always working to bring innovation and development of facilities that meet the requirements as a green cluster. Dwellings designed towards the green house, which means the entire building materials selected are environmentally friendly. Environmentally friendly building materials include lightweight steel roof truss, aluminum frame, lightweight brick, bioseptic tank, paving blocks, and others. Each home built is also has inner yard in it. Circulation of air and light is also a concern. Orientation refers to the construction of the North - South so that will reduce exposure to direct sunlight into the house, to create cooler air temperatures. This is also accordance with the statement of Mr. EMH as the Manager of Public Relation & Security of Bintaro Jaya Management Office in an interview done by June 10th 2014 at 11.45am:

"... konsep pengembangan kami pada intinya sebagai kawasan suburban Jakarta ingin memenuhi kebutuhan masyarakat terhadap kawasan hunian yang asri dan berkelas dengan konsep yang sekarang kami kembangkan bernama ECOMmunity" ("... our development concept at its core is as Jakarta suburban region wants to meet the people's need of a beautiful and classy residential area with a concept now we call ECOMmunity.")

ECommunity itself is a program by the developer of Bintaro Jaya in inviting all parties to participate actively with the community to build a new lifestyle that is more caring and friendly to the environment. ECommunity was taken from two words, they are *ecology* and *community*. This program is realization of the commitment of developer on its care on ecological aspect.

Efforts made by the developer of Bintaro Jaya indirectly contributes to the city according to Urban Spatial Planning document (RTRW) of South Tangerang Municipality 2011-2016 Article 11 Paragraph 2 which stated that it is the strategy of the city government to improve the accessibility of the city's integrated services center and hierarchical as the center of education service, settlement, goods and services, in regional and national scale which is safe, comfortable, religious, productive, competitive, and sustainable.

a. Bintaro Jaya Physical Development

For the past few years, to support the regional arrangement which more focused and organized, the developer has changed the minset of the residential area development from sectoral system to district system. For example, Kebayoran Residences District, Emerald Bintaro District, and Discovery Bintaro District. In one district, there are 5 to 12 clusters, complete with the district facility. The developer considers this system enables urban district

becomes more focused and organized. Residential and commercial zoning is more obvious, in terms of zone designation, accessibility, and facilities.

Physically, development of Bintaro Jaya area rests on a new arterial road along 6 km, Bintaro Jaya Boulevard. This boulevard is a 50 meter wide main street connecting two gates of toll road, they are Bintaro Jaya – Pondok Indah toll road or JORR 1 and JORR 2. Developer also just recently finished the project of 1,5 km throughway from Discovery to Graha Raya roadway. It means that the boulevard has connected Sector 7 area to Graha Bintaro and its surrounding areas. Bintaro Jaya boulevard not only improve accessibility of people. Moreover, the main road that cut through the residential area is a main hub of Bintaro Jaya in the future. Along this road the developer is developing commercial area, business, offices, called the commercial strip.

Some commercial area that has been built and is already showing the twisted businesses include Kebayoran Arcade Shop Complex, Emerald Avenue Shop Complex, Indika Group office buildings, Kebayoran square Business Park, Hotel Santika Premier, Titan Convention Center, Electronic City, Giant, Hypermart, car showrooms, fast food restaurants, and a driving range.



Figure 5. A Fly Over at the Core of Bintaro Jaya CBD
Source : Documentation at Bintaro Jaya Boulevard 20th April 2014

If the commercial area is at the side of the main road, residential district is in the second tier of the commercial strip, but they have single access connected directly to the boulevard. For example, the Kebayoran Arcade Shop Complex which located next to Kebayoran District Residences. So does the Emerald Avenue Shop Complex that lies near to Emerald Bintaro District and Discovery Bintaro District.

As a suburb of Jakarta and as a part of Jabodetabek region, some forms of infrastructure is built to ease economic and socio-cultural connection between Jakarta and South Tangerang. In 2014, PT. Jasa Marga has officially operated a new toll road called Jakarta Outer Ring Road (JORR) II that connects South Tangerang city to Tangerang Regency and West Jakarta directly. By this new toll road, people of South Tangerang can reach Soekarno – Hatta International Airport in 30 minutes. This is really helps the mobility of people in both

regions. South Tangerang and other suburb cities of Jakarta are planned by the central government to support Jakarta in various ways. South Tangerang as it is today is planned to be a supporting city for settlement and commercials.

The JORR II gives positive impact to Bintaro Jaya area because the toll road is connected straightforward to its boulevard. It makes the boulevard which the heart of Bintaro Jaya development more accessible. It is not a question then, why the developer focusing its physical development today in the boulevard.

b. Public Facilities In Bintaro Jaya

As stated above that today's development planning of Bintaro Jaya is concentrated in its boulevard, the area also the center of complete public facilities for the people of Bintaro Jaya and South Tangerang. All of those public facilities make Bintaro Jaya community does not depend too much to Jakarta. Furthermore, a variety of public facility developed in Bintaro Jaya becomes magnet for the people of Jakarta to come and at the same time becomes a pride of South Tangerang City. It is in line with the statement of EMH, Manager of Public Relation and Security of the Bintaro Jaya Management Office, in an interview by June 10th 2014 at 11.45am:

“...dengan segala fasilitas yang kami bangun, ini tidak hanya digunakan oleh warga Bintaro Jaya tetapi juga oleh seluruh warga baik dari Jakarta atau Tangerang Selatan sehingga kami dengan keunikan kami ini menjadi kebanggaan juga bagi Kota Tangerang Selatan” (“...with all of the facilities we build, these not used by Bintaro Jaya community only but also the people either from Jakarta or South Tangerang so that we by our uniqueness is also a pride for South Tangerang City”)

As a suburb area, Bintaro Jaya is very independent in meeting the needs of its community. This showed by public facilities such as commercial, entertainment, house of prayer, education, and health in its region. Here is the table about the list of major public facilities in Bintaro Jaya area:

Table 5. Major Public Facilities in Bintaro Jaya Area

No.	Facilities	Total
1	Club house	4
2	Mosque	8
3	Church	5
4	Bank	31
5	Money changer	5
6	School	19
7	University	1
8	State College	1
9	Private course	19
10	Medical Clinic	14
11	Hospital	1
12	Mall & Entertainment Center	3

Source : Processed from Bintaro Jaya Directory Book 2012

As a core of development, Bintaro Jaya Boulevard becomes a part of the masterplan which refers on the concept of *Transit Oriented Development*

(TOD). A regional development based on mass transportation and prioritizing pedestrian mobility or people who do not use a motor vehicle. Along the boulevard, Bintaro Jaya has provided a way for the pedestrian and biker called pedestrian walk and bike path. This special path is a new concept developed to give a more comfortable and secure facility for the pedestrian and biker. Consists of two ways for the pedestrian and biker, where each path has a width of 2 meters. That means, the bike path is no longer parallel to the highway, but moved to the pedestrian.



Figure 6. Pedestrian Walk and Bike Path
Source : Documentation at Bintaro Jaya Boulevard 11th June 2014

This action gets big support from the city government that it was the mayor herself who inaugurated both new facilities. It contributes as an action in application of the system of TOD which is stated in RTRW 2011-2016 as the

future of South Tangerang transportation system. The plan document also released 7 strategies in developing and improving an integrated public transportation of the city, they are:

- a. Maintaining the function and hierarchy of road
- b. Improving capacity of road network by developing and widening road, traffic management and by eliminate interference of road side
- c. Prioritizing development of integrated public mass mode transportation
- d. Providing proper and integrated parking facility to the center of activities
- e. Developing park and ride system
- f. Developing terminal system inside the city and building terminal at the borders of the city
- g. Optimizing the control of city transportation system.

The pedestrian walk and bike path can be used by people start from Discovery Bintaro District to Bintaro Jaya Xchange mixed-used area. Pedestrian and biker have to worry no more by the rapid traffic flow at the boulevard. The special path looked comfortable with trees along the boulevard. Pedestrian walk and bike path also planned to be improved by some street furnitures such as park bench, lighting, as well as the pedestrian walk marks.

Next step, the developer will complete the pedestrian walk and bike lane in a residential district that is connected to the pedestrian walk and bike path.

Bintaro Jaya is fortunated because the area is traversed by the railway line and has three stations at once, they are Pondok Ranji Station, Jurangmangu Station, and Sudimara Station. So it can facilitate the development of mass transportation access. Accessibility way around the station Jurangmangu a top priority currently Bintaro Jaya has finished 2 underpasses, one in front of BMW and another one in Tegal Rotan street. Government of South Tangerang itself still completing the road widening project in Tegal Rotan street and bridge. Meanwhile, PT. Kereta Api Indonesia also will revitalize its stations soon. The attempts made so Jurangmangu Station has better accessibility and capacity to serve community. Bintaro corridor is one of 7 corridors planned to be optimized by the city government as stated in RTRW 2011-2016 related to the provision of integrated public transportation mode for Jabodetabekpunjur region.

Provision of public facilities which complete and integrated in this region is a form of spirit *The Professional's City* which is then poured into the three aspects of PT. Jaya Real Property grips, they are *workable*, *liveable*, and *sustainable*. This also suitable with statement released by EMH as Manager of Public Relation & Security of Bintaro Jaya Management Office in an interview done by June 10th 2014 at 11.45am:

“...kami benar-benar mengedepankan pentingnya aspek lingkungan karena sejak pertama dikembangkan, itulah yang berusaha kami hadirkan, yaitu kawasan yang elit, asri, berudara segar, nyaman ditinggali oleh warga, dan sustainable. Ini sudah prinsip kami” (“...we really put forward the importance of environmental aspect because since the first time of development, that is what we tried to present, an elite, beautiful, fresh air, liveable by people and sustainable. This is our principle.”)

The statement shows that it needs strong will and consistency from the planning to the implementation to create such an area. What should be highlighted is that since the first time, ecological aspect is a top priority in the development of Bintaro Jaya, as well as the creation of a complete social and economic activities of the community.

c. Impact of the Development Planning In Bintaro Jaya to Its Community

PT. Jaya Real Property as developer and manager of Bintaro Jaya has changed a suburb area of Jakarta that never been reckoned before or even to be lived because the lack of facilities. Today, by hard work and application of the concept clearly and consistently, Bintaro Jaya area becomes one of the most wanted residential areas besides Cibubur and BSD in Serpong. Its 2.000 acres of land now developed from total target 2.500 acres. The region currently lived by about 22.000 families.

Region of development today still continues by providing new public and Social facilities, new clusters, and commercial area. no one thought that the area

once a swamp and forest now becomes one of the large-scale residential township with full access and facilities, beautiful, and ecologically friendly. Bintaro Jaya masterplan certainly brings impact on the region and community around which according to South Tangerang Municipality Profile Book 2013, 61,79% of the land in the city used by housing both small and medium density housing. It is for sure brings some impacts socially, economically, and environmentally. The impacts divided into two parts; positive impact and negative impacts, those are:

a. Positive Impacts:

- By times, Bintaro Jaya with the concept of *garden city* and three principles held are *workable, liveable, and sustainable*. The principles make Bintaro Jaya develops its area ideally, which economically this area grows rapidly as an independent suburban community in cit-scale, environmentally sustainable with the ECommunity program, and educate how to take care of their environment and why a community must keep the balance of economy, social and environment.
- With its 2.000 acres of land, Bintaro Jaya has grew the real estate industry of Indonesia by providing a variety of choice for upper middle class of people about the need of unique residential area which is hard to discover either around Jakarta or inside Jakarta.

- As explained by the developer and South Tangerang government itself, Bintaro Jaya has organized a region well by how a residential area stands together alongside commercials, education, health and entertainment in one area without ignoring the ecological aspect.
- People of South Tangerang, particularly who live around the area of Bintaro Jaya receive benefits such as the provision of jobs and public and social facilities which can be used publicly.



Figure 7. Car Free Day Event in Which Can Be Enjoyed by People from Outside of Bintaro Jaya

Source : Documentation at Sector 7 Bintaro Jaya 17th June 2014

b. Negative Impact

- Land price inside and outside of Bintaro Jaya area increased sharply. The soaring land price can even reaches 1000% in a single year. This then makes infrastructure development such as road, toll road, underpass, and other form of infrastructure inhibited by land acquisition which required larga funds.

2. Application of the Concept of Ecologically Sustainable Development In Bintaro Jaya

Suitable with the mission runs by PT. Jaya Real Property in protecting the environmental sustainability in its regional development and suitable too with the the very first concept that is a garden city, then in its developing process, environmental aspect always be the major attention. Hence, this region becomes an advanced region while at the same time cares to its ecological aspect. These are the application forms of the concept of ecologically sustainable development in Bintaro Jaya:

a. ECOmmunity

Generally, ECOmmunity is a program designed by PT. Jaya Real Property to make Bintaro Jaya as a region that ecologically friendly, well managed, energy-efficient, clean, and certainly has complete facility for the community. By ECOmmunity, Bintaro Jaya lifestyle

directs to care more on the environment, both macro and micro and in the execution involves both parties, the developer and Bintaro Jaya community itself.

ECommunity works physically and socially. Physically, there are 4 parts of work, they are macro ECommunity, micro ECommunity, integrated mass transportation, and environmental care. While socially, ECommunity works through areal and environmental care. To know more and clearly about the efforts done in executing ECommunity physically, here are the explanations:

1. Macro ECommunity (Masterplanning)

- Provision of green space according to the standard of Green Space in Act. 26 of 2007 that 20% from the total developed land must be filled with green space. This green space covers parks, lines under SUTET, road median, sidewalk, and riparian.
- Planting leafy plants in order to reduce both air pollution and noise as the use of green space that valuable ecologically.



Figure 8. A Reservoir and Green Space Under A SUTET Tower
Source : Documentation at Kebayoran District Bintaro Jaya 11th June 2014

- Providing busway feeder that connects Bintaro Jaya area directly to the center of Jakarta.
- Providing In-Trans Bintaro Jaya as free of charge mass transportation for people serving routes such as Emerald – Discovery, Kebayoran, and Bintaro CBD to minimize the use of private vehicle inside Bintaro Jaya region.

3. Micro ECommunity

- Use of *cul-de-sac* pattern to increase the percentage of green space and reduce the surface area of asphalt.
- Using environmentally friendly housing products (reducing the use of wood, optimizing cross ventilation to get natural temperature, combining plants and fountain at yard and inside house, optimizing ceiling heights to lower the room temperature, use of green roof and green

wall, use of grease trap to catch grease/food scraps in waste water)

4. Environmental Care

- Tree Planting
- Polder and canal dredging periodically
- Distribution of different colored trash bags for organic and inorganic waste.
- Utilization biopori to augment ground water reserves.
- Procurement of organic and inorganic trash in public areas.

The efforts above are efforts that have been implemented in succeeding ECOmmunity program. Developer seeks to improve the efforts that have been done to make more impact in the future, as well as the statement of RH, Staff of Public Relation & Security Sub-unit of Bintaro Jaya Management Office in an interview at 18th April 2014:

“...kami banyak melakukan kreasi di clusters baru kami, seperti optimalisasi jendela sebagai penerangan untuk mengurangi penggunaan listrik berlebih, material yang tidak mengandung bahan kimia berbahaya, dan optimalisasi penggunaan halaman rumah, lalu ada juga yang kemarin dibuat, itu biopori..” (“...we did a lot of creations in our new clusters, such as optimization of window as source of light to reduce the over use of electricity, materials that do not contain harmful chemicals, and optimization of the use of yard, and there is the most recent, the biopori..”)

The statement shows the creativity of Bintaro Jaya in improving their practices on the ecological aspect. The developer also shows a serious attempt by concerning small things such as waste water. While socially, ECOcommunity moved by efforts below:

1. Areal and Environmental Care

- Carry out activities that actively involving community with the aim to care more on the environment, in the form of Beauty, Order, and Neatness Contest among neighborhood (Lomba K3).
- Campaign and socialize of waste sorting activity.
- Supporting campaign of the use of ecologically friendly mass transportation, free emission test, and support the formation of a bike community
- Campaign of environmentally friendly lifestyle to the community
- Campaign of the biopori making activity



Figure 9. Biopori Holes in Progress
Source : Documentation at Flamingo Cluster, Sector 9, 12th April 2014

b. Mixed-use Land

Developer of Bintaro Jaya area also always adjust the plan that has been created with the conditions in the field that the principles of workable, liveable and sustainable can still be achieved. Developer is developing a mixed-use areas that integrate the vertical residential, office buildings, hotels, and shopping centers. The area will be developed in three different locations such as Bintaro Jaya Plaza, CBD of Sector 7, and CBD near to JORR 2 toll road gate. It begins wby re-masterplanning the area of Bintaro Jaya Plaza. The 10 acres area will be developed by condominium, office buildings, and hotel, that will have access to Bintaro Jaya Plaza and Pondok Ranji Station. Bintaro Jaya Plaza itself currently revitalizing its interior design to make it more suitable with the lifestyle of the community.

At the first stage, Bintaro Jaya develops Bintaro Plaza Residences which later will be consisted of some condominium towers. The first tower to be promoted is Altiz Tower. More than 90% of its 642 total units has been sold. The development starts from the middle of 2013. Its plan, this first condominium will be complete by the end of 2015. Besides, Bintaro Jaya also currently developing 25 acres of integrated area in Sector 7 CBD, exactly on the side of the Bintaro – Pondok Indah toll road. This mixed use land named Bintaro Jaya Xchange will be developed as the center of shopping, offices building, condominium, and hotel.

All of these facilities will be connected and integrated to the 6 acres of interactive green area Bintaro Jaya Xchange Park that consists by some thematic park, water feature, stage, seating area, pedestrian walk for the pedestrian and biker, and jogging area. first development, begins by developing shopping mall with a concept of lifestyle center, Bintaro Jaya Xchange Mall. The mall presents four floors of retail area, with 2 floors of basement parking. The interesting part is the concept of alfresco dining of its culinary area that faces directly to Bintaro Jaya Xchange Park. The total of the area is more than 115.000 meter square, with about 45.000 meter square of lease area. Up to now, there are 150 outlets which open their stores in Bintaro Jaya

Xchange Mall. One of the major attractions is the ice skating by BX Rink that recorded as the biggest ice skating arena in Indonesia with 1.500 meter square. Complete with the ice skating equipments, ice hockey, locker, bar snacks, and member room. BX Rink also has BX Skating Academy for all age and levels of expertise.



Figure 10. Bintaro Jaya Xchange Mall and Its 115.000 m² Park
Source : Documentation at Bintaro Jaya Xchange Area 17th June 2014

Bintaro Jaya Xchange Park itself divided into three areals. Each areal has its own design. Designed by Singaporean architect, AECOM. The first areal named Rock Area, completed by maze garden and fountains. The middle areal, named Pop Area, there is a round-house stage that will serve a variety of music and theater performance,

complete with the huge layer to play broadcasting activity. The third, Jazz Area, consists of koi fish pond and seating area that can be used by the visitor for some activities. It was predicted that this area will be the new icon of Bintaro Jaya considering the complete facility inside of it and supported by strategic access along with the finishing of JORR 2 toll road that will connect Bintaro Jaya directly to West Jakarta, North Jakarta, and Tangerang includes Soekarno-Hatta International Airport in Tangerang.

To ease the mobility of community in reaching the area, pedestrian walk and bike path has been built from Bintaro Jaya Boulevard to this mixed-use land. It is done to change the lifestyle of community to leave their vehicle at leats in activities inside Bintaro Jaya area. This is in line with the statement of DL as the Landscape Supervisor of Bintaro Jaya Management Office in an interview by 30th May 2014 at 12.50pm:

“...banyak sih manfaatnya nanti, karena kita bakal buat fasilitas-fasilitas pendukungnya. Nanti di depan Bintaro Trade Center mau dibangun ‘rest area’ untuk pengguna sepeda jadi mereka bisa ganti baju disitu, parkirnya juga kita buat supaya pengguna nyaman beraktifitas dengan sepeda” (“...there are many benefits in the future, because we will build its supporting facilities. In front of Bintaro Trade Center will be built a rest area for bike user so that they can change their clothes there, also we will build the parking so that they comfortable in doing activities with bicycle.”)

From the statement above, it shows the persuasive efforts of Bintaro Jaya Management Office to change lifestyle of the community. Like the previous statements, the statement shows the importance of supporting facilities of pedestrian walk and bike path because it is difficult to invite people to use the facility. It is easier to make people use the pedestrian walk and bike path if the supporting facilities built as well.

c. Recycling Program

The large number of trees in Bintaro Jaya area certainly gives positive in neutralizing the air from pollution so that makes the air fresher and healthier to be inhaled. But on the other hand, these trees also produce a lot of organic waste such as leaves and tree trunks. Therefore, DL as the Landscape Supervisor in Bintaro Jaya Management Office states that the developer has been doing recycle process on the organic waste and change it into fertilizer. She states it in an interview done by May 30th 2014 at 12.50pm:

“...jadi di Sektor 5 itu kita punya tempat daur ulang sampah hijau dari pohon-pohon di kawasan kami, nanti semuanya dikumpul kesana terus kita daur ulang jadi pupuk, dan digunakan ke pohon-pohon itu lagi. Cuma ya tempatnya kecil, ga sebanding sama jumlah sampahnya” (“...so in Sector 5 we have a recycling place of green waste from the trees of our region, it is all later be transported there and we recycled it to be fertilizer, and used back to the trees. The

problem is that the place is too small compared to the amount of the waste”)

From the statement it can be concluded that Bintaro Jaya Management Office has creativity in managing green waste. The recycling process itself does not stop on the production of the recycle product but the use later as well so that the recycle process becomes more valuable. One of the obstacles showed from the interview is the the recycling place too small compared to the amount of the waste that came from Bintaro Jaya area.



Figure 11. Bintaro Jaya Green Waste Recycling Place
Source : Documentation at Sector 5 Bintaro Jaya 17th June 2014

d. Coordination of Related Stakeholders In the Process of Developing An Ecologically Sustainable Development In Bintaro Jaya

Bintaro Jaya area which developed by a big company such as PT. Jaya Real Property has strong ability in funding and independent in doing development project of its land. However, as a good land developer, PT. Jaya Real Property still needs to establish a good coordination with the government, in this particular case the South Tangerang City Government. This was disclosed by EMH as Manager of Public Relation & Security of Bintaro Jaya Management Office in an interview in June 10th 2014 at 11.45am:

“...kita bekerjasama dengan pemerintah, dalam hal ini Pemerintah Tangerang Selatan dalam semua bidang.. perijinan, pendidikan, kesehatan, lingkungan, semuanya yang terkait kita koordinasikan. Dengan Badan Perencanaan Pembangunan kita koordinasikan perencanaan pembangunan kita, dengan Badan Lingkungan Hidup Daerah juga sering kita kerjasama misalnya penanaman pohon, kalau kita ada event juga kita undang pihak pemerintah kota, begitu juga sebaliknya. Jadi saling mengisi..”
 (“...we collaborate with the government, in this case the Government of South Tangerang in every fields.. licensing, education, health, environment, we coordinated all related things. With the Regional Development Planning Board we coordinate our development planning, with the Regional Environmental Board we also often make a partnership for example tree planting, if we have an event we also invite the city government, and vice versa. So we complement each other..”)

The similar statement also disclosed by MA, Head of Physical and Infrastructure in Regional Development Planning Board (BAPPEDA) of South Tangerang in an interview done by June 20th 2014 at 02.00pm:

“Ya, kita, Tangerang Selatan juga memang diuntungkan dengan keberadaan pengembang-pengembang besar seperti Bintaro Jaya. Pada saat kita menyusun Rencana Tata Ruang Wilayah, kita juga memanggil tiga pengembang besar dan pengembang-pengembang sedang dan kecil yang ada di Tangerang Selatan. Dan Alhamdulillah, pengembang-pengembang besar ini tidak mengalami banyak masalah dengan kita karena pada dasarnya mereka sudah meng-adopt unsur-unsur estetika tata ruang” (“...Yes, we, South Tangerang also advantaged by the existence of big developers such as Bintaro Jaya. When we discussed our Urban Spatial Plan, we did invite the three big developer as well as the small and medium developers in South Tangerang. And *Alhamdulillah*, these big developers were not experienced much problems with our discussion because basically they have adopted aesthetic elements of spatial planning”)

The statement of Bappeda of South Tangerang shows that in the development, Bintaro Jaya as a big-scale developer always involved in the preparation of planning documents. Furthermore, there are no serious obstacle in the coordination process because Bintaro Jaya has applied a patterns of spatial planning which suitable with the regulation and good concept. In coordinating development planning in Bintaro Jaya and the area around, Bintaro Jaya helps the infrastructure of the city with good reason, that if the infrastructure in South

Tangerang organized well, then automatically, Bintaro Jaya will be benefited by the increasing access and facilities that connected to each other. This mutually beneficial coordination is also acknowledged by MA, Head of Physical and Infrastructure in Regional Development Planning Board (BAPPEDA) of South Tangerang in an interview done by June 20th 2014 at 02.00pm:

“Pernah juga beberapa kali misalnya ketika kita ingin membangun infrastruktur berupa jalan, kita kesulitan dalam pembebasan lahan karena masyarakat tahu bahwa nantinya jalan itu akan menghubungkan dua kawasan pengembang besar, yakni Bintaro Jaya dan Alam Sutera, jadi mereka menaikkan harga berkali-kali lipat. Dalam satu tahun itu bisa sampai 10 kali lipat kenaikannya. Sehingga kita kewalahan. Akhirnya dibicarakan dengan pihak Bintaro Jaya, dan mereka mau, OK lah, ada beberapa lahan kosong yang diberikan oleh Bintaro Jaya kepada kami dan itu digunakan untuk pelebaran jalan dan sebagainya. Demikian pula dengan yang di Tegal Rotan, dimana disitu ada sisa lahan yang bisa dibebaskan untuk pelebaran jalan, Bintaro Jaya akan memberikan dan juga membangun underpass dan fly over, Bintaro Jaya mau mengikuti rencana tata ruang. Bintaro Jaya diuntungkan dan kita juga diuntungkan karena dengan itu kita tidak usah pakai anggaran kita”
(“...Once also for einstance when we want to build infrastructure such as road, we found difficulties in land acquisition because people knew that that the road will connecting two region of big developers, Bintaro Jaya and Alam Sutera, so the people raised the price of their land exponentially. So we were overwhelmed. In the end, we talked about it to Bintaro Jaya, and they were willing, OK, there are some vacant land given by Bintaro Jaya to us so it used to road widening and so forth. Similarly in Tegal Rotan, where there were unused land which can be used for road widening, Bintaro Jaya gave it and built underpass and fly over, Bintaro Jaya followed the spatial plan. Bintaro Jaya was advantaged and we as well because we did not have to use our budget for it.”)

From the excerpts of the interview can be seen that Bintaro Jaya actively helps South Tangerang City Government in the development of the infrastructure. So did in terms of environment, where Bintaro Jaya has followed the rule of law as the fulfillment of Green Open Space quota. It is stated by EMH, as the Manager of Public Relation & Security of Bintaro Jaya Management Office in an interview interview done by June 10th 2014 at 11.45am

“Ruang Terbuka Hijau yang ditetapkan sama Pemerintah itu harus kita patuhi. Dan itu sudah dari dulu kita lakukan, karena konsepnya sendiri ‘kan ‘garden city’ jadi itu sudah kitaenuhi sesuai Undang-Undang kita sudah 30-40% hijau berupa lapangan, taman-taman, pepohonan..” (“...Green Open Space that has been set by the government must be obeyed. And we have done it since long ago, because the concept itself was *garden city* so it has been done in accordance with the law and we are 30-40% greened like field, parks, trees..”)

The statement shows that the Green Open Space quota for a development of a region has been filled by 30-40%. Fulfillment of the quota is not a difficult task for Bintaro Jaya because since its first development, the concept used is *garden city* so that trees, plants, and green parks exist in every block. The statement above reinforced by the field officer, DL as Landscape Supervisor of Bintaro Jaya Management Office in an interview done by May 30th 2014 at 12.50pm:

“Kita sebagai unit pengelola disini ‘kan diberikan instruksi oleh kantor pusat, dan perencanaannya memang begitu. Setiap sektor harus punya taman hijau sebagai fasilitas bagi warganya..” (“We as unit of management here always be given instructions by the central office, and the planning is just like that. Every sector must have its own green park as facility for the community”)

The statement above it is known that effort to create a green area by tree planting in road median, inside the clusters, sidewalk, and green parks are a concept that applied from the beginning, so that when Act. 26 of 2007 instructed that 20% of total developed land should be Green Open Space, Bintaro Jaya did not meet any difficult obstacle. This also in line with statement of MA, Head of Physical and Infrastructure in Regional Development Planning Board (BAPPEDA) of South Tangerang in an interview done by June 20th 2014 at 02.00pm:

“Kepedulian terhadap lingkungan di kawasan Bintaro Jaya salah satunya ‘kan dilihat dari luas RTH sebagai indikatornya. Untuk hal tersebut Bintaro Jaya sudah memenuhinya, kawasannya juga sudah tertata dengan baik, fasilitas umum dan fasilitas sosialnya juga sudah cukup lengkap. Bahkan sudah beberapa kali dilakukan serah terima dari Bintaro Jaya kepada Pemerintah Kota Tangerang Selatan sehingga kami merasa Bintaro Jaya bersama dua pengembang besar lainnya; BSD and Alam Sutera itu juga asset bagi Kota Tangerang Selatan. Hanya saja saat ini ada persoalan keberadaan pengembang-pengembang berskala kecil di sekitar Bintaro Jaya, yang kita tidak tahu dulu seperti apa proses perijinannya di zaman masih bergabung dengan Kabupaten Tangerang, yang kami khawatirkan pengelolaan manajemennya di masa yang akan datang, mengingat mereka adalah pengembang-pengembang kecil. Ini berkaitan dengan Bintaro Jaya juga karena lokasinya yang berdekatan sehingga Bintaro Jaya harus ikut berperan dalam pengelolaan banjirnya, misalnya. Saat ini ‘kan seperti itu, ada pengembang kecil yang perumahannya dan Bintaro Jaya sama-sama dialiri Sungai Angke dan

setiap musim hujan itu banjir. Seandainya saat itu sudah Kota Tangerang Selatan mungkin itu tidak akan terjadi karena kawasan area itu tidak layak jadi perumahan dan kami akan ketat untuk itu. Karenanya, kita minta Bintaro Jaya untuk berkontribusi membuat tandon air. Dan juga untuk normalisasi Sungai Angke, kita minta mereka untuk ikut membantu mungkin melalui CSR-nya juga. Begitu pula dengan mengatasi kemacetan, kami berencana mengembangkan stasiun dimana kami bekerjasama dengan Bintaro Jaya dan PT. KAI. Dan Bintaro Jaya bersedia ikut bekerjasama karena nantinya juga mereka akan menerima feedback-nya juga” (“Environmental care in Bintaro Jaya one of which measured by the total area of Green Open Space as the indicator. To that, Bintaro Jaya has fulfilled it, the region has been organized well too, the public and social facilities are complete enough. Even several times there were handover from Bintaro Jaya to the government of South Tangerang so that we felt Bintaro Jaya as well as the other big developer; BSD and Alam Sutera are assets of South Tangerang City. Only this time there is issue of the existence of small-scale developers around the Bintaro Jaya area, which we do not know how the licensing was when we were still included Tangerang Regency, that we worry about the management in the future, considering that they are small-scale developer. This related to Bintaro Jaya because the location adjacent so Bintaro Jaya have to play a role in its flood management, for instance. That is the way it is, there are small developers and Bintaro Jaya which both crossed by Angke River and flooded at each rainy season. If at that time South Tangerang Municipality was already exist, it would not happen because the area does not fit to be a residential area and we are very strict about that. Therefore, we asked Bintaro Jaya to contribute in making reservoir. And also to normalize Angke River, we asked them to help through its CSR program as well. The same thing in overcome congestion, we plans to develop stations where we and Bintaro Jaya and PT. KAI collaborate. And Bintaro Jaya ready to join because it also will receive the positive feedback.”)

The handover meant above is the handover of public and social facilities built by PT. Jaya Real Property to the Government of South Tangerang. For example is the pedestrian and street lighting and its signs. The handover was not done all at once, but gradually when it is ready to be submitted, then the handover performed. The statement above also explains how South Tangerang

City Government always invites all related stakeholders in solving issues and making good coordination. Besides the developer of Bintaro Jaya will also enjoy infrastructure development of South Tangerang, coordination must be performed routinely between both parties because even Bintaro Jaya itself is a big and independent developer company, it has to keep contributing on the development and its issues in South Tangerang, the city where Bintaro Jaya lies.

e. Results of the Application of Ecologically Sustainable Development in Bintaro Jaya

ECOMmunity as a program applied in macro and micro level in Bintaro Jaya has given big impact to the lifestyle of the community particularly in ecological aspect. The major results of the program are explained following:

1. Green Open Space 30% of the total land

ECOMmunity at the macro level applied by planting leafy plants in any vacant lands to reduce air pollution in the area. In an interview stated previously in this chapter, green open space in Bintaro Jaya area is now 30% of the total land and on process going on to 40%. This percentage is above the number that stipulated in Act No. 26 of 2007 which said that 20% from the total developed land by private sector or government must filled with green opens space.



Figure 12. Vacant Land used as Green Open Space
Source : Documentation at Sector 7 Bintaro Jaya 17th June 2014

2. Integrated mass mode transportation

Reducing the high use of private cars is also a concern of ECommunitY program. By the program, developer of Bintaro Jaya consider the strong connection of Bintaro Jaya community to Jakarta, so the developer provides busway feeder which departures every hour from Bintaro Jaya to the center of Jakarta called Trans Bintaro Jaya. Recently, an innovation created by the developer by launchin In-Trans Bintaro Jaya, a free of charge bus serving routes inside Bintaro Jaya area. It operates in three routes which consider as most the center of the community's activities.



Figure 13. In-Trans Bintaro Jaya Serving the Community
Source : Documentation at Kebayoran District Bintaro Jaya 17th June 2014

3. Eco-friendly house

The materials used in building houses in Bintaro Jaya today is environmentally friendly. The developer reduces the use of wood, optimizing cross ventilation to get natural temperature, putting green yard inside house, optimizing ceiling heights to lower temperature of rooms, using green roof and green wall. It is even now applied in public facility like mall. Bintaro Jaya Xchange Mall has the biggest vertical garden covering its front wall. The vertical garden is filled with flower and plant to make wall as a tool to reduce pollution.

4. Eco-friendly lifestyle

As explained previously, pedestrian and bike path is built to promote eco-friendly lifestyle to the community. ECommunity which concerns on

community's lifestyle carries out creative events to involve the community in real action protecting and caring the environment. Community is pushed by event such as Beauty, Order, and Neatness Contest among neighborhood. The annual event pushed every neighborhood to be creative in making their neighborhood become the cleanest neighborhood.

5. Integrated function of land

By using mixed-use development, developer of Bintaro Jaya integrates the function of commercial, offices, and settlement in one area of land. There are three locations which planned to this application; Bintaro Jaya Plaza, CBD of Sector 7, and Xchange area. By integrating various land functions, it makes services center more accessible and eases the mobility of people using public transportation mode.

3. Inhibiting Factor and Supporting Factor In the Process of Applying An Ecologically Sustainable Development In Bintaro Jaya

For 35 years managing 2.000 acres of land for a valuable housing region complete with advanced public and social facilities to meet the needs of its community independently while keeping ecological aspect at the same time is not easy. There are quite a few factors that influence the effort of PT. Jaya Real Property in developing area according to its principles; *workable, liveable, and*

sustainable. Those factors divided into two factors; inhibiting factors and supporting factors. Each factors divided again into internal factor and external factor. Below is the explanation:

a. Internal and External Inhibiting Factor

Internal:

- There is a problem with the human resources of Bintaro Jaya Management Office for not all of its staff really understand the concept of ECommunitiy itself. This happens because there are many new employees in the office and they do not understand yet all the concept of Bintaro Jaya development. Their mindset is more about how to do a job and instruction given by the planner and not why the concept must be done, what is the consequences and how important the vision and missions are.
- As a company that must give attention to its consument, PT. Jaya Real Company does not have much power to take a direct action on violation of regulations, for example, on the houses that converted into business place. It is clear on the housing regulation that house does not allowed to convert into a business place. Business place only allowed in commercial place such as shopping complex. To take an action, Bintaro Jaya has to coordinate to South Tangerang City government.

External

- The environment outside Bintaro Jaya area is a significant factor that impacts Bintaro Jaya. When South Tangerang is still a part of Tangerang Regency, there are some land use permits granted to small-scale developers which not in accordance to the proper land use. Such an improper land use then becomes a serious urban planning issue faces by South Tangerang city government when the autonomic city formed in 2008. Bintaro Jaya in this situation is involved in the handling of its impact because it has to coordinates with those small-scale developers in managing environment such as river and infrastructure. Furthermore, this situation influences the the focus of South Tangerang city government in its urban planning. When formulating its Urban Spatial Planning documents, the government must first create a solution to solve this situation.
- The lifestyle of some people in Bintaro Jaya community itself do not give much attention and careness to ecological sustainability. It is often occurs when people renovate their house, they change a lot of eco-friendly material built with imported materials which cannot be sure if the material is safe from harmful chemical or it is not. The design of the house

also often changed ignoring environmentally friendly rules that have been set by the developer.

- The other thing is the high use of private vehicles. Bintaro Jaya which mostly live by medium and high level people tend to use their cars to go everywhere. Facilities built by developer to make pedestrian and biker comfortable, and the provision of public transport are not able to make people switch to use the facilities in daily activities. Besides affecting on congestion in Bintaro Jaya area, high number of private vehicles make trees at road median do not grow well, for example the trees exact at the road median in Sector 7 CBD intersection where the trees are small and not leafy as it is expected to be. Flowers also damaged by the pollution
- There is a problem in the river and reservoirs management. There are garbages in some rivers and reservoirs. Garbages is not the only problem of those rivers and reservoirs, but also for some public place and road in the area. the existence of cadgers and habit of people which throw garbage not in the trash contribute to this issue.
- Bintaro Jaya has many interesting parks to visit. The park visitors which mostly come from outside Bintaro Jaya area and

exclude Bintaro Jaya community often damage the park by throwing rubbish everywhere, damaging grass and plants, and the facility such as bench inside of the park.

- Developer seemed to pay less attention to the management of organic waste. Organic waste recycling place at Sector 5 is inadequate to accommodate all green waste from the region.

The factors stated above are in line with the statement of DL as the Landscape Supervisor of Bintaro Jaya Management Office in an interview by 30th May 2014 at 12.50pm:

“Iya, jadi ya itu tadi, tempatnya ga cukup, kurang besar, ga cukup buat nampung jumlah sampahnya. Jadi kita perlu tempat yang lebih besar seharusnya” (“Yes, that’s what it is, the place is not affordable, it’s not big enough in accommodating the amount of waste. So we need a bigger place for it actually”)

In a different chance, a statement about inhibiting factor in applying ecologically sustainable development in Bintaro Jaya stated by EMH as the Manager of Public Relation & Security of Bintaro Jaya Management Office in an interview done by June 10th 2014 at 11.45am:

“... Ya edukasi juga jadi salah satu hambatan yang kita hadapi dalam konteks ini. Bagaimana mensosialisasikan kepada masyarakat tentang gaya hidup yang lebih ramah lingkungan, dimulai dari kegiatan sehari-hari, begitu pula dengan tingginya penggunaan mobil pribadi. Mengubah gaya hidup memang bukan hal yang mudah” (“Yes, education is also one of inhibiting we face in this context. How to socialize to people about environmentally friendly lifestyle, begins by daily activity, so does the high use of private car. Changing lifestyle is not something easy”)

An important statement made by MA as the Head of Physical and Infrastructure in Regional Development Planning Board (BAPPEDA) of South Tangerang in an interview done by June 20th 2014 at 02.00pm:

“...Ya seperti yang tadi saya jelaskan, kita juga disibukkan dengan keberadaan pengembang-pengembang kecil ini. Masalahnya, bukan kita yang mengeluarkan izinnnya, tetapi sekarang kita kena dampaknya. Kita itu khawatir karena mereka itu pengembang kecil, bagaimana kalau sewaktu-waktu manajemennya tidak lagi melakukan kewajibannya terhadap pemerintah dan warganya. Belum lagi bagaimana mereka dalam pengelolaan lingkungannya, baik atau tidak, kan kita tidak tahu...” (“... As I explained before, we are also still busy with the existence of these small-scale developers. The problem is, we did not grant the permit, but we handle the impact now. We worry because they are small-scale developers, what if somehow the management no longer be able to fill its responsibility to the city government and its community. Yet about the environmental management, it is good or not, we do not know...”)

From the statement above, it is showed that one of the concerned challenge face by the city government is the credibility of small-scale

developer which built its housing neighborhood in an improper land according to the new spatial plan document. While on the side of Bintaro Jaya, the developer is handling the lifestyle of the community itself which is not yet fully reflect the ecologically friendly lifestyle. Lifestyle adjustment process is likely to run for years and in this particular case, will be more effective when it is driven also by the presence of facilities such as convenient and affordable mode of public transportation.

b. Internal and External Supporting Factors

Internal

- Masterplan used by PT. Jaya Real Property in developing Bintaro Jaya by applying garden city concept and ECommunity program have spawned creative and environmental practices so that makes environmental care becomes a uniqueness of this area and gives valuable lesson to community.
- Bintaro Jaya community has its own creativity and inisiative to show its support on ecological aspects by holding programs which come from its own idea. For example, *One Man One Tree One Biopori, One Fish* in Mandar Rukun neighborhood.

The same spirit comes from community in Puri Mediterranean area which independently providing cleaning tools, making biopori, and plants a variety of ornamental plants together.

External

- PT. Jaya Real Property is active and open in establishing cooperation with other parties, both private and non-governmental organizations that have similarities to uphold ecological sustainability. For example, the cooperation with Unilever Indonesia Foundation in socializing the existence of Waste Bank. By such a bank, people can be educated to sort waste and help reducing waste volume in laystall.
- Support of South Tangerang government on the development of Bintaro Jaya. Government of the city on several occasions participated in greening process and provided tree seedlings. The support also in a form of routine surveillance conducted by a joint team formed to assess and inspect the region and other developer region to make sure the developers obey on agreed regulations.

The supporting factors stated above is in line with the interview result with MA as the Head of Physical and Infrastructure in Regional

Development Planning Board (BAPPEDA) of South Tangerang in an interview done by June 20th 2014 at 02.00pm:

“Tiga pengembang besar ini, sudah mempunyai masterplan sendiri dalam penataan kawasannya sejak kita masih dalam Kabupaten Tangerang, sebelum Kota Tangerang Selatan. Ketika Kota Tangerang Selatan sudah ada dan kita diskusikan mengenai penataan ruang kita, itu tidak ada masalah berarti sebab kawasannya sendiri sudah tertata dengan baik. Jadi pemerintah kota dalam hal ini juga merasa terbantu dengan penataan yang mereka lakukan itu. Dan dalam banyak hal kita juga selalu berkoordinasi dengan Bintaro Jaya, kita bicarakan, kita selalu terbuka dan Bintaro Jaya juga selalu taat pada kesepakatan dan regulasi” (“These three big developers, has their own masterplan in its area arrangement since we were still include in Tangerang Regency, before the South Tangerang Municipality. When South Tangerang Municipality formed and we discussed about our spatial planning, there is no serious problem because the area itself has been arranged well. So in this case, the city government feel helped by their good arrangement. And in many ways we also coordinated with Bintaro Jaya, we discussed, we always open and Bintaro Jaya also always obey our agreement and regulations”)

From the interview above, it can be concludes that the masterplan and pattern of spatial planning applied by Bintaro Jaya is appreciated by the government of South Tangerang Municipality. And so does the cooperative attitude of the developer in discussing each problem occurred. This helps the process of the application of ecologically sustainable development concept in creating a workable, liveable, and sustainable area for communities.

C. Data Analysis

1. Development Planning Concept in Bintaro Jaya

Bintaro Jaya area has been built into a modern region by all of its public and social facilities. The development formulated by PT. Jaya Real Property as the developer with its masterplan. The masterplan basically aims to meet the needs of urban community to a modern, well-equipped, well-arranged, and accessible residential area as a suburb of Jakarta. Besides, Bintaro Jaya at the same time providing a value plus with its garden city concept.

The garden city concept urges the importances of public realm designs and of the buildings for they define the shape of a city. The concept can enriches our cities today, not only by providing planning strategies and formal inspiration, but also by reconnecting what we do with the broader social currents that we must engage with as city-planner. The garden city area engaged in development economics, social issues, and civic reform. A garden city itself in its original version, is a comprehensively planned, green residential district consisting of single-family and multi-family housing. It is important to take a look at this idea in today's planning. What we have today in the terms of urban and suburban development is cynically but accurately called *junk space*, not neighborhoods or towns but zones of development in a sea of sprawl. It becomes very to important to be applied as one of solutions for overcrowded cities (MacNair, 2002 :7).

Today, there is a tagline called *The Professional's City* to shows another commitment of PT. Jaya Real Property in providing Bintaro Jaya community to its needs. By the tagline, PT.Jaya Real Property must keep its garden city concept at first. Bintaro Jaya needs to involve its community in keeping garden city concept prioritized in the middle of strong impetus of economic development. When development booms, green and open spaces shrink and farmland disappears. At the same time, the numbers of people without access to sufficient nutrition are growing, programs serving people in need are disappearing and more people are living in multiple unit housing access to land (MacNair, 2002: 3).

Although community gardens may seem like a peripheral issue to those who do not participate in them, they make an important contribution to resolving the increasingly complex challenges facing the city and suburbs, in this particular case, Bintaro Jaya as the suburb of Jakarta in South Tangerang City. Community gardens are not just places to garden, they offer a whole host of opportunities to a broad range of people. They assist low income people by providing much needed healthy fresh food. Community gardens are linking with food banks, providing fresh local produce. In some cities, those who use food banks are becoming gardeners themselves, a self-help alternative to the traditional food bank. Community gardens are defined in a variety of ways, sometimes for the purposes of a municipality or non profit organization and

sometimes for the sake of clarity in literature. At the broadest level, a community garden where people share the basic resources of land, water, and sunlight (MacNair, 2002:11).

Community garden is very suitable to be applied in Bintaro Jaya community because it is equally popular with medium and high income people who do not have a place to garden. Senior people, which are found much in Bintaro Jaya community, who no longer have yards could find recreational and social opportunities through community gardens. Young families, youth, and people with mobility challenges all benefit from community garden. It can be created in some vacant land inside the districts.

a. Bintaro Jaya Physical Development

As data displayed in the previous section, before the use of district system, Bintaro Jaya area was using sector system. The tendency of the sector arrangement did not skip about at random in the process of development of the area but they followed a definite path in one or more sectors. The key factor of the sector arrangement mostly based on high quality areas. People want to set in areas they feel comfortable with in its broadest sense. The term comfortable can be interpreted by easy access of facilities, good environmental condition

– naturally and artificially which is clean of pollution, and prestige (Yunus, 2012:23).

The sectorization used to applied in the area made the developer needs to do a re-arrangement on some sectors that have a minimum access to public facilities and on sectors that not arranged well. the sectorization system in some ways made the luxurious clusters get maximum access to the center of facilities and left behind in terms of modern ecological programs due to its lack of land and green yards. People who live in the old clusters need more spaces and access to the main facilities of Bintaro Jaya.

By using district system at the present time, Bintaro Jaya physical development turns into Bintaro Jaya Boulevard, the main road of Bintaro Jaya with width of fifty meters connecting JORR 1 to JORR 2 toll road and Sector 7 to Graha Raya and its surrounding areas. Along the boulevard, the developer is developing commercial, entertainment, offices and education center. Central Business District (CBD) intersection crossed by a large number of vehicles.

The boulevard as the core of Bintaro Jaya public facilities crossed by a large number of vehicles, particularly at the junction. To solve traffic congestion, the developer built a fly over, and recently pedestrian walk, and bike path. Unfortunately the pedestrian walk and

bike path is not popular to the community. It is caused by the distance from the clusters to the boulevard is far enough and by the lack of trees along the boulevard road.

Another problem found in the boulevard is that the road connecting Sector 7 to Sector 9 is shrinking so it does not fit the number of vehicles from and to the CBD intersection. At the side of Sector 7, the shrinking caused by the road is no longer be able to be widened. Hundreds of meters from the junction stood hospital, commercials, and mall. It caused traffic congestion from Sector 7 to Sector 5 particularly in peak hours. The same case happened on the street of Sector 9. Such a traffic condition of course does not reflect an ecologically sustainable area where it polluted the air and plants at the side and at the median of the road.

There are monthly event hold at the boulevard by the developer, that is Car Free Day. The event gathered the community throughout Bintaro Jaya in ecologically friendly activities. At the event, people can use the 3 km road of the boulevard to do sport and social activities with no vehicles crossing. Social and environmental are factors that cannot be separated in achieving an ecologically sustainable development. Meeting ecologically sustainable development in a

community which fails to meet social goals concerning justice and equity does not make for sustainability (Harding, 2005:243).

The importance of social equity also required in the old clusters which have minimum attention on its development. The area such as Sector 1 and Sector 2 needs to be re-arrangement so its suitable with the new district system. The physical development which focused at the Bintaro Jaya Boulevard should not ignores the arrangement of old clusters.

Fulfilling the needs of urban communities is not a very easy job. Developer of an area like Bintaro Jaya must pay attention to the dynamics of the community. As an area being developed, the mobility of its people usually following to be increased. That makes the developer must ready in providing the dynamics of community's needs, especially for a private company which orienting on their users' satisfaction. In case of Bintaro Jaya, meeting the needs of community is not simply be made to its inner community only, but also to the surrounding community of the city. As explains at the previous part, in its development, Bintaro Jaya is related to the development of the city such as river and land management. That is why Bintaro Jaya needs to respect community of South Tangerang city by accessing its facilities

and improving the quality of ecological aspect as well (Adisasmita, 2010:153).

b. Public Facilities in Bintaro Jaya

Bintaro Jaya has been known for its complete facilities surrounding its area. Recently, a university has been developed to emphasize its commitment in developing education center. Providing a complete facilities becomes a priority for a big developer because it is the market; a modern, green, and independent settlement area to support high mobility of urban community. Urban community needs the availability of urban service and utility. Developing and rejuvenating area needs these facility and utility at its minimum standard (Adisasmita, 2010:143-144):

- Water, electricity, and gas

Water is required to meet the needs of drinks, cooking, and other daily activity in every house and in every office, in schools, hospital, hotel, mall, and in parks. As well as the electricity provided for lighting, either in buildings or in streets. The provision of electricity is better if its from the renewable resources.

- Human waste disposal dan drainage

Every cluster must have qualified human waste disposal, that is connected to septic tank or by system of sewers. Toilets also must be provided in public places where the community usually gathered. A good drainage system must be able in proximity of rainfall, dirty water and capacity to prevent the flood.

- Urban utilities placement

Water pipeline, gas, as well as the electricity, often placed underground, but it must be constructed in a way so that when there is inspection and repair, it will not disrupt traffic. If it have to transversely mounted the street, it needs a large space to do the inspection and repair.

- Waste disposal

Collection and disposal of garbage regularly is very important. The system of transporting waste from house to house must be routinely performed.

Bintaro Jaya which aims to create a workable, liveable, and sustainable area, certainly must pay attention to the above matters as minimum facilities and utilities of the area. There are some matters

that the quality and quantity must be improved so that the concept ecologically sustainable development can be achieved in Bintaro Jaya.

Those matters that must be done are increasing the usage of solar lighting not only in protocol sreet, but in every road and parks as well. in matter of waste disposal, the existence of public facilities such as hospital and other public place in CBD area must be focus to be maintained for they are the center of the area economically and socially. Drainage management is very important because in recent years, as climate change increasingly erratic, and some locations experiencing flooding. The cause of the flooding must be investigated whether purely because of high rainfall or is there a problem with the drainage system of the area.

The next matter that should be attention is garbage. Neighborhood cleanliness had been well preserved inside the clusters, but the problem of garbage is found at some points in sidewalks which caused by the existence of cadgers. The developer should be able to handle the problem so that sidewalks which is a right of pedestrian and also as the main facility of a sustainable area, can be used comfortably by the community. Cleanliness is also a problem in some rivers and reservoirs. The river in Sector 5 near to Bintaro Jaya green waste

disposal and a reservoir in Sector 9 are the example that must be managed well.

To ease the access and moving people with mass mode of transportation, the developer adopted the *Transit Oriented Development* by providing pedestrian walk, bike path, and In-Trans Bintaro Jaya. The concept actually used mostly in high density and mixed-use land in big cities. High concern for mixed land-use - shops, services, restaurants, hotels that provides trip, is a major concern. Central, as a significant gain of the implementation of Transit-Oriented Development is the livable, active community that is provided with high quality life (Cervero, Ferrell, Murphy, 2002: 25).

The design of urban communities which favours reduced car dependency to walking, cycling and pedestrian friendly developments is seen as an effective strategy for the city, while travel behaviour is an important feature in shaping travel patterns as accurate as possible. There are three elements that the studies rely upon in evaluation of travel behaviour:



Figure 12. Three Elements of Travel Behaviour
Source : (Cervero, Ferrell, Murphy, 2002: 28).

These three elements also interact with other important features that add valuable information to the final appraisal of travel behavior. Socioeconomic and personal characteristics remain important in travel behaviour when residential environment is taken into account. Of these personal characteristics, car ownership is by far the most important variable in the process of explaining modal choice.

Considering the three elements above, Bintaro Jaya should improve its provision of public transportation. Another way to make people use the pedestrian walk and bike path is by rising the parking rate along the boulevard and limiting the parking lane by turning it to In-Trans bus waits and green parks.

c. Impact of the Development Planning in Bintaro Jaya to Its Community

There are significant change in Bintaro Jaya and South Tangerang city since PT. Jaya Real Property developed the region in 1979. Bintaro Jaya currently became one of the most desired

residential area in Jabodetabek region. By the significant social dynamics, economic growth, and environmental change in the area, the most important thing to reflect is the impact to the community. Currently, Bintaro Jaya area becomes a well-defined region with its cluster-in-district system accordance with the concept by Robert Riddell who stated that cluster zoning accommodates the clumping together of a specified form of development such as residential on one part of site, reserving the balance for open area enjoyment. Cluster zoning is often used to allow an above-average spot density of built units along with a substantial area of adjoining open ground space (Riddell, 2004:258).

Impact may defined as the difference between a forecast of the future with a development occurring and a forecast without the development. The impact of a development planning usually measured by its social, economy, and environment world. For social impact, it is an alterations in the way in which people live, work, play, relate to one another, organize to meet their needs, and generally cope as members of a community; while cultural impact involves changes to the norms, values and beliefs of individuals that guide and rationalize their cognition of themselves and their community (Barlow, 2006:206).

Development approach that evolved to be more specific with the regional approach, and the focused on spatial aspect actually is meant to know the interaction process and responsivity of development activity that includes development resources such as human resources, natural resources, capital, technologi, and institutional clearly so that the performed development activity can be effective and efficient (Adisasmita, 2010:45)..

This what applied and occurred in Bintaro Jaya. The growth of this area has moved the economic wheels of the city of South Tangerang and its community. For example, the way Bintaro Jaya area becomes magnet of job opportunity to the surrounding community. With new commercial centers and offices, this area is in the progress into a more independent city. Residential is a very important sector for 61,79% of the land of South Tangerang used by this sector. It makes the city today known as the city of trade and service. The economic growth itself in 2012 has reached 8,24% which is the highest in Banten Province.

Environmentally, the existence of large-scale developer like PT. Jaya Real Property with its own uniqueness of spatial planning is an asset to the City of South Tangerang. With green open space as much as 30%, Bintaro Jaya has helped the city government in creating

beneficial green space to the sustainability of the city with its high mobile community, while at the same time, developed the area into lifestyle center through its CBD and mixed-use land.

Considering the high mobility of the community, this pattern of land development is fit to be applied in Bintaro Jaya. The driving force of mixed use comes from the demand for additional housing arising from increased population, inward migration and social change and limits to supply due to current density levels and land use, and development control on green belt. It also needed to reduce car and other vehicular use in order to reduce carbon emissions and pollution. Mixed use land integrated residential buildings, which is now become more limited in the area of Bintaro Jaya, for housing, retail, commercial, and offices (Barlow, 2006:102).

2. Application of the Concept of Ecologically Sustainable Development in Bintaro Jaya

a. ECOmmunity

As explained in data display part, combining the term ecology and community, ECOmmunity related so much with the concept of sustainable community and even the essence is same. The term

“sustainable community” has various definitions, but in essence refers to communities planned, built, or modified to promote sustainable living. Sustainable community tend to focus on ecologically and economically sustainability, urban infrastructure, social equity, and municipal government. The term is sometimes used synonymously with *green city*, *liveable city*, *sustainable city*, and *eco-community*; the exact attempt of the developer of Bintaro Jaya area (Julian, 2005: 24).

It is now the main program of PT. Jaya Real Property which is a mainstay in applying ecologically sustainable development, a program which invites people in Bintaro Jaya to care more on its ecological life through physically works and socially works. Physically, there are 4 parts of work, they are macro ECommunitiy, micro ECommunitiy, integrated mass transportation, and environmental care. While socially, ECommunitiy works through areal and environmental care.

It is recognized that the ECommunitiy program does make a significant changes in improving environmental quality. Applied by using eco-friendly materials for houses to the provision of free public transport. Today, there are many definitions for a “green” building that are widely used in the marketplace. There is a definition used that is buildings and/or building attributes that contain or are intended to

contain sustainable design features, building materials, building systems, and operating protocols. While The Urban Land Institute in Texas defined that green building is the practice of increasing the efficiency with which buildings use resources while reducing building impacts on human health and the environment during the building's lifecycle, through better siting, design, construction, operation, maintenance, and removal (Frej, 2005: 4-8).

The Leadership in Energy and Environmental Design (LEED) standard is the most widely accepted basis for measuring the inclusion of sustainable design features, materials, and building systems in buildings. The LEED Rating System in 1998 and has continued to develop and update certification criteria based on a point system in order to classify different levels of sustainability in various types of buildings. The elements of a “green” building (based on LEED) are (Shalley, 2008:2):

- Sustainable site
- Water efficiency
- Energy and atmosphere
- Materials and resources
- Indoor environmental quality
- Innovation and design process

It is important to involve community in creating ecologically sustainable area. communities benefit when their natural ecosystems (watersheds, coastal fisheries, forests) and social systems (families, neighborhood organizations) are used effectively, efficiently and conservatively. Benefits of following sustainability principles include more livable communities, lower costs and a safe, healthy environment. To reap these benefits, communities must learn to use renewable resources at rates that do not exceed their capacity to renew themselves and to use nonrenewable resources at rates that do not exceed the capacity to develop or find substitutes. In addition, communities should reduce the use of resources consumed at rates that exceed the capacity of the ecosystem to assimilate or process the waste generated by their use. This also means finding community cost savings by eliminating waste, enhancing resource and human productivity, and harnessing the economic benefits of innovation (Shalley, 2008: 5).

A key question facing communities today is how to generate future economic benefits using an appropriate balance of both locally available natural capital, and natural capital that must be imported. Because problems of resource overuse can be expensive to fix, it is prudent to anticipate the costs of using natural capital rather than being

forced to be in a reactive mode. As an example, an area's ability to develop may be constrained due to a lack of a new drinking water source. Consequently, a municipality may be forced to enact a building moratorium until additional water supply can be secured. That is, without proper anticipation of problems/impacts, communities will be forced to adopt measures that may be costly in order to achieve both environmental and development objectives. Advanced planning is the key to avoid violating carrying capacity limits (Reyes, Rosen, Sarafides, 2006: 7).

ECOMmunity, in its essence, is a big step for a developer. In Bintaro Jaya, it needs to be improved because it seems like the program only done in new clusters and new public facilities. The old clusters seemed to be left in old concept. These old clusters need more than just new trees and biopori holes. They need new lifestyle which is *greener* and to be involved in this ecological movement. To do that, the developer must re-mastering its planning and involving the old clusters deeper in the program (Shalley, 2008: 9).

b. Mixed-use Land

Using a block of land at the Tegal Rotan area to integrate entertainment, commercial, offices, hotel, and shopping centers in one

location, Bintaro Jaya tries to use their land bank appropriately considering its limited land and to ease the access for the community. The area will be developed in three different locations such as Bintaro Jaya Plaza, CBD of Sector 7, and CBD near to JORR 2 toll road gate.

The shift away from the segregation of land uses and back toward the integration of them has established mixed-use development as an important paradigm in the development planning world. Consequently, mixed-use projects have been developed across the country in both urban and suburban areas and in a variety of different configurations. Mixed-use development at first seems like a relatively straightforward concept. Intuitively, it suggests real estate development that combines more than one land use. However, further scrutiny reveals that the term's apparent simplicity masks a tremendous amount of underlying complexity. While the term frequently appears in the planning and real estate literature, the definition of mixed-use development is rarely elaborated upon. This seems to imply that there is little variation among the definitions that exist and, moreover, that the definitions that do exist are widely agreed upon (Rabianski, 2009: 205-230).

There are actually only two definitions that are consistently referenced in the literature, but the similarities and differences

between the two highlight the broader areas of agreement and ambiguity. The first definition was developed by the Urban Land Institute (ULI) and the other was recently derived from the results of a cross-organizational survey conducted by several real estate industry groups. The definition espoused by ULI is probably the most prevalent definition of the term. It characterizes mixed-use development as consisting of (Herndon, 2010: 14):

- Three or more significant revenue-producing uses (such as retail/entertainment, office, residential, hotel, and/or civic/cultural/recreation) that in well planned projects are mutually supporting;
- Significant physical and functional integration of project components (and thus a relatively close-knit and intensive use of land), including uninterrupted pedestrian connections; and
- Development in conformance with a coherent plan (that frequently stipulates the type and scale of uses, permitted densities, and related items)

It is the right move to start it by revitalizing the mode of public transportation. In Bintaro Jaya Plaza area where a shopping center, condominium, commercials, and a train station will be integrated, it is

not a new block such as Bintaro Jaya Xchange at Tegal Rotan street. It is an old and crowded area which has been known as the first CBD of Bintaro Jaya. Today, this area is very crowded due to high usage of private cars. Single-use developments are commonplace at high, medium, and low urban density, but low-density mixed-use developments are rare. Where density is high and transport is by automobile, parking space requirements (often mandated by the same subdivision act requirements that restrict mixed-use) are likely to exceed those of low density residential development, and the large number of parking spaces may be difficult to finance. Note that this is equally true for any other higher-density development remote from public transport; however, compared to residential zones, this may be a drawback due to the required higher initial investment that only amortizes over the medium and long term. On the other hand, in denser areas, owning an automobile might be considered a luxury rather than a necessity, especially where there is good public transport (Herndon, 2011: 28).

Upper middle class as the most residents of Bintaro Jaya, makes it difficult to make them move to public transport. Besides, today's public transport in Bintaro Jaya is not suitable with its community lifestyle. In-Trans Bintaro Jaya is one of important keys which need to

be improved. Unfortunately, there are no In-Trans Bintaro Jaya bus serving route from Bintaro Jaya Xchange to Bintaro Jaya Plaza. It will significantly influence people to use the bus.

Clearly there are a variety of reasons being asserted for why mixed-use development is essential to the revitalization of urban environments. The benefits run the gamut from restoring neighborhood vibrancy to improving air quality, and reducing chronic disease to increasing economic activity. However, Coupland in Herndon (2011) points out that “while some of the advantages of mixed-use can be accepted as absolute, others may or may not be true in certain circumstances.” Therefore, since it is not certain that all of the benefits associated with mixed-use development are guaranteed to occur, it is important for developer like PT. Jaya Real Property which applying this concept to distinguish between the guaranteed and potential benefits of mixing land uses.

The developer must consider that benefits of mixed-use development which are not guaranteed to occur include safer, vibrant neighborhoods, less traffic, reduced air pollution, improved public health, and increased economic activity, among many other things. While each of these is certainly a possible benefit of mixed-use development, they can not be assured because each is reliant upon

factors external to the mere presence of a mixed-use development. For example, having numerous uses within a close distance creates a situation where it is reasonable for people to walk or ride a bicycle to their desired destination. This reduces people's need to rely solely on their vehicles for public transportation, and assuming that they choose to take advantage of that opportunity, has the ability to reduce the amount of cars on the road. Fewer automobiles on the road will likely lead to less traffic congestion and lower volumes of air pollutants entering the atmosphere. This is what now becomes a task for the developer in making strategy how to make people choose to walk within the mixed-use land by some strategies such as rising park rate, providing more busses, integrating bus station with the train station, and planting leafy trees alongside the pedestrian walk (Herndon, 2011: 27).

Assuming that the space for each individual use is occupied, the effects of mixed-use development on a given area which are guaranteed to occur include accessibility to a greater diversity of uses, higher densities of people and space, and longer periods of pedestrian activity throughout the day. Each of these effects is typically perceived to be a benefit for urban areas, and together they provide the foundation needed for all the other proposed benefits to arise;

however, by themselves they can not guarantee that they will. Furthermore, these benefits only extend to the periphery of each individual mixed-use development. Thus, for the desired large scale changes to occur, in addition to uses being integrated within individual projects, mixed use development must be integrated both with their surrounding areas and with each other (Herndon, 2011: 29).

c. Recycling Program

Another ECommunity practice is recycling its green waste. Ecologically sustainable development demands the ongoing management of outputs (waste and pollution) as well as inputs (food, water, living space, and other resources). Waste may be defined as movable material that is perceived, often erroneously, to be of no further value. Once discarded, it may not be a problem, a nuisance or a hazard, but it can turn out to be a valuable resource. As waste may give rise to pollution, it is necessary to view both together. Pollution and waste management can focus on: 1) prevention and avoidance, or following escape or release; 2) collection and disposal, or 3) reclamation/treatment/mitigation (which may sometimes be difficult and costly or impossible). Prevention involves catching waste or

pollution before release, while avoidance seeks development without waste or pollution generation (Barrow, 2006: 289).

The risks from pollution and wastes are far from fully understood, and available standards and monitoring techniques need constant improvement. What was considered safe twenty years ago is often no longer accepted and what is acceptable today may not be in the future; also new compounds are released. It makes the management office of Bintaro Jaya should improve their quality of recycle product. The small-sized processing place of green waste at Sector 5 does not able in accommodating all green waste of Bintaro Jaya. There should be a waste processing center which not only processing green waste but also plastic waste. It is questionable the essence of the developer distributing two plastic bags to the community because plastic waste is a problem in landfill, as litter on land and adrift in the oceans. Some plastics degrade slowly and can cause considerable harm to ecology (Barrow, 2006: 295).

d. Coordination of Related Stakeholders In the Process of Developing An Ecologically Sustainable Development In Bintaro Jaya

In all stages of developing an ecologically sustainable development, the process must have both the people and

administration's participation, through constant evaluation and validation. It is important to mention that the community's involvement and participation as well as of other related stakeholders, is a decisive factor for the success of the ecologically sustainable development. For instance, Bintaro Jaya cannot not concerned on other river management for the river also crossed its area. It must create a good cooperation with the other developer, community, and city government as well. The evaluation and validation, combining the developed actions with public participation, should allow a better adequacy of each stage's final result to the needs and expectations of both population and administration, as it generates feedback that can lead to reformulations, preventing cases of inadequacy towards those expectation (Amado, Santos, Moura, 2010: 2).

PT. Jaya Real Property coordinates its development process with the government of South Tangerang City. It is a must considering that developing land needs license and must follow the regulation and law. One of the rules of law that need to be adhered to is Permit of Space Utilization and Green Open Space quota. A good form of coordination also required in handling problems such flood and spatial planning. The developer and management office of Bintaro Jaya

cannot ignore its role in helping the city of South Tangerang environmental and spatial problem.

One thing that interesting is the explanation of an official in BAPPEDA of South Tangerang Municipality which stated that seems like there is a *win win solution* in coordination pattern formed between the government and PT. Jaya Real Property, where in contributing on development planning process of the city, the developer always gets positive feedback such as wider access of its region that for sure raised its bargaining power in the future and eased its marketing. In the other hand, the government also benefits because the decrease of required expenditure.

From the situation, PT. Jaya Real Property apparently should provide stronger evidence about its concern on ecological aspect of Bintaro Jaya outer region and the whole city community. It can be performed by CSR programs. The developer also must keep a good coordination with the Regional Planning Coordination Board (BKPRD) considering the rapid ongoing physical development today in Bintaro Jaya area. at the opposite side, the regional government also deserved the same challenge, where the government should provide its independency as the authority of the city in controlling its development process, as well as the firmness in enforcing regulation which need to

be shown. The monitoring by a joint team formed to inspect development process in the city should keep performed to make sure that the development done in the city is still refers to its Urban Spatial Planning. It is important to engage with the right people an appropriate way to achieve results (Amado, Santos, Moura, 2010: 2).

e. Result of the Application of Ecologically Sustainable Development in Bintaro Jaya

1. Green Open Space 30% of the total land

Bintaro Jaya is known as a green area standing next to Jakarta. Green space is a vital concern which should be provided in any land development. A.K. Jain (2011) considers green space as one of six critical areas as foundations of sustainability. Green spaces provide recreation opportunities and connect people with the natural systems. The central government also has a same concern that in Act No. 26 of 2007, it is stipulated that there must be at minimum 20% of total land developed filled with green open space. It is important for developer whether government or private developer to optimize the benefit of green open space, so it is not only trees but also a place for community for learning and interacting with nature. (A.K. Jain, 2011:44).

2. Integrated mass mode transportation

High use of private car is a major issue of today's urban planning. It is also a challenge for the concept of sustainable development. Reducing it now becomes a trend by providing a proper public mode of transportation. It is also the effort of the developer of Bintaro Jaya nowadays following the issue of traffic density. Transportation is also a focus of environmental sociology. Habit of human in the view of environmental sociology, shaped the environment in the future. That is why it is important to not consider environment will always be able to reposit pollution or providing fossil fuels. Improving mass mode transportation network is important to make elimination of private car in Bintaro Jaya more effective. It must support and fit the mobility of Bintaro Jaya community so it synchronized with the objectives of mixed-use land which application is linked to how people commute and mobile (Sutton, 2004: 8).

3. Eco-friendly house

It is a trend to recycle and using recycling product nowadays. But for Indonesia, building settlement by using eco-friendly materials is not so popular. Using eco-friendly materials actually a good option to contribute to environmental sustainability in the level of household. Building this non-toxic house for a developer shows concern on micro

level as well. one thing that must be keep maintained is how people use it effectively. In this point, environment is linked with development planning at micro level. It can be used as an effective tool to achieved sustainable development (Paul Jenkins *et al.*, 2007: 203).

4. Eco-friendly lifestyle

The developer of Bintaro Jaya stated that ECOMmunity in its essence is a new lifestyle. Changing a community's lifestyle is a difficult task, especially when it comes to urban level. Involving community is the major strategy of the developer in making community aware that they are a part of this movement. When the community's awareness on environmental aspect arises, it becomes easier to apply the exnt policies. Furthermore, such a sommunity participation creates valued community and thus preserving natural values and promoting an appropriation of public space with greater social sensitivity and responsibility to their environment (M.P. Amado *et al*, 2010: 6).

5. Integrated function of land

The fifth major results of the application of ecologically sustainable development in Bintaro Jaya area is how the developer integrates various function of land. It integrates education center,

commercial, offices and vertical settlement in one location. It really help the city in creating a more appropriate public transportation mode. According to Herndon (2011), s mixed-use development consisting of:

- a. three or more significant revenue-producing uses that in well planned projects are mutually supporting.
- b. significant physical and functional integrationof project component including uninterrupted pedestrian connections.
- c. development in comformance with a coherent plan that stipulates the type and scale of uses, permitted densities, and related items

These three aspect of mixed-use development fit the standard for the developer of Bintaro Jaya. By times, the developer keep improving its quality of mixed-use land by providing In-Trans Bintaro Jaya to commute people to the mixed-use location, making pedestrian and bike path, and concerning the densities well by designing the location properly. It is also a tool in revitalizing community life; it hhelps streets, public spaces, and pedestrian-oriented retail again become places where people meet, encouraging walking and bicycling at the same time. By this innovation, the developer of Bintaro Jaya is

creating a future community life that care more on environmental aspect in macro and micro level (Herndon, 2011: 28).

3. Inhibiting Factors and Supporting Factors In the Process of Applying Ecologically Sustainable Development in Bintaro Jaya Area

a. Inhibiting Factor

As explained in the previous section, there are inhibiting factor and supporting factors in the process of applying ecologically sustainable development in Bintaro Jaya area. situation that becomes the finding of researcher is actually unpredictable because there are still some officials at the developer management office that do not really understand about the concepts applied by PT. Jaya Real Property in developing Bintaro Jaya. This happens because recently there are restructurization of officers which now filled by new and young persons. These persons know how to make tasks done but they did not understand the bigger image of the task: the concept itself. They should do their *homework* by learning the concept so that they can improve their quality by offering some fresh ideas and not just doing operational task such as counting budget.

Regarding many house that turns into commercial like stores and restaurant, the developer should explain if that happens because there is

exception on those houses or the houses have the permits to do it. It is needed in order to prevent environmental damage caused by these home-shaped stores.

In the side of the government, the new-formed city government must ensure the development going on the city is in accordance to the spatial planning document. It is a preventive action needed to prevent improper land use. A further investigation is also needed to ensure the management of small-scale developer is managing its area according to the environmental principles so it will be in line with the Urban Spatial Planning which support the sustainable development. In accordance to the ecology of public administration as an emerging paradigm today, local government, in this particular case the South Tangerang city government must play a strong action to stand in front of the rules and regulations managing any indication of environment degradation even there is no conclusive scientific proof about it. The small-scale developers with limited resources are tend to ignore environmental and social issue for financial reason.

One of the toughest external factors that constrained the application of ecologically sustainable development is the lifestyle of the community. The ECOmmunity program today constrained by the people when they change the materials and furnitures by the new ones. This also recognized by the developer that education is really important in socializing the new lifestyle which more friendly to the environment. The community in and out of Bintaro Jaya should

be educated that ecological sustainability is not always about the number of trees, moreover, it is about lifestyle and mental change that reflects alignments on the ecology. It can be done by reducing the usage of private cars as much as possible, reducing excessive electricity usage, and using eco-friendly home materials (Barrow, 2006: 211).

b. Supporting Factor

Bintaro Jaya deserves an appreciation for its concern on ecological aspect as stipulated in its programs and development. The coordination formed between developer and government is one of keys of succeeding the developer programs. It is also a form of evaluation and control on the developer.

The strong supporting factor is the planning which based on sustainability as the pillar. As well as the creativity of some neighborhood in creating events supporting ecological sustainability. A planning process becomes vital as it is the foundation of what decision would be applied. The sustainability as well as workability and liveability which is the main focus of the developer is suitable with the today urban life. It is should be considerable that any decision made would impacts socially, economically, and ecologically (Barlow, 2006:164).

BAB V**CONCLUDING REMARKS****A. Conclusion**

After displaying and analyzing data, this research comes to the conclusion regarding the research questions as following:

2. Planning the way we develop our area is vital considering the impact that our community will receive. As theories emerged responding urban growth today, mixed-use land and garden city concept of development came out concerning land problem in urban area. Integrating uses in one area, the mixed-use concept with its ambiguity is accepted and applied in many urban area around the world. It most used in high density urban area to ease community in moving and supporting the environment by reducing reliance on car and make people choose to walk and bike. While at the same time, the garden city concept has significantly changed Bintaro Jaya area into a green suburban area with a public green park in every sector and district. The concern is well accepted due to the degradation of environment quality nowadays in the middle of rapid urban growth. The concept both are the weapons of PT. Jaya Real Property in facing space and

environmental problem in Bintaro Jaya with its high mobility people and creating a desirable residential suburban community.

3. An ecologically sustainable development becomes a need in the middle of today's rapid urban development. Balancing the three main aspects of urban life which are social, economy, and environment, the concept can benefits urban community. Community benefits when their natural ecosystems and social system are used effectively, efficiently, and conservatively. Benefits of following sustainability principles include more liveable communities, lower costs and a safe, healthy environment. To reap those benefits, there must be a change in the paradigm of today's urban development planning. Urban community must consider that they live in limited natural resources. They must change their lifestyle to care more to the environmental aspect. A great progress showed in Bintaro Jaya by its main program today, ECommunity. This mind-changing program has invited the community to care more to ecological aspect as an important thing in daily activities.

Involving community in this task is important for a good concept and its application cannot be successful when the community does not involved in the process. If the community involved in the process of making an ecologically sustainable community, they will have a sense

of belonging to what have been done. So it is not only the job for the developer and the government. It is also the responsibility of urban community reflected in their lifestyle.

4. Towards ecologically sustainable development, the developer of Bintaro Jaya meets some challenges as well as the supporting factors. Some of the inhibiting factors come from the internal of the developer and some other emerged by external parties. Technical problems about how the concept applied to be more effective must be handled together by understanding the concept well, performing good cooperation with related stakeholder, and consistency. On the other hand, firmness in law enforcement about the planning process and environmental sustainability also vital considering the large number of land developers in South Tangerang. While the supporting factors must be used optimally in achieving the essence of the concept that is a workable, liveable, and sustainable residential area for suburban community which desired by those people who want to live in a better place socially, economically, and environmentally..

B. Recommendations

Finally, this study gives some recommendations regarding the success of the process of achieving ecologically sustainable development in Bintaro Jaya as following:

1. South Tangerang city government must build a coordination regarding the issue of land use permit that indicated a violation of law. This administrative issue can give negative impact to the development planning of the city because it links social, economic and ecological aspect. As a prevention move, there must be a more strict control on how a permit of land use be granted. It is important because when land managed by those who do not really care on environmental aspect, the cost of rehabilitation and revitalization will be higher than the cost of preventing it.
2. Education to the officers of management office about the applied concept must be done through training and other education event. The officers of management office must understand the basic principles of related development concept such as sustainable development, garden city, and urban planning. This will make the officers more creative in making fresh ideas on how the concept could be applied well.

3. Coordination with the South Tangerang government must based on sense of caring to the city, not solely because the cooperation will brings positive feedback economically to the developer company. It could be done by performing Corporate Social Responsibility in many field of life outside the Bintaro Jaya area.
4. Provision of eco-friendly facilities which suitable with the mobility of community must be improved. Bintaro Jaya nees more buses and routes. In adiition, the integrated mass transport must be developed as soon as possible so that people can be pushed to not use their private cars. If it is done, then rising parking lane in all public facilities would be appropriate.
5. The development of Bintaro Jaya area must not own by its inner community only, but to the whole community of South Tangerang city because this area is a pride of the city. Thus, the developer must give more helps to the people of South Tangerang socially, economically, and environmentally which can be done by Corporate Social Responsibilities program.

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Jurusan : Administrasi Publik
Universitas : Universitas Brawijaya Malang

telah melakukan wawancara dan meminta data di Kantor Badan Perencanaan Pembangunan Daerah Kota Tangerang Selatan untuk melengkapi skripsi *Ecologically Sustainable Development In Modern Suburban Community (a study in Bintaro Jaya South Tangerang)*.

Demikian Surat Keterangan ini dibuat untuk dapat dilaksanakan sebagaimana mestinya.

Tangerang Selatan, 10 Juni 2014
a.n. Kepala Badan Perencanaan Pembangunan Daerah
Kota Tangerang Selatan
Sekretaris,

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NIP. 19680410 199403 2 009

Yang bertanda tangan di bawah ini :

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Jabatan : Manager Humas & Keamanan

Dengan ini menerangkan bahwa :

Nama : Septian Ilahude
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Telah mengadakan wawancara dan permohonan untuk meminta data pada PT. Jaya Real Property Tbk, untuk bahan penelitian tesis dengan judul ***“Ecologically Sustainable Development In Modern Suburban Community (A Study In Bintaro Jaya South Tangerang)”***

Demikian Surat Keterangan ini dibuat, untuk dipergunakan sebagaimana mestinya.

Bintaro Jaya, 09 Juni 2014

Hormat kami,

PT. Jaya Real Property

Unit Pengelolaan Kawasan Bintaro



Edsa M. Hashmi

Manager Humas & Keamanan



PEMERINTAH KOTA TANGERANG SELATAN
BADAN KESATUAN BANGSA POLITIK DAN PERLINDUNGAN MASYARAKAT
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Jl.Puspitek No.1,Kecamatan Setu
Kota Tangerang Selatan-Prov Banten

SURAT IZIN PENELITIAN

Nomor : 070/109-1/Kesbangpolinmas/2014

- MEMBACA** : Surat dari Universitas Brawijaya Nomor :4004/UN 10.3/PG/2014 Tanggal 24 Maret 2014 Perihal Permohonan Izin Penelitian.
- MENINGAT** : 1. Keputusan Menteri Dalam Negeri Nomor : 130 Tahun 2003 tentang Organisasi dan Tata Kerja Departemen Dalam Negeri.
2. Surat Keputusan Menteri Dalam Negeri Nomor : SD.6/2/12 Tanggal 5 Juli 1972 tentang kegiatan Riset dan Survei diwajibkan melapor diri kepada Gubernur Kepala Daerah atau Pejabat yang ditunjuk.
3. Keputusan Direktur Jenderal Sosial Politik Nomor : 14 Tahun 1981 tentang Surat Pemberitahuan Penelitian (SPP).
- MEMPERHATIKAN** : Proposal Penelitian Ybs.

MEMBERITAHUKAN BAHWA :

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JUDUL PENELITIAN : *"Ecologically Sustainable Development In Modern urban Community (Study at Bintaro Jaya) "*
LOKASI PENELITIAN : Kota Tangerang Selatan
LAMA PENELITIAN : 31 Maret 2014 s.d 30 Juni 2014
MAKSUD DAN TUJUAN : Untuk mengetahui sejauh mana peran Pemerintah terhadap swasta dalam hal ini bintaro jaya dalam hal lingkungan.

Sehubungan dengan maksud dan tujuan tersebut diatas dan berdasarkan pertimbangan kelengkapan penelitian, dengan ini memberikan izin kepada yang bersangkutan untuk melakukan penelitian di lokasi yang dituju dengan memenuhi ketentuan sebagai berikut :

1. Sebelum melakukan kegiatan Penelitian harus melaporkan kedatangannya kepada Walikota Cq Kepala Badan Kesbangpolinmas dengan menunjukkan surat pemberitahuan.
2. Tidak dibenarkan melakukan Penelitian yang tidak sesuai/tidak ada kaitannya dengan judul penelitian dimaksud.
3. Harus mentaati ketentuan perundang-undangan yang berlaku serta mengindahkan adat istiadat setempat.
4. Apabila masa berlaku Surat Pemberitahuan ini sudah berakhir, sedangkan pelaksanaan penelitian belum selesai, perpanjangan penelitian harus diajukan kembali kepada instansi pemohon.
5. Hasil kajian/penelitian agar dapat diserahkan 1 (satu) eksemplar kepada Badan Kesbangpolinmas Kota Tangerang Selatan.
6. Surat Pemberitahuan ini akan dicabut kembali dan dinyatakan tidak berlaku, apabila ternyata pemegang Surat Pemberitahuan ini tidak mentaati/mengindahkan ketentuan-ketentuan seperti tersebut diatas.

Dikeluarkan di : Tangerang Selatan
Pada tanggal : 16 Juni 2014
A.n KEPALA BADAN KESBANGPOLINMAS
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Drs.R.Sigit Widodo Nugrohadi.MM
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2. Yth.Badan Lingkungan Hidup Daerah Kota Tangerang Selatan ;
3. Yth.BAPPEDA Kota Tangerang Selatan;
4. Yth.Bintaro Jaya;
5. Yang Bersangkutan;