Identification building mass pattern placement in the central
government complex

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Abstract. Central governement complex is a place for organazing politics and adminitrative activities between government and society. Central government complex consists of some buildings that are adjusted to the organizational structure of the government, accompanied by its facilities and infrastructure. Each central government area should have a certain pattern that is considered the most suitable for its site. Determination of the pattern and the placement of building masses in the central government complex is important, because of its effect on the effectiveness and efficiency of the activities in it. This study uses a qualitative-comparative method by comparing the complex’ patterns and building mass placement at Tangerang Regency Government Center, Bandung Regency Government Center, Sejong City Administrative Complex, South Korea, and Tamar Government Center Complex, Hong Kong. This study results in an alternative range of optimal building mass pattern placement in the central government complex.

1. Introduction
Local government is the administration of government affairs by the local government and Regional People's Representative Assembly according to the principle of autonomy and the task of assistance with the widest principle of autonomy in the system and principles of Republic of Indonesia, as referred to in the Constitution of the Republic of Indonesia 1945 [1]. In carrying out its duties, the organizers housed in a place known as central government area. The central government area was established with the optimization intent of effectiveness and efficiency of government activities. The government area in an urban context can also function as a strong and harmonious downtown area as well as the centre of government in most of the old cities [2].

The central government area consists of several buildings and infrastructures that support two-way activities between the organizers of local governments and communities in political and administrative affairs. However, it does not rule out the addition of other functions such as plaza as long as its procurement aimed at improving the welfare of the community.

Each central government area usually has its own characteristics in the form of the regional pattern and the placement of building masses in it. These government buildings are placed in accordance to their official and institutional functions. The principles and concepts of government area which are manifested through the design aspect are one of the factors that can improve the quality of government such as coordination & government services [3]. This research was conducted to identify the pattern of areas and the placement of building masses in the central government area with four case studies.
2. Literature review

2.1. Identification
According to Indonesian Dictionary identification means self-identification or self-evidence. Meanwhile, the word identify means determining or establishing identity (people, things, etc.). Identification is the process of recognizing, placing objects or individuals in a class according to certain characteristics [4].

2.2. Central government complex
The central government area is an area where political and administrative activities take place, as well as activities related to all matters concerning politics and governance of a region [5].

Complex or areas according to Indonesian Dictionary are certain areas that have certain characteristics, such as residence, shops, industry, and so on.

According to the Indonesian Dictionary, central means the starting point or what becomes a center (various matters, matters, and so on).

Meanwhile, according to the Indonesian Dictionary, the word government means the system to execute the authority and power to regulate the social, economic and political life of a country or its parts.

So, in this case, the central government complex is an area that becomes an area that becomes the foundation of government administration such as political and administrative activities.

2.3. Building mass placement pattern
The building mass placement pattern can also be interpreted as spatial organization. According to D.K. Ching, space organization can be classified into 5 types [6]:

Table 1. Types of space organization according to D.K. Ching.

| No | Spatial Organization | Characteristic |
|----|----------------------|----------------|
| 1  | Centralized Organization | A centralized organization is a building that is concentrated at one point in the center of space. Centralized organization consists of one dominant space surrounded by several secondary spaces. Laying building masses of this type usually have a radial, alternating, or spiral circulation pattern. |
|   |          | Centralized Organization Illustration [6]. |
| 2  | Linear Organization | Linear organization is a pattern consisting of a series of spaces. Linear organizational patterns can be related to other shapes in several ways, such as: connecting other shapes along their path, separating different planes, and surrounding other planes in a space. |
|   |          | Linear Organization Illustration [6] |
| 3  | Radial Organization | If the pattern of a central organization is a closed pattern that is focused into its central space, then the radial organization is an open plan leading out of its environment. This pattern consists of a concentrated dominant space and a number of linear organizations extending from the center of the space. |
|   |          | Radial Organization Illustration [6] |
Table. Cont. 1

| 4 | Clustered Organization |
|---|------------------------|
|   | Clustered organizations usually have a composition of planes that are not similar in size, shape and function, but are still connected to each other by proximity or by a single form of symmetry or an axis. Since the pattern does not originate from a rigid geometric concept, the shape of a clustered organization is flexible. |

| 5 | Grid Organization |
|---|------------------|
|   | Grid organization consists of shapes and spaces whose positions in space and their connection to each other are governed by a grid pattern or area. The grid can be created by two series of parallel lines that produce a regular pattern of intersections. |

2.4. Object of study
The object of study in this research is the placement pattern of building masses in the central government complex, as well as the area pattern and road structure at the central government complex. The object of the study will be examined in the following case studies:
3. Research methodology
The methodology used in this study is a qualitative method with a comparative strategy. This method is considered appropriate because it can compare the pattern and placement of building masses on the four observed objects of study. Research data uses secondary data obtained through literature studies from various reliable sources.

Research analysis is done by making comparisons using research variable. In this case, the research variable is the placement of the various mass of buildings according to their function, including the orientation of the buildings and how the buildings are grouped. So then, conclusions can be drawn through the results of a comparison of the research analysis with the meaning contained in the basic concepts of this research.

4. Study

| Object of Study | Land Area: 86 Ha | Land Area: 24 Ha. | Land Area: 1.6 km² | Land Area: more than 100,000 m² |
|-----------------|-----------------|----------------|-------------------|-------------------------------|
| Tangerang Regency Government Center, Indonesia | | | | |
| Bandung Regency Government Center, Indonesia | | | | |
| Sejong City Government Complex, South Korea | | | | |
| Tamar Central Government Complex, Hong Kong | | | | |

Table 2. List of case studies.

Table 3. Identification of the case study’s pattern as wholes.

As a whole, the central government area of Tangerang Regency area has a mixed pattern where some parts of the area have a different pattern from other parts. So, in this discussion, this is divided into three regions as shown in the figure. Observed further, area A appears to be the dominant area. Meanwhile, areas B and C appear to be the supporting areas.
Table 3. Cont.

| Location                                      | Description                                                                                                                                 |
|-----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Bandung Regency Government Center, Indonesia  | The Central Government Area of Bandung Regency, Indonesia has a characteristic of **centralized regional pattern**. This area can be divided into three circles, from the outer circumference to the inner circumference. The centred pattern is drawn through the domination space in the middle of the area and radial circulation at each circumference, thus forming a regular geometric pattern. |
| Sejong City Government Complex, South Korea   | At first glance, the visible pattern of Sejong City Government Complex is a dynamic and free organic pattern. This organic form is manifested through a massive and continuous rooftop garden which integrates the entire building. Even so, the buildings under the roof is separated according to the actual pattern. |
| Tamar Central Government Complex, Hongkong     | In this land area of more than 100,000 m², it can be seen how this Tamar Central Government area is formed on a network of roads that are grid-shaped and surround the site. Even so, in the middle, the area is designated as the central government area as it becomes the dominant area. |
Table 4. Identification of the case study’s pattern as sections.

| Section area | Indonesia Tangerang Regency Government Center | Indonesia Bandung Regency Government Center | South Korea Sejong City Government Complex |
|--------------|---------------------------------------------|-------------------------------------------|------------------------------------------|
| **Tangerang Regency Government Center, Indonesia** | • In area A there is a dominant room in the form of a plaza with buildings around it. The buildings are oriented outwards, so that the pattern can be categorized as a **radial pattern**. The circulation of vehicles and pedestrians around area A is also radial by forming an inner and outer ring. | • In Area B there are three buildings consisting of several regional offices and agencies buildings. These buildings have a **linear pattern** which is a series of rooms and is integrated directly through a hallway. These buildings have the same orientation towards the main circulation in the South direction. | Although it looks like it has an organic pattern, The Sejong Government Complex, South Korea has a pattern that is very clear when one looks at the shape of its road network. The pattern is in the form of a grid with a regular rectangular shape that is connected to each other. Buildings with the function of ministerial offices are marked with a red circle, while the purple circle represents the central government building and the yellow circle is the police headquarters. One series of these buildings is oriented towards the East where the water element is developed. The center of the area is designated as a parking pocket and passive green open space. |
| **Bandung Regency Government Center, Indonesia** | • Area C is arranged in a **grid pattern**. This pattern has a series of regular parallel lines in the form of vehicle and pedestrian circulation. In this area, there are several building with various functions. | • The outer ring of this area, marked with an orange line, consists of several parts. The North and South areas are filled with **grid-patterned** official buildings. At point C, there is the DPRD building located at the corner of the main access crossroad to the central government area. |  |
| **** | • The intermediate circumference, marked with a green line, has four sections in a **grid pattern** that are **divided symmetrically**. This section filled with official buildings and a landmark which is the view of the Bandung Regent's Office. |  |
| **** | • As a **centralized pattern area**, the inner circle of this area is the dominant space consists of Bandung Regent's Office building. This building has a formal and symmetrical shape and is oriented towards the east. The inner ring has a radial circulation pattern so that it can be accessed in 4 directions. |  |
Table 4. Cont.

| Tamar Central Government Complex, Hongkong |
|-------------------------------------------|

The middle area of Tamar Central Government Complex is designated as the central government area. This complex has a series of building masses with a **clustered pattern** that is quite **dynamic and asymmetrical**, where a public green open space becomes the center of the area.

A Building, which is the headquarters of Tamar's government, building B and C, which is the legislative office is oriented towards Tamar Park in the middle. The park is also connected to public green open spaces in the coastal area or what is often referred to as a promenade.

5. Conclusion

It can be concluded that all central government areas usually have a characteristic pattern that can be further developed without certain limitations. In some cases, there are formal and symmetrical forms, but in other cases there are more independent organic and dynamic forms. Also, central government area is sometimes added with supporting functions such as mosque, field, plaza, or even a landmark. These all are done because the central government area is the image of the city or region itself.

The concept of pattern in the case study above also proves that these patterns are used as an objective to classify buildings according to their function and organizational hierarchy. Dominant space is often applied to the area where the building with the highest organizational hierarchy is placed. Although some cases have mixed patterns, or divisible areas, these parts have been grouped according to their function and can be unified through circulation and orientation according to their concepts and purposes. This is done to facilitate the duties of the organizers and of course to emphasize two-way activities between the organizers of local governments and communities in political and administrative affairs.

References

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