COMPREHENSIVE PLANNING TOWARDS A SUSTAINABLE CITY

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Abstract: Town represents the product coming from high sensitivity from taker of decision and people who involved in it. What carried out all town planner develop the town in situation of local compatibility urban society. Planning orienting the town aim to make the town planned touching life aspect in it. Comprehensive plan is wisdom on a long term for space distribution from object, function, activity and target. Plan this coordinate the governmental activity in local level and arrange the land development by private sector. From such comprehensive effort a problems picture which abstraction can be made a problem formula (problem stipulating) what more definitive perhaps by an accurate research and perception. The effort intended to block in the physical as within reason a town that planned.

I. INTRODUCTION
Norman Crowe (1995) in book of Nature and the Idea of Man-Made World said that the town form that happened from expression corps in answering to nature as expression what we develop and settlement as a place in nature. Settlement represents the human being masterpiece, human being own and holds the biggest role in forming. For the attitude of problem exist in settlement perhaps look for the solution pursuant to human being aspect. Trouble-shooting settlement difficult resolving. This matter because of existing variable in character change and indefinite. A resolving which relied on a human being element (with the certain background), place, and different time in social context and local culture.

Rossi (1995) telling, town a constructions (itself town). The construction created from a target or intends the human being follow with the mind growth and its society dynamics. From the aspect of evaluation used all planner and also town designer, a history context often become the inspiration source for creation or develop of new town in this time.

Town represents the product coming from high sensitivity from taker of decision and people who involved in it. What carried out all town planner develop the town in situation of local compatibility urban society. Planning orienting the town aim to make the town planned touching life aspect in it.

Comprehensive planning yield a physical document having the character of long-range used to develop the town or recognized with the comprehensive plan. The physical document represents the problems picture will and target which will be reached. Practically the comprehensive planning can be made to become some physical plan. Nature of long-range the than plan like this require a certain effort which aim to control the made product. Equally required a comprehensive effort also in the form of action evaluative in level of planning and the physical document applying.

II. COMPREHENSIVE PLANNING TOWARDS A SUSTAINABLE CITY

Comprehensive Planning

Comprehensive plan a wisdom on a long term for space distribution from object, function, activity and target. Plan this coordinate the governmental activity in local level and arrange the land development by private sector. Hereinafter relied on an analysis for town situation as a whole and a detailed analysis for existing space pattern. Plan this enough if certain recommendation proposed can good for as guidance to reach a pattern of growth of town physical which better than as ready as will be happened plan less. In the form of plan this represent a long document which often difficult and which made by government concerning target and a number of wisdom which needed to reach the target. It is difficult to formulate and target the long-range wisdom have altered the comprehensive plan become various physical plans (resume from translation of book of Introduction to Urban Planning, Pengantar Perencanaan Kota by Susongko, 1986).

Withdrawing from an above-mentioned plan how to make moderate the long-range target, which is complex in such a way. One of the gist of one's thoughts studied and made a fundamental theme that the target can more made moderate seemly certain situation and lift as context for such comprehensive plan. One of
popular context and become the important issue in the plan town studied social and economic in town development. This context leaves from an opinion conception to have continuation opened by Sym van der Ryn for continuing a settlement.

Comprehensive effort in carrying out town here interpreted as some action needed utilize to look for the input for physical plan hereinafter with the have base continuing of town and community in it. Final purpose indicate that the effort performed within carrying out related/relevant town with the town notching and how parties in concerned in town forming specially Town Putrajaya. The Effort take place in making phase plan and its applying in town development.

2.2 Sustainable Development
Agenda 21 (The Rio Summit, June 1992), a general programmed which outlines a strategy leading to sustainable development. The proposal’s aim is to provide an international programmed for all countries to encourage environmental concern in their national development in the 21st century. Under this agenda, all countries must ensure that all developments are integrated with regional sustainability. The goal of the agenda is to suggest a development that can provide environmental and social satisfaction.\(^1\)

Agenda 21 has outlined the importance of both the quality of life of the people and environmental sustainability. It is, therefore, by the way of response that this research seeks housing patterns that meet the agenda. The research makes a comparison of physical and social satisfaction between modern and traditional housing patterns. Physical satisfaction is engendered by patterns, which integrate the surrounding environment and sustain the environmental quality while social satisfaction provides the people with acceptable living standards within existing traditions. Turner (1972) noted that the problem of the present housing development is a social factor, “a close association with deep human and cultural values”. Rapoport (1982) argues:

\textit{Once a group and its profile in terms of life style and environmental quality preferences have been established, one can frequently define the group’s activity systems and the system of settings, domains and so on that accommodate them.}

Development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts: the concept of "needs", in particular the essential needs of the world's poor, to which overriding priority should be given; and the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and the future needs. (Brundtland Commission, 1987).\(^2\)

Utilize to realize a well-established development hence we have to create the community owning balance in social aspect, economics and environment. By that, need work along among one another this to make real settled condition factor very needed besides tilling complete effort and understanding handle the third development imbalance this aspect.

Conception the sustainable development in a town can be by using development balance:

1. Minimizing distribution utilize land
In urban planning can be used a development concept provide with to maximize the density. Conception this development aims to lessen the resident movement use the vehicle because in one area there are function mixing. A period of this division zone in town pursuant to subdividing utilize to minimize to board with the expenditure but affecting make-up of resident movement, for example divisible zone development always in commercial area, industrial or housing and each separate zone far so that consumer have to the movement of using vehicle to the activity usher the zone.

Concentration of town Development with the development concept equip this can facilitate the production and lessen the emphasis of town development to area of town periphery.

2. Transportation Panning
Public transportation of vital importance in movement urban community because can lessen the personal use vehicle which can give the impact congestion of traffic and air contamination. Improvement of personal car


\(^{2}\) www.adrc.or.jp/publications/terminology/top.htm
use also improve the number of accident of this traffic matter and frequent become the important issue in a state which develop. Utilize to avoid the mentioned hence needed effective and balmy ready planning public transportation so that sum up the resident using personal car can decrease. This planning also improves the environmental quality town. Others government require to make the regulation to early make-up of this personal amount vehicle so that more opting society to use public transport

3. Housing Planning
   a. Neighborhood concept becomes one of concept, which can be used in realizing sustainable development. In this neighborhood concept social quality life society which live in the area better. They interaction can easily and were mixed up with to create the balmy area as residence. As according to mentioned of neighborhood concept provided with the good and infrastructure can lessen the resident movement in town. This factor can lessen the personal use vehicle because in the area have been made available a need which can be reached wickedly.

   b. Low Cost Housing Construction and Terrace House
      Flat development become the trend housing in town because high land price though this building ill disposed to environmental and social aspect when compared to a main house, because:
      • Society interaction less
      • Decreasing of it green space
      • Decreasing of it illumination effect closed by high building other.

4. Building Construction
   Town Growth often related to a solid circumstance with the skyscraper building. Building forming this forest releases the other contamination and heat and less is balmy for human being. Tropical area like our state, its buildings luxury and modern but inefficient. Building as much as this a lot of using energy for the air conditioner of, illumination, distribution irrigate the, air, inner transportation, map and all sort of service. All this needed for making balmy and safe the building for the dweller of its. Utilize to realize the concept of sustainable development hence Architect requires to think the especial need in the plan without destroying environment. Factor, which require being paid attention to in the plan for example:
   a. Having design enabling sunlight step into the inner space. This added also with the use of sun panel to race the illumination system, cooling of space and warm-up irrigate. This marking not only will taper down the contamination and fuel use but also will save of to management board.
   b. Design, which may taper down the hanger to air conditioner appliance. This inclusive of also effective air system, insulator use, high ceiling design and agree the good draught.
   c. Use construction material which less save of head or bounce the light like concrete, glass and plastic. Despitefully, use texture, paint and color, which less contributes to the head contamination and visual, also suggested.
   d. Usage of effective and good system recycle garbage to avoid the dismissal of rest of have incurring becoming serious problem town.
   e. Rainwater use as source irrigates for the usefulness of like cleaning and sprinkle tree. This can be done with installing water tank collecting rainwater from roof.
   f. Tree cultivation shadow around building discovered can taper down some temperature degree in building. Despitefully, plant may taper down the temperature through transfer and can refresh the dweller brain. A period of same plant also may permeate the gas of dioxide carbon.

5. Environment
   Sector of Development and poverty represent the monopolistic biggest sector most experienced resource. Start from enchaining product offer stemming ligneous substance component, ceramic, sand and others until to process of itself development whereabouts perforce damage nature of natural environment through exploration, hewing etc.
   That cause hence this sector perhaps have potency trigger the negative infect whether directly or not to make-up of environment quality so that menace the human life, animal or plant otherwise guarded perfectly.
Government and Side In command need consistently advice and watch all developer, investment, active other party and contractor in concerned in sector of develop and poverty to make the way of risk management which partake to centre the environment and impact specially to social and economic for their strategy trading. Environment risk appropriately processed as especial aspect to all developer, investor, contractor or other party so that fulfill the corporate social responsibility (corporate social responsibility) besides ascertaining consistent continuity commitment in obeying obligation of factors of safety and health (health and safety). If only goods of tragedy or natural disaster happened because of activity of development and poverty hence become the their responsibility obligation and to handle and overcome without once in a while try remove to board with or liability to government or Side In command to guarantee.

As according to that hence of vital importance so that certain parties in concerned in this process sustainable development affirm the science, new ability experience and in ascertaining challenge of settled condition and environment issue can be handled better.

2. 3 A Framework of City Sustainability

The city is conceived as a socio-ecosystem, a combined system composed of human and ecological dimensions. The system extends to include socio-economic aspects of human opportunity in cities, integrated with ecological aspects regarding resources consumed and wastes discharged. In a broad sense, the city is an intersection of the natural environment, the built environment, and the socio-political environment.

In consideration of urban sustainability, it is important to consider such aspects as hinterland, dynamics, and interdependence. Urban sustainability affect, and is affected by, a city beyond its boundary. It is hinterland can be trans-regional and even trans-national. Dynamics imply a time dimension in that current urban activities do not lower the quality of life for future generations. Urban activities here are defined as the ones associated with resource uses, throughout processes, and the consequent negative or positive outputs.

Interdependence is more of static dimension in that the quality of urban life can be sustainable by balanced and integrated consideration of usage of energy (E), social-political equity (E), ecological viability (E), and economic development (E), or E4.

According to Y.-D. Wang et al. (2004), sustainability in a city can be enhanced by activities that lower energy or resource flow (energy), enhance equitable civil or cultural flow (equity), increase environmental amenity flow (environment), and induce efficient technology or capital flow (economy) in the development of cities without lowering socio-economic conditions for current and future generations. To be sustainable, urban development activities in a city need to consider hinterland, dynamic nature, and interdependence of E4 in its policies and programs. Sustainable urban development, in turn, makes it possible for a city to achieve efficient, ameliorate social equity, and generate ecological efficiency for now and in the future (shown in Figure 1).

Case Study: Comprehensive Planning in Putrajaya City

Development of Putrajaya city in Malaysia is among of the implementation of comprehension planning, where Total Planning is used as term of comprehension planning. The federal government of Malaysia has endorsed the concept of holistic development for land used planning known as Total Planning and Development Doctrine. The Town and Country Planning Department (JPBD), Peninsular Malaysia as the result of the sensitivity towards the significance of human development in national development prepared it. (Omar D.B. 2004). The objective is to create the balance between physical development and human development in term of spiritual and noble universal values for the sustainable progress of the country. The doctrine has given rise to the new emphasis on planning practice and it sets out guidelines in physical planning terms. It is new approach to the planning and design, which is expected to guide the physical planning system focusing on the concept of sustainable development. The application of this doctrine has been included in the development planning of Putrajaya.

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Figure 1: A framework of sustainable urban development-integration of E4 (Energy, Equity, Environment, Economy)

Putrajaya master plan, based on the Garden City Concept, delineates the area into twenty precincts, of which five are in the Core Area included Government, Commercial, Civic, Mixed Development, and Sports and Recreational. The remaining 15 are precincts of various sizes also known as peripheral area. Twelve of the 15 precincts make up the residential neighborhoods. Each unit was planned for some 3,000 dwellings or 15,000 populations with a mix of low, medium and high cost housing and variety of designs. 67,000 homes of varying ranges, sizes, types and densities have been planned. Each neighborhood is equipped with necessary public facilities and amenities. Among the facilities provided in the residential areas are schools, hospitals, shopping centers, mosques, multipurpose halls, learning centers and parks. This fulfilled the underlying principle of the doctrine towards more sustainable communities and a better quality of living environment.1

There are 14 principles and development implications of the Total Planning and Development Guidelines, the design features are:2

1. The urban/neighborhood center are located at the right location for the benefit of all users. The centers were planned with bus stops, car parks, pedestrian streets, cycle paths, water bodies, and beautiful landscape.
2. Buildings at the main centre are workplaces, a mosque, commercial areas within walking distance to each other, creating an urban sense of spatial definition.
3. Housing areas are at appropriate distance from the neighborhood centers. Roads are designed for motor traffic. Provision of special paths for walking and cycling which are safe, continuous, and convenient. Surrounding areas are kept clean and with good landscape.
4. Housing layout and design provides space for interaction. The houses are of different types in term of cost, design and location to suit the affordability level of the people. These include bungalows, semidetached, terrace houses, and apartment. Distribution of housing areas is easily accessible to the working areas-the government offices.
5. Putrajaya is a new city will ultimately provide for an approximately 330,000 people and functions as the principal seat of government. There are places to work within and adjacent to the neighborhood.
6. There are commercial areas at all centers to meet common household needs and other services including post offices, banks etc.
7. There is a network of water bodies, parks, open spaces, pedestrian streets and cycle path in the planning of the urban center.
8. Creating quality living through environmental conservation, provision of modern social facilities and adequate

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2 Ministry of Housing and Local Government, Malaysia (2001). Total Planning and Development Guidelines, Department of Town and Country Planning, Peninsular Malaysia. (2nd edn.)
recreational spaces, ensuring safety of occupants and attractive landscape.

9. There are primary and secondary schools and integrated schools close enough so that most children can walk from their houses.

10. There are parks, trails and playgrounds near every house. The houses are with limited fencing to encourage residents to interact.

11. The design of porch, lobby entrances, balconies, backyard, traffic system and car parks for creating a harmonious atmosphere to encourage a healthy and positive interaction among neighbors.

12. Encouraging the garden concepts in housing areas with space for planting and gardening to create a pleasant and attractive surrounding.

13. A balanced provision and equitable distribution of open spaces and recreational areas consistent with the population needs to be enjoyed by all groups of people.

14. Putrajaya is a self-governing by Putrajaya Corporation to decide on matters of maintenance, security and physical evolution (see Figure 2).
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Fly Over and Residential

Residential

Commercial
CONCLUSION

From such comprehensive effort a problems picture which abstraction can be made a problem formula (problem stipulating) what more definitive perhaps by an accurate research and perception. The effort intended to block in the physical as within reason a town that planned. Physical problem need the certain membership area from architect profession. Specialty is important for created a device wanted. Some special method and approach in context design the building and other physical element urban as according to specified base (economic goodness, social, and ideology). Hereinafter plan the physical which is in the form of documentary proposal draw and regulation, just earn have the character of the proposal by various alternative. This matter see that in course of trouble-shooting later there are related hierarchy importance, for example function bargain will be aesthetic.

Aesthetic function besides economic function which on the market by society and especially by private sector party. Will not be questioned how esthetics quality wanted by million townie. This point more to effort to attend the something that estimate acceptable by society ideology. This a generalizing for a system which not measured subjectively. As which have been expressed previously a rational system in order to town planning a systematic picture from public conception in economic context. Likely find the special ingredient which can be accepted by individuals which in such a way a lot of for a beautiful town device. In any case in this context economic balance and town continuing bodywork becoming guidance to develop the physical element fulfilling town space.

Putrajaya was the first major intelligent garden city developed in Malaysia as a new administrative capital city for the Malaysian Federal Government planned as early as 1981. With the total area is 14,780 hectares where about 30 per cent of the area is for the administrative centre, the physical planning was to ensure that it is a sustainable city providing high quality living to its population. This mega project was planned based on the concept that incorporates the best practices in city planning, landscape, architecture and the preservation of eco-culture. The physical planning was to ensure that it is environmentally-friendly as well as to provide high quality urban living for the future residents. The development of Putrajaya would spur development in the neighboring areas with the building of infrastructure, commercial centers and social facilities.

Traditionally, planning in Malaysia was based on physical planning criteria. However, with the Total Planning Doctrine and the positive application in Putrajaya development, the approach places emphasis on adherence to planning standards and regulations. The future cities and new towns require the Total Planning and Development Doctrine as the basis for community settlement, which should be able to meet changes in values within society and be able to contribute to improving the quality of life.

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