Identification of Conditions and Distribution of Colonial Buildings in Bandung City

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Abstract: Bandung is one of the cities in Indonesia that is closely related to the history of the Dutch colonial period. Colonial characters can still be seen in several buildings and landscapes in Bandung so that they can be categorized as one of the city's identities. The large number of regional development and development activities often causes buildings and historical landscapes to be covered up or displaced by modernization because historical heritage objects have not been a top priority in regional development programs. This study aims to identify, inventory, and see the areas that have the most colonial buildings in the city of Bandung. The method used is a descriptive analysis method with the step of inventorying colonial buildings then mapping the position of colonial buildings that are processed using point density analytic. The results of the study show that most of the colonial buildings are well maintained and the area with the most colonial buildings is in the Braga area of Bandung.

Keywords: Heritage City, Historic Building, Point Density Analytic

1. Introduction
Indonesia is a country that has rich history and cultural experience because it consists of various islands which have their own uniqueness and have experienced various historical periods. Each period leaves historic relics such as buildings and landscapes that hold important stories and become an identity for the area. One of the relics that still exist today includes the colonial period in the form of objects, buildings and historical landscapes that were built when Indonesia under Dutch colony[1].

The city of Bandung is one of the important cities in Indonesia which is closely associated with colonialism. This is because the history of the city of Bandung began when Governor General Daendels (1808-1811) planned the construction of De Grote Postweg, a long road which stretched from Anyer on the west coast of Java to Panarukan on the east coast of Java in 1808. Before the construction of Jalan Raya Pos, the city of Bandung was only a small village in the middle of a tropical jungle known as the Tatar Ukar. The existence of Jalan Raya Pos succeeded in changing the face of Bandung, from a village in the middle of the wilderness to a city that continues to grow until it becomes one of the major cities in Indonesia[2]. This city development sometimes has negative impacts such as the many objects of historical heritage which have been left untreated by the people around and even the local government.

The object of historical heritage has not been a top priority in the regional development program. The number of development activities and regional development often causes the existing historical landscape to be covered or displaced by modernization. In addition, the
historical landscape is generally very often ignored by the community itself, even many people do not care about the existence of the historical landscape around them and do not realize the importance of the potential of the historical landscape. Even if this historical heritage object is considered, it can be one of the factors supporting progress an area.

Because there are assumption that many colonial building are not managed well and being ignored then this study was conducted. This study aims to identify the colonial building condition, inventory of colonial buildings in the city, and see the areas that have the most colonial buildings in the city of Bandung.

2. Methods
The research was carried out in the city of Bandung (Figure 1). This city is located in the West Java region and the Capital of the Province of West Java Province in Indonesia. Bandung City is located between 107° East Longitude and 6° 55' South Latitude. Topographically the city of Bandung is located at an altitude of 768 meters above sea level, the highest point in the north side with an altitude of 1,050 meters and the lowest to the south is 675 meters above sea level[3]. The study was started from May 2019 until September 2019. The research method that used in this study is a qualitative descriptive study consisting of literature studies, field observations, and spatial analysis about colonial building.
2.1. GIS spatial analysis

The purpose of this method is to determine the distribution of colonial buildings (that have been verified based on elements in the building) and landscapes in the city of Bandung using the GIS application and direct observation in the field with the following stages: (1) data collection on the location of buildings in the city of Bandung, (2) spatial analysis using the point density analytic method to find out where the most concentrations of buildings in the city of Bandung, (3) spatial analysis and observation to determine the management and condition of the colonial buildings.

2.2. Identification of physical character and conditions

The first step in identifying the physical character and conditions of colonial buildings are observing the style of colonial buildings based on the elements in the building. The elements of Dutch-patterned buildings that are widely used in the colonial architecture of the Dutch East Indies [5] include: a) gevel (gable) on the front view of the building; b) tower; c) dormer; d) windwijzer; e) rooftop acroterie (roof top decoration); f) geveltoppen (ornate roof top); g) decoration on the body of the building; and h) balustrade.

The next stage is knowing the physical condition of buildings and colonial landscapes by taking photographs and observations to the field which are then analyzed and assessed using a standard building condition index [6] with addition information about building being used or not. The Condition Index value explains the level of building conditions that have a scale between 0(zero) to 100(one hundred). The building condition index value can be used as a basis for the physical assessment of the building.
Table 1. Scale of building condition index

| Zone | Condition Index | Condition Criteria | Description of Conditions | Handling Action |
|------|------------------|--------------------|---------------------------|-----------------|
| 1    | 85-100           | excellent          | no visible damage, some deficiencies may exist but very little or not seen | immediate action is still not needed |
| 2    | 70-84            | good               | only minor damage occurred | it is necessary to make an alternative economic analysis of improvements to determine the appropriate action in dealing with the problem |
| 3    | 55-69            | moderate           | damage occurs but does not affect the overall function of the building structure | detailed evaluation is needed to determine repair, rehabilitation and reconstruction actions |
| 4    | 40-54            | sufficient         | the building can still function but the level of comfort is not met properly | |
| 3    | 25-39            | poor               | critical damage occurs so that the function of the building is disrupted | |
| 10-24|                  | very bad           | severe damage and the building cannot function | |
| 0-9  |                  | collapse           | major components of the building collapse and the building cannot function | |

3. Results and discussion

The results about building condition based from the photograph and observations of colonial building that have been analyzed and assessed are showed in the table 2.

Table 2. List of colonial buildings in Bandung

| No | Building Name                        | Address                  | Condition     |
|----|--------------------------------------|--------------------------|---------------|
| 1  | Gedung Sate                          | Diponegoro No 22         | Good and usable |
| 2  | Museum Geologi                       | Diponegoro No 57         | Good and usable |
| 3  | Gedung Dwiwarna                      | Diponegoro No 59         | Good and usable |
| 4  | Museum Pos Indonesia                 | Cilaki No 73             | Good and usable |
| 5  | SMUN 20 Bandung                      | Citarum No 23            | Good and usable |
| 6  | Kantor Pos Besar Bandung             | Asia Afrika No 49        | Good and usable |
| 7  | Bank Mandiri (ex. Bank Dagang Negara)| Asia Afrika No 51        | Good and usable |
| 8  | Kantor Asuransi Jiwasraya            | Asia Afrika No 53        | Good and usable |
| 9  | P.T.(PERSERO) Waskita Karya          | Asia Afrika No 55        | Good and usable |
| 10 | Bank Mandiri (ex. Bank Exim Bandung) | Asia Afrika No 61        | Good and usable |
| 11 | Savoy Homann                         | Asia Afrika No 61        | Good and usable |
| 12 | P.T. PLN (PERSERO) Distrsibusi Jawa Barat | Asia Afrika No 63 | Good and usable |
| 13 | Museum Konferensi Asia Afrika        | Asia Afrika No 65        | Good and usable |
| 14 | Gedung Merdeka                       | Asia Afrika No 65        | Good and usable |
| 15 | Gedung Kantor H.U. Pikiran Rakyat    | Asia Afrika No 77        | Good and usable |
| 16 | Apotik Kimia Farma                   | Asia Afrika No 9         | Good but not used |
| 17 | Toko Meuel Rotan Indo                | Asia Afrika No 90        | Good and usable |
| 18 | Toko Swarha                          | Asia Afrika / Mesjid Agung | Decent and usable |
| 19 | Apotik Kimia Farma (Apotik Rathkamp) | Braga No 2, 4, 6        | Good and usable |
| 20 | P.T. Hotel Preanger                  | Asia Afrika No 81        | Good and usable |
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| No | Building Name | Address                              | Condition                |
|----|---------------|--------------------------------------|--------------------------|
| 21 | Toko Padang   | Asia Afrika No 81                    | Good and usable          |
| 22 | Bangunan Vigano| Asia Afrika No 188 / Jl. Sunda        | Good and usable          |
| 23 | Bank Indonesia| Asia Afrika No 188 / Jl. Sunda        | Good and usable          |
| 24 | Bank Pembangunan Daerah Jawa Barat | Braga No 108                  | Good and usable          |
| 25 | Toko Centre Point | Braga No 12                   | Good and usable          |
| 26 | Bangunan LKBN Antara | Braga No 3, 4, 5               | Good and usable          |
| 27 | Bangunan Jalan Braga No. 3 | Braga No 12                   | Good and usable          |
| 28 | Gedung Gas Negara | Braga No 38                    | Good but not used        |
| 29 | Gedung Mandalawangsit Siliwangi | Lembong No 38                | Good and usable          |
| 30 | Pendopo Kabupaten | Dalem Kaum No 1                | Good and usable          |
| 31 | Gedung Bioskop DIAN | Dalem Kaum No 58              | Decent and usable        |
| 32 | Sekolah Dewi Sartika | Kautamaan Istri No 12          | Good and usable          |
| 33 | Gedung Gabungan Koperasi RI | Lengkap Besar No 4       | Good and usable          |
| 34 | Hotel Surabaya  | Kebonjati No 71, 72, 73          | Good and usable          |
| 35 | Vihara Satya Budhi | Kelenteng No 14               | Good and usable          |
| 36 | Gedung Mapolwiltabes Bandung | Merdeka No 16, 18, 20   | Good and usable          |
| 37 | Gereja Santo Petrus Katedral Bandung | Merdeka No 14            | Good and usable          |
| 38 | Kantor Gereja St. Petrus Katedral Bandung | Merdeka No 14        | Good and usable          |
| 39 | Sekolah Santa Angela | Merdeka No 24                | Good and usable          |
| 40 | Sekolah Dasar Merdeka | Merdeka No 9                 | Good and usable          |
| 41 | Balai Kota Bandung | Aceh No 1                    | Good and usable          |
| 42 | Bangunan Utama Kantor Makodikiat TNI-AD | Aceh No 50                | Good and usable          |
| 43 | Bangunan Kodam III Siliwangi | Aceh No 69                   | Good and usable          |
| 44 | Direktorat Keuangan Siliwangi | Sumatra No 39              | Good and usable          |
| 45 | Gedung Paguyuban Pasundan | Sumatra No 41              | Good and usable          |
| 46 | SMPN 2 Bandung | Sumatra No 42                  | Good and usable          |
| 47 | Rumah Sakit Emma | Sumatra No 47                  | Good and usable          |
| 48 | Komando Daerah Militer III, Detasmen Markas | Kalimantan No 14     | Decent and not used      |
| 49 | SMPN 5 Bandung | Sumatra No 40                  | Good and usable          |
| 50 | Kantor Pusat Balai Keselamatan | Jawa No 20                 | Good and usable          |
| 51 | SMUN 3 & SMUN 5 Bandung | Belitung No 8               | Good and usable          |
| 52 | Kolam Renang Tirtamerta (Pemandian Centrum) | Belitung No 10           | Good and usable          |
| 53 | Gereja Katholik Bebas St. Albanus | Banda No 26                 | Good and usable          |
| 54 | Kantor Dinas Kebudayaan dan Pariwisata Prop. Jabar | Martadinata No 209   | Good and usable          |
| 55 | Bangunan ex. TBI | Martadinata No 63             | Good and usable          |
| 56 | Asrama Putri Providentia | Taman Anggrek No 60   | Good and usable          |
| 57 | SMP Providentia | Taman Anggrek No 1            | Good and usable          |
| 58 | Gereja Salib Suci | Kamuning No 25              | Good and usable          |
| 59 | Gudang Militer | Gudang Selatan No 88          | Unmaintained             |
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| No | Building Name                                      | Address              | Condition              |
|----|---------------------------------------------------|----------------------|------------------------|
| 60 | Gerbang Selatan Kampus dan FSRD ITB               | Ganesa No 10         | Good and usable        |
| 61 | Aula Timur ITB                                    | Ganesa No 10         | Good and usable        |
| 62 | Aula Barat ITB                                    | Ganesa No 10         | Good and usable        |
| 63 | Gedung Departemen Sipil ITB                      | Ganesa No 10         | Good and usable        |
| 64 | Gedung Teknik Lingkungan ITB                     | Ganesa No 10         | Good and usable        |
| 65 | Gedung Fisika dan Teknik Fisika ITB              | Ganesa No 10         | Good and usable        |
| 66 | Asrama (A) ITB                                    | Ganesa No 15 A       | Good and usable        |
| 67 | Asrama (F) ITB                                    | Ganesa No 15         | Good and usable        |
| 68 | Bangunan PT Panca Niaga                          | Gatot Subroto No 1   | Good but not used      |
| 69 | Bangunan Kembar                                   | Gatot Subroto No 54 & 56 | Not maintained     |
| 70 | Gedung Kesenian Rumentang Siang                  | Baranang Siang No 1  | Decent and used        |
| 71 | SMIP Sandhy Putra                                 | Palasari No 1        | Good and usable        |
| 72 | Yayasan Panti Asuhan Kristen Dana Mulya           | Pasteur No 12        | Good and usable        |
| 73 | Bangunan Yayasan Pusat                            | Naripan No 7, 9      | Good and usable        |
| 74 | Gedung Pakuan                                     | Cicendo no 1         | Good and usable        |
| 75 | Gereja Bunda Tujuh Kedukaan Bandung               | Pandu No 4           | Good and usable        |
| 76 | Bio Farma (ex. Lembaga Pasteur)                   | Pasteur No 28        | Good and usable        |
| 77 | Rumah Sakit Hasan Sadikin Bandung                 | Pasteur No 38        | Good and usable        |
| 78 | Kantor Pusat PJKA                                 | Perintis Kemerdekaan No 1 | Good and usable    |
| 79 | Gedung Meteorologi ex. Gedung Landraad            | Perintis Kemerdekaan No 5 | Good and usable    |
| 80 | SMPN 12 Bandung                                   | SetiaBudhi No 195    | Good and usable        |
| 81 | Perumahan Dosen UPI                               | SetiaBudhi No 211    | Decent                 |
| 82 | Perumahan Dosen UPI                               | SetiaBudhi No 217    | Decent                 |
| 83 | Perumahan Dosen UPI                               | SetiaBudhi No 219    | Decent                 |
| 84 | Perumahan Dosen UPI                               | SetiaBudhi No 225    | Decent                 |
| 85 | Kantor Rektoran UPI                               | SetiaBudhi No 229    | Good and usable        |
| 86 | Perumahan Dosen UPI                               | SetiaBudhi No 240    | Decent                 |
| 87 | Toko Oncom Raos                                   | Cihampelas No 57     | Decent and used        |
| 88 | Masjid Raya Cipaganti                             | Cipaganti No 85      | Good and usable        |
| 89 | Gereja Bethel                                     | Wastukencana No 1    | Good and usable        |
| 90 | Gedung Depnaker                                   | Wastukencana No 26   | Decent and used        |
| 91 | Interlink                                         | Wastukencana No 5    | Unmaintaned            |
| 92 | Pabrik Kina                                       | Pajajaran No 42      | Unmaintaned            |
| 93 | Stasiun Kereta Api (Selatan)                      | Stasiun Barat        | Decent                 |
| 94 | SMPN 1 Bandung                                    | Kesatriaan No 12     | Good and usable        |
| 95 | Gedung Tiga Warna                                 | Citarum              | Good and usable        |
| 96 | Rumah Sakit Santo Boromeus                        | Ir. H. Juanda No 100 | Good and usable        |
| 97 | Villa Merah                                       | Tamansari No 78      | Good and usable        |
| 98 | Rumah Tinggal Bukit Tinggi                        | Tamansari No 92      | Good and usable        |
| 99 | Hotel Sawunggaling                                | Sawunggaling No 13   | Good and usable        |
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| No  | Building Name                  | Address                      | Condition      |
|-----|--------------------------------|------------------------------|----------------|
| 100 | Lembaga Pemasyarakatan Sukamiskin | A.H. Nasution No 114         | Good and usable |

The results showed 82 colonial buildings were in good condition and still in use, with 3 buildings in good condition but not used. There are 5 (five) buildings in decent condition and still in use and 6 (six) buildings in this condition are no longer used. There are only 4 (four) buildings that are in poorly maintained condition. Buildings that are still in good condition are mostly managed by the government. Buildings in good condition generally function as government offices, educational buildings, hospitals, and places of worship. While buildings with poorly maintained conditions are mostly managed by private or private buildings such as former factories and housing. The number of colonial buildings based on their functions is 26 government offices, 17 educational buildings, 11 residential buildings, 8 places of worship, 4 buildings to function as museums and hotels, 3 bank buildings, and 27 other buildings with diverse functions. This shows that the colonial building in the city of Bandung has an important role in making the characteristics of the city seeing that many of these buildings are still maintained and are still used.

Figure 3. Distribution maps of colonial buildings in the city of Bandung
Figure 4. Density map of colonial buildings in the city of Bandung

The map shows that the distribution of colonial buildings is in the center of the city which then spreads to the north. The most concentrated building is in the Braga area, known as a trade zone in the colonial era and is now one of the destinations for both foreign and local tourists. The concentration with the second density can be seen in the Asia-Africa region where this area is office and banking area in Bandung. Some buildings gather in the Setiabudhi area which functions as housing, it can be said that the Setiabudhi area was a residential area in the colonial era. From how the colonial building are allocate in Bandung, we can see the direction of development in the city of Bandung in colonial era.

Figure 5. Map of the city of Bandung in Dutch colonial times
4. Conclusion
The physical condition of colonial buildings in Bandung in general is still in good condition and can still be used. Colonial buildings in good condition are generally managed by the government and functioned as government offices. And some buildings in conditions that are not maintained are managed by individuals or private. This shows that colonial building management should be carried out by the government rather than by individuals or the private sector. Although the use of these buildings is the authority of the owner, but the government must keep an eye on it so as not to lose colonial buildings. The spread of colonial buildings is in the center of the city, especially in the regions of Braga and Asia Africa, which is often a destination for international and local tourists. Colonial buildings in the city of Bandung have important role in in shaping the urban landscape character of Bandung and if preserve well, these buildings can become the identity of the city itself.

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