# Policy Analysis of Urban Green Open Space Management in Jakarta City, Indonesia

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#### I. INTRODUCTION

Abstract - At the present time, the application of policy management of urban green open space of Jakarta City have many weakness that caused by overlapping management. There are three institutions of management of urban green open space, those are Park Service, Forest Service, and Agricultural Service which are all of them are under the scope of local government of Jakarta City. The management consists of several basic activities, including planning and controlling, organizing, human resources, coordination and The prominent indicator associated with the financing. managing urban green open space that related to the aspect of market failure, it is commonly indicated by public goods, asymmetry of information, externality and aspect of government failure. It is also indicated by problems lingered around regulation of law, bureaucracy and bureaucrat agent. The core of the main problems in the policy of management formulation of urban green open space is the lack of managements of urban green open space of Jakarta City. This was indicated by variety of critics coming from the members of society in Jakarta City about the function of it, where it will result the impact of environment. In the relation to that problem, there are two questions raised; (a) What caused the management of the urban green open space in Jakarta City unsuccessful?: (b) What kind of factors that hampered the management of the urban green open space? As the follow up of the questions above is giving the alternatives to solve that hampered, then, the question is, how is the policy alternative to solve the lack of management of the urban green open space in Jakarta City. The objective of study is getting the policy to manage the urban green open space. The reflecting of the objective above was explained in the set of policy such as in the regulation and the institutional.

Key Words: Urban Green Open Space, Market failure, Government failure Jakarta, the capital city of the Republic of Indonesia, is a city of contrasts; the traditional and the modern, the rich and the poor, the sacral and the worldly, often stand side by side in this bustling metropolis with special territory enjoying the status of a province, consisting of Greater Jakarta, covering an area of 650 square km and ocean for the width of 6.977,5 km<sup>2</sup>, there are not less than 110 islands which spread over in thousand archipelago. Located on the northern coast of West Java, it is the center of government, commerce and industry and as such has an extensive communications network with the rest of the country and the outside world. The coastal span from West to East along the length  $\pm$  35 km becoming place the estuary of 13 rivers. Regional of province administration Jakarta City divided to become 5 municipality regions that are Central Jakarta, North Jakarta, South Jakarta, East Jakarta, and West Jakarta. Finding its origin in the small early 16th century harbor town of Sunda Kelapa, Jakarta's founding is thought to have taken place on June 22, 1527, when it was re-named Jayakarta.

Jakarta's masterplan 1965 – 1985 targeted 37.2% of Jakarta's area for green open spaces, but in Jakarta's General Plan of Spatial Planning 1985-2005 green open space area target was reduced to 25.85%. In Jakarta's Regional Plan of Spatial Planning 2005- 2010 the area target decreased to 13.94%. In 2012, the regional spatial planning in Jakarta which refers to the Law on Spatial Planning of the Republic of Indonesia number 26 of 2007, determine target green open space in Jakarta by 30% or 165 square km of the total area of the Jakarta city. Now in the year 2004 green open spaces is on 9% or 50 square km, from this condition we can assume that Jakarta's green open space area decrease through the years both in quantity and quality as shown in Fig 1.1; 1.2; 1.3; 1.4 and 1.5



Fig1.1 Green open space plan of Jakarta from 1965 - 2030



Fig 1.2 Green Open spaces Plan 1965-1985





Fig 1.4. Green Open spaces Plan 2005 - 2010

Fig 1.5. Green Open spaces Plan 2030

From the fourth data results of map interpretation for area use from Jakarta's Regional Plan 1965-1985, 1985-2005, 2005-2010 and 2012-2030, show the decline in Jakarta's green open space during thirty years time. Four main issues in implementing the construction green open spaces according to the Bereau of Population and Environmental Guidance are; (1) Green open space continues to decrease due to rapid city development; (2) Damage found in the city's green open space due to function shifts (city parks become hotels, bus terminal); (3) The community's low level of awareness and participation in caring for community parks; (4) High land value in cities such that providing area to function as green open spaces is cost consuming on the other hand it usually is more profitable in land area in the city is utilize for high economic activities.

Green open space has a very important role in protecting and enhancing the natural environment, also long term advantages. The advantages of Green open space in cities according to Roseland, (1998), in view of economy aspects significantly decreases cost related to use of energy and water. Vegetation can control lamination, shade, wind and glare. Green buildings in the summer and prevents heat loss in the winter (Roseland, 1998; Miller, 1997; CMHC, 1982). By arranging vegetation in correlation to the buildings located within its vicinity, we can save up to an average of 20 - 25% in energy cost. From an ecological aspect, green open space provides a natural habitat for animals such as birds, fish, insects, and many more. According to Dorward (1990), green open space also functions as a green belt and as corridors linking the habitats stated above. Prevents soil erosion (CMHC, 1982), absorbs rain water, which in turn increase drainage system (Roseland, 1998). Trees are able to collect pollution particle; Miller (1997) discussed research result that shows that 20 small trees can reduce pollution produced by a train going at a speed of 60 mile per day. Urban heat island often occurs in the city area, where buildings, and hardening absorbs sun radiation and reflects it back to outer space which in turn causes the temperature to rise (Miller, 1997). Plants can reduce this effect, through the plant itself directly and indirectly through the process of evapotranspirational (ET) (Roseland, 1998). Observation shows, vegetation is able to decrease soil surface temperature by 17°C, also decrease the average air condition to 50% (McPherson, 1994). Green open space also reduces noise pollution by a using a combination of trees, shrubs and bushes (Miller, 1997). And last but not least, green open space serves as an indicator for the city's entire ecosystem (Roseland, 1998). In this respect, its value is significant in our continuous efforts to protect the environment. In respects to its social benefits, the most obvious is its use as recreational area, to play, to meditate, and to gather together or as a rest area (Roseland, 1998). In a discussion on psychological effects of green open space, Miller (1997) discovered advantages related to activities carried out in these areas. For example its use as a place to socialize, enhance the feeling of compassion towards each other and nurture family ties, a place to understand each

other, to learn about ourselves, offers the opportunity to express ones value and social values as well, promote spiritual development and freedom. Green open space introduces a natural environment into a city's environment resulting in shape contrast, roughness, colors, and building texture, promote healthy thoughts through eye catching colors, sound, smell and movements (Dorward, 1990; Miller, 1997). The regional province administration Jakarta 1985, stated the policy of the need to provide parks specifically green open spaces to create a clean, beautiful, healthy, orderly, shaded city environment in its General Plan of Jakarta Spatial Planning 2005 - 2010, as its consequence Jakarta's regional province administration assign a institution to manage green open space called Parks Services of Jakarta, whose function is to arrange, build, maintain and protect parks, green belts and educate the society in the field of parks and the city's esthetics so as to attain a well plan city. According to the Directorate General of Spatial Planning of the Department of Public Works, (2002), to implement the policy, good governance is needed in Jakarta's green open space maintenance. Even though good governance had been developed since the early years of 1990's, but the good urban governance principles implementation in general and its consistency in managing the city's area haven't reached the level of expectancy of the community.

Good governance principles that must be developed in policy implementation in general are: Responsive, at ready to respond towards people's and stakeholders needs, Participatory, parties influenced by a policy should be involved in the process of making the policy, Transparant; information is available for everyone in general on an existance of a program; *Equitable*; access available for everyone toward an opportunity and assets, Accountable; decision making whether coming from the government, private sectors and/or the community must fulfill its obligation to be accountable to the public and all stakeholders; Consensus Oriented, interest differenciation should be resolve to yield the best result possible for the country in general, Effective and Efficient; optimal resources utilization. Considering the fact that the recent condition of green open space management is not so successful, this research is an effort to contribute ideas for better green open space management in the future to come.

#### **II. PROBLEM OF STUDY**

Both the national government and the provincial administration of Jakarta are aware of the need to increase the amount of urban green open spaces in the capital of Indonesia. In recent structure plans and in other official documents the necessity to improve the urban environment is clearly formulated. Yet, these good intentions generally fail to materialize: the success of the greening programme on vacant plots is offset by the displacement of other types of urban green. Why is the official policy less than successful? The reason is the lack of co-ordination between the various administrative departments that are responsible for urban green in Jakarta. The province of Jakarta has various agencies which are responsible for only one aspect of urban greenery and their responsibilities often overlap, namely the Parks Service of Jakarta, Forestry Service, and Agricultural Service. Moreover, the responsibility for the rivers within Jakarta is shared between The provincial agencies for water works and for public works. These often can do nothing to prevent lakes and other water works from being damaged, because the agency for development supervision is the body with the power to grant building licenses. Finally, Jakarta is divided among several municipalities, which also have their own say. The fragmentation and overlapping of responsibilities leads to frequent infighting between the various agencies, as well as to neglect. The core of the main problems in the policy of management formulation of urban green open space in Jakarta is the lack of managements of urban green open space of Jakarta City. This was indicated by variety of critics coming from the members of society in Jakarta City about the function of it, where it will result the impact of environment. In the relation to that problem, there are two questions raised; (1) What caused the management of the urban green open space in Jakarta City unsuccessful?; (2) What kind of factors that hampered the management of the urban green open space?

#### III. METHODOLOGY

Methodology in this paper is rationalist method as formulated by David L Weimer and Aidan R. Vining (1998). Rationalist method consists of problem analysis and alternative resolution analysis. Problem analysis consist of understanding the problem that could be described into modeling. Description and modeling the problem, choosing and conveying the purpose and obstacles also choosing a method to reach upon an alternative resolution to the problem. Alternative resolution analysis covers determining the evaluation criteria, conveying the alternative policy, evaluation and giving recommendation.



Fig. 3.1 Outline/Framework of Rational model.

Source of data from stakeholders related in green open space management are; (1) The Government, represented by: Parks service of Jakarta, Agricultural service of Jakarta, Forestry service of Jakarta; (2) City Community Respondent, represented by: intellectuals, professionals in the community and the city originated community: (3) Community Newcomers Respondent, represented by: community living on green open space;,(4) Private Sector Respondent, represented by: businessman utilizing green open space, esthetics plants merchants the is trees community; (5) Mass Media Respondent, represented by: electronic mass media and printed mass media reports.

The data needed for indepth analysis of policy in the making is classified as: *Primary Data*, through survey of 250 respondent by distributing a closed questionnaire; brain-storming with policy implementers/acceptors; and field study. *Secondary Data*, covers regulation relating to management, date reports on Jakarta's development, study reports on Jakarta's green open space, Jakarta's General Spatial Plan 1985-2005 and other data. Questionnaire were

distributed in all five municipality of Jakarta specifically in location considered to have green open space issues. A computer program SPSS was use to analyze the data. The respondent chosen was specifically community members that understand green open space issue. The paper is an effort to evaluate public policy and its effects on Jakarta's green open space management; also recommends alternative public policy for decision makers to improve management performance of the city's green open space.

# IV. ANALYSIS

# 4.1. Concerning Community Participation

On micro scale the problem concerning community participation in green open space management with in a certain city environment represent character, physical, social, economy culture quality of that city. Meanwhile on a macro scale, green open space will contribute to a better city environment. The definition of management as stated in the Ordinance (UU) no 23 the year 1997 on Environmental Management is a combined effort concerning activities of utilization, arranging, maintenance, monitoring, controlling, recovery and development. As such green open space management is a continuous process which covers activities such as: (1) Pre development covering planning and designing process; (2) Development or implementation; (3) Post development such as utilization and maintenance, which are all focused to creat, protect and enchance its quality. Non physical components affecting green open space are the law/regulation. Response/attitude in resource utilization and the community's way of life that wells within the cities environment. Also in Ordinance No 26 the year 2007 on Spatial Planning it states that the community is obligate to maintain planned area quality in each of the individual's capacity. Still this Ordinance is not implemented effectively because implementation controlling institution deficiency, the community lack of awareness and knowledge of law also sanctions to law violator lenient. Environmental community's activities in the city (e.g. neighborhood community) coordinated by people of the community and supported by the community's participation is usually limited to handling garbage / trash and surrounding security. This is due to spatial organized community functions as a prolonged aim of bureaucracy.

# 4.2. Institutional

Institutional problems in green open space management in Jakarta today can be classified into several aspects, planning and controlling, organization, human resource, coordination between institution and funding. Planning and controlling of Jakarta's green open space is managed by Parks service. Planning green open space activities covers, landscape design planning developing a computerize system for parks, planning considerations, making information infrastructure, develop working guidelines system, and areal development. Observation shows the following main problems in planning and controlling: (1) Areal Managing Management, the problem faced by the regional province administrator on of Jakarta to make a green open space is the inability to fully be involved in the making of the city's complex land management. The lack of understanding towards factors of geography, history and social culture that is closely related to each other will result in lost of interest and city's comfort. In such the ability of a management building/construction system specifically for green open spaces will be meaningful and strategic; (2) The Need of Green Open space Area, there an opinion which views green open space as spare land to meet the urgent demands of a growing city. The need of land for green open space will experience problem cause by an ever increasing land value, both in social and economic aspects. This problem will continue to exist as long as regulation that regulate, control and monitor is not yet execute properly, which will also cause the shift in functions area for green open space.

# 4.3. Government Board

Observation shows that development of bodies to mange green open spaces in Jakarta has met issues concerning policy taken by governmental board. Looking into Regional Regulation No. 9 the year 1982 on organization structure for Parks service of Jakarta we can find that it needs to be improved. For example it doesn't clearly states the body that manages outdoor recreational area, while we know that it's still part of the city's green open space. This will complicate the process of development implementation. Another part of the problem is that there is not any data available or an information center that can identify if any damage has been done to the environment due to the city's development, a lack of capability on the government apparatus in the field of green open space, the limited infrastructure and equipment to investigate and find of green open space damage, lack proof of coordination/cooperation between government bodies in green open space implementation that in turn affects the environment, also the in availability of guidelines to the derivation of the ministry of domestic affair regulation no 1 the year 2007 on city's green open space arrangement. Lack of coordination amount the government's bodies, specifically in issuing license land utilization constructing buildings, housing that uses a large amount of land. This is partly cause by the increasing land value in Jakarta. On the other land, the people and private sector businessman want to build housing and other infrastructures in demand. In practice every means and efforts was given to realize/ fulfill these needs that in the process the city's green open space was used for other purpose that is not in accordance to the existing regulation.

#### 4.4. Modeling

Modeling the problem consists of analyzing market failures and government failures. (1) Market Failures; (a) Public Goods, based on the results from the survey and interview on the perception of parties managing green open space we discovered that the respondents are aware of green open space use and function in balancing the ecosystem; (b) Information Asymmetry, information asymmetry takes place when part of the respondents gets little or less information, while another part receives the information well. And from the survey find that the respondents does not acknowledge nor have ever need the regional regulation No 11 the year 1988 on public in Jakarta's municipality area; (c) Externality, externality is the impact of an activity related to production or consumption. The impact can be benefits to a certain party (positive externality from the existence of the city's green open space) and parties that suffer loss (negative externality). From the survey we discovered that the community agrees that temperature and cause breathing problems. This is part of the negative externality. Green open space contributes to a better health, ecology and esthetic of the city. This proves that the community indirectly proclaims a positive externality of green open space existence.

# 4.5 Government Failures

Democracy gives opportunities to people to participate. Participation can persuade the community to accept social decisions that a certain individual did not choose. In respect to government failures toward community participation are caused by: (1) the government's lack of effort to include non government organization in the stage of planning the city's open space. (2) the government's lack to accommodate input from the community on what facilities are needed by means of survey at the stage of planning an area for green open space (3) on the other hand, the community in general are willing to contribute a part of their in business to develop and maintaining green open space.

Bureaucracy faced the problem: Rent seeking; effort to gain profit as a result of government intervention in the market, Precedent, often used by politician to attain public support in his/her favour. Government Bureaucracy failure in maintaining green open space are caused among others by: (1) Individuals authorities that profit illegal from green open space use for personal gain by collecting illegal retribution from vendors using the green open spaces area for business. (2) Overlapping task and mechanism agencies/bodies. (3) Increasing complexity of management task, there's a need to revise regional regulation on organization and working/task guideline of managing agencies/bodies, process mechanism and bureaucracy procedure.

Bureaucrat's problem concerns agency loss because employees don't work according to employment regulation. Other problems found were collusion, corruption, mark up, and collecting illegal retribution that creates high economy cost. Bureaucrat's attitude related to green open space management are: (1) lack of enforcement to back up implementation of regional regulation no. 11 the year 1988 on public order. (2) Corruption by individual authorities on the agreement of proposals for maintenance and development revenue and expenditures.

# 4.6 Decentralization

Decentralization problem is related to the aspect of implementation that causes cost depreciation and monitoring also regional personal incapability that include (1) related institution agree that planning and designing of the city's green open space should be done in the municipality level. (2) Quantitatively there a lack in human resource. (3) Meanwhile from a qualitative point of view human resource is plentiful.

# V. ALTERNATIF SOLUTION ANALYSIS

To overcome obstacles and problem in managing Jakarta's green open space there must be a set of policy. This set of policy is made to clarify and ease efforts in controlling planning, organization, human resources, coordination and funding in ways that's effective and efficient. Factors to be

considered in formulating policy strategy are: (1) Efficient and effective also (2) Alternative policy.

Efficient is not the only main purpose of public policy. Effective tends to evaluate quality output. In evaluating effective, one needs to also consider whether or not the investments made were efficient. Efficient and effective is important, for the public not only want an efficient government but also an effective one. For example the community in general might be content that the government sets a low tax percentage, but of low tax means that they have to sacrifice the comfort of having green open space as a public facility, whether directly or indirectly, then the government should have made decision to invest in green open space management system that's more effective.

The policy of giving incentive should be considered, for example giving tax subsidies or a green tax reduction to improve the market failure with regards to externality problem. Green tax subsidies will affect efficiency in: (1) Promote redistribution of green open space to areas surrounding Jakarta by donors.(2) Regenerate the damage green open space by asserting certain pressures that will build the public opinion to the development of green open space as an investment.

Organization policy concerning to organize or perfecting existing institution in the governments sector or the community to simplify coordination in management.

Based on the city green open space policy strategic formula stated previously, we can advise/suggest the following alternative policy overcome problems in Jakarta's green open spaces management:

# First Alternative

The institution managing every green openspace location in the Jakarta's area will be done by one single government institution in this case parks service the city and green open space of DKI Jakarta.

# Second Alternative

The institution managing Jakarta's green openspace in the form of green belt corridor, green productive and specific green (public) will be the Parks service and the city's green open space, while environment/neighborhood green open space is managed by the community and the private sector. Comparative evaluation to the two alternative policy in green open space management was done by analyzing management aspects including planning/controlling, organization/institution, human resource, coordination and funding in view of efficiency/effective and distribution consideration. Evaluation results show that the second alternative is more efficient and effective. The following scheme represents the result:

#### Evaluation result scheme towards the two alternative policy

valuation Criteria	lanagement spects	FIRST ALTERNATIVE The institution managing every green open space location in the Jakarta's area will be done by one single government institution in this case parks service the city and green open space of Jakarta City. (Organization Centralization)	SECOND ALTERNATIVE The institution managing Jakarta's green open space in the form of green belt corridor, green productive and specific green (public) will be the Parks service and the city's green open space, while environment/ neighborhood green open space is managed by the community and the private sector.
Ш	A A		(Organization Decentralization))
CY, EFFECTIVITY AND DISTRIBUTION	Institution organization	Organizations established based on function . A large organization structure with many control and monitoring function. Tendency to bureaucrat management	<ol> <li>Organization established based on geography</li> <li>A smaller and more efficient organization structure because of authorization divided between the central and district level.</li> <li>Develop participating management</li> <li>Decentralized institution is more flexible that centralization, the institution can directly respond to its surrounding.</li> <li>Decentralized institution is far more effective than centralized</li> <li><i>Osborne, David, 1996, translated by Abdul</i> <i>Rosyid, Mewirausahakan Birokrasi, Reinventing</i> <i>government, Pustaka Bina Pressindo, page283</i>)</li> </ol>
		A high level of specialization that qualifies experience and specific skills that can be applied in certain zone at central level. Promotes position in the institution that is again the overall interest of the institution.	<ol> <li>Training designed specifically with the needs of each area human resource development in mind.</li> <li>Enables to quickly respond to load needs.</li> <li>Enable to employ local workers to evenly distribute job opportunities that will eventually impacts the social economy.</li> <li>Decreases partition in central level institution.</li> </ol>
	Hunman Resource	Need much originate from the central government budget attained through tax and its distribution is arranged according to function's priority. (Barry Cushway & Derek Lodge, 1995, Organizational Behavior and Design, PT Gramedia Jakarta)	Authority level can prepare decision making that is more precise and efficient also improves workers satisfaction. (Barry Cushway & Derek Lodge, 1995, Organizational Behavior and Design, PT Gramedia Jakarta)
EFFICIENC	Funding	Funding source originates from the central government budget attained through tax and its distribution is arrange according to functions priority.	Funding source at district level is attained from community participation and private party that can directly be used to develop the city's green open space.

Fig.5.1 Evaluation result scheme towards the two alternative policy

# VI . RECOMMENDATION AND CONCLUSION

# 6.1 Recommendation

As stated above the best alternative is the second alternative: The institution managing Jakarta's green open space in the form of green belt corridor, green productive and specific green (public) will be the Parks service and the city's green open space, while environment/neighborhood green open space is managed by the community and the private sector. Regulation and organization recommendations to support this alternative in more detail and schematic are of the following: (1) Composing and formulating legislation regulation will be more effective by giving incentive rather than law enforcement; (2) Enforce regulation on developing areas surrounding homes and communities; (3) Develop a professional certification program in Landscape Architect Cooperating with the organization of Indonesian Society of Landscape Architect; (4) Passing law and regulation that states green area for story buildings; (5) Regulation on green area along roads/street, railways in the city; (6) Developing a regulation through green open space cross subsidies

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approach; (7) Giving incentive for example an easier process for issuing license to community/housing developer that contribute to the city's green open space development; (8) Formulate vision and mission of the organization based on the concept to bureaucracy; (9) Formulating a system to manage areal management; (10) Promote reforestation management system; (11) Autonomy authorization and control for expenditure budget to institution that manage green open space at district and sub district level; (12) Establish an information system and the city's green open space mapping system.

#### 6.2 Conclusion

In conclusion we derived the following main points: We discovered several cases as evidence that green open space in Jakarta had shift its function for instance: green open space function is still considered as supplementary object to the city's facilities, competitiveness for area utilization in cities are significantly by the market mechanism, lack of control by government authorities in the development of Jakarta, human resource ability limitation, urbanization factor, organizational problem, land availability problem, funding problem. By using the policy analysis theory in prospective to market failure and government failure we investigate the existing policy that governs Jakarta's green open space management at present. Analysis result s shows the unsuccessful in management was due to *market failure and government failure*.

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