Characteristic Assessment and Cultural Landscape Conservation of Urug Indigenous Village

D C Sari1 and A Munandar2
1 Student, Department of Landscape Architecture, Faculty of Agriculture, IPB University (Bogor Agricultural University), Bogor, Indonesia
2 Lecturer, Department of Landscape Architecture, Faculty of Agriculture, IPB University (Bogor Agricultural University), Bogor, Indonesia
E-mail: 1desycitra16@gmail.com; 2amunandari@ipb@gmail.com

Abstract. Urug Indigenous Village is a traditional Sundanese village that still adheres to its local customs and wisdom. However, along with the development that happen in Urug Indigenous Village, the character of cultural landscape is feared to change and will result in loss of identity. The purpose of this study is to analyze the cultural landscape characteristics, to analyze significance value of cultural landscape, to analyze stakeholder perceptions about knowledge of cultural landscape characteristic, conservation priorities, and element of mental map, and also to formulate recommendations for conservation plans of Urug Indigenous Village. The method used in this research is description, spatial, and scoring method. The result shows that Urug Indigenous Village has unique characteristics in land use and activities, patterns of spatial organization, response to the natural environment, cultural traditions, circulation networks, boundary democrations, vegetation, building and structures, clusters, archeological sites, and small-scale elements. Urug Indigenous Village divided into three, that is Urug Lebak, Tengah, and Tonggoh. This distribution is based on differences in height of location and the implementation of traditional ceremonies. Urug Lebak belongs to high significance value of cultural landscape, while Urug Tengah and Urug Tonggoh belong to medium significance value of cultural landscape. According to the perception of stakeholders, the landscape character that characterize Urug as an Indigenous Village is cultural tradition’s. The characteristics of cultural landscape that need higher conservation prioritized are land use and activities. The most imaginary aspects are Gedong Ageung, traditional houses, the main road, and Cidurian River. The conservation concept is to protect Urug Indigenous Village by maintaining and improving the characteristics. The conservation zone divided into two, that is core zone (Urug Lebak) and buffer zone (Urug Tengah and Tonggoh) with different conservation strategies.

Keywords: cultural landscape, landscape conservation, mental map, significance value, Urug Indigenous Village

1. Introduction

Geographical conditions in Indonesia that are formed naturally become a source of diversity in the landscape. Each landscape has a different character and its uniqueness. This is influenced by the forming factor, both natural and cultural factors.1

The cultural landscape is a combined representation of work between nature and humans, an illustration of the development of humanity and progress over time, under the influence of physical challenges and opportunities provided by the natural environment, social, economic, and culture, both external and internal.2 One of the cultural heritages that still survives today is the culture in Urug Indigenous Village.

Urug Indigenous Village is still maintaining the culture, but the existence is less than other indigenous village in West Java. At present, development in Urug Indigenous Village is feared to change and will result in loss of identity. The purpose of this study is to analyze the cultural
landscape characteristics, to analyze significance value of cultural landscape, to analyze stakeholder perceptions about knowledge of cultural landscape characteristic, conservation priorities, and element of mental map, and also to formulate recommendations for conservation plans of Urug Indigenous Village.

2. Methods

2.1. Study sites and time
The study is conducted in Urug Indigenous Village, Urug Village, Sukajaya District, Bogor Regency, West Java (Figure 1). Time of the study is from January 2019 until June 2019.

2.2. Study methods
The stages of the research include preparation, inventory, processing and analysis data, also synthesis and recommendation (Figure 2). The data collection technique used in this study is the literature review, field observation, interview, and questionnaire.

2.2.1. Analysis
Cultural Landscape Characteristics. Analysis of the cultural landscape characteristics used descriptive and spatial method based on 11 characteristics of the rural landscape (Table 1) according to McClelland et.al. [3]
Table 1. Eleven characteristics of cultural landscape

| No | Characteristics                        | Description                                                                                                                                 |
|----|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| 1  | Land use and activities                | Land use are the major human forces that shape and organize rural communities. Human activities, such as farming, have left an imprint on the landscape. |
| 2  | Pattern of spatial organization        | The relationship among major physical components (political, economic, technological, natural environment) have influenced the organization of communities by determining settlement patterns, proximity to markets, and the availability of transportation. |
| 3  | Response to the natural environment    | Community response to major resources in determining the location and organization of community spaces, climate in determining the position of buildings and structures, physiography and ecology in determining land use traditions, construction methods, and social customs. |
| 4  | Cultural traditions                    | Cultural tradition affect the ways that is used, occupied, and shape land.                                                                |
| 5  | Circulation networks                   | The system of transportation of people, goods, and raw materials from one point to another.                                              |
| 6  | Boundary democations                   | Dividing boundaries are deleniations of land ownership and land use, such as area separations with special functions with enclosed fences or stone walls. |
| 7  | Vegetations                            | Vegetation diversity directly related to land use patterns, whether indigenous, naturalized, or introduced.                                 |
| 8  | Building and structures                | Various types of buildings, structures, and objects serve human needs related to the occupation and use of the land.                       |
| 9  | Clusters                               | The grouping of buildings, fences, and other elements as a resultant of functions, social traditions, climate, and other influences from either culture or nature. |
| 10 | Archeological sites                    | The sites of prehistoric or historic activities or occupation, may be marked by foundations, ruins, changes in vegetation, and surface remains. |
| 11 | Small-scale elements                   | Small-scale elements, such as a foot bridge, road, fences, gates, triangulation pillars, and so on that complement the landscape setting.   |

Source: Modify from McClelland et al [3]

Analysis of Significance Value of Cultural Landscape. The analysis used scoring method based on the significance assessment of Burra Charter (Table 2). The formula of class intervals (CI) refers to Slamet in Prasetyo. [5]

\[
\text{Class Interval (IK)} = \frac{\text{Maximum score (Mx)} - \text{Minimum score (Mi)}}{\text{Total Categories}} \quad \text{...(1)}
\]

- **High Significance** = (Mx + 2CI) to Mi \quad \text{...(2)}
- **Medium Significance** = (Mi + CI) to (Mi + 2CI) \quad \text{...(3)}
- **Low Significance** = Mi to (Mi + CI) \quad \text{...(4)}

Analysis of Stakeholder Perceptions  
Data collection techniques to determine the characteristic of cultural landscape and mental map elements are interviews and questionnaires. Meanwhile, the technique to determine the priority of landscape conservation is likert scale questionnaire. The Likert scale questionnaire was then analyzed with the SPSS application (Kruskal-Wallis test)

2.2.2. Synthesis and Recommendation  
This stage is the integration of the results of analysis. The final result of this research is conservation plan to Urug Indigenous Village in the form of concepts, zoning, and strategies for each zone.
Urug Indigenous Village is located in Urug Village, Sukajaya District, Bogo Regency, West Java Province. The area of Urug Indigenous Village is ± 48.9 ha. Urug Indigenous Village is bounded by Harkatjaya Village (North), agricultural land (South), Nanggung Village (East), and PT Village (West). Urug Indigenous Village is located at the foot of Mount Halimun Salak, so that the topography of the landscape is hilly and bumpy. There are small mountains that surround the Urug Indigenous Village, that is Mount Manapa, Mount Larangan, Mount Maniis, and Mount Leutik. Kampung Adat Urug has an average rainfall of 4,086 mm/year, humidity of 77%, and an average daily temperature of 25°C.

### Table 2. Assessment criteria of cultural landscape

| No | Criteria | Score  |
|----|----------|--------|
|    |          | Low (1) | Medium (2) | High (3) |
| 1  | Aesthetic<sup>b</sup> | Land use<sup>a</sup> | Land use change >50% | Land use change 25-50% | Land use change<25% |
|    | a. Architecture | Dominated > 50 % by modern style houses | Dominated > 50% by semi-modern houses but still has a traditional style | Dominated > 50% by traditional style houses and authenticity |
|    | b. Landscape elements | Authenticity of elements in form, material, and location < 50% | Authenticity of elements in form, material, and location 50-75% | Authenticity of elements in form, material, and location > 75% |
|    | c. Integrity/unity<sup>a</sup> | The landscape does not have unity and the character is not harmonious with the surrounding | The landscape has unity and integrity and the character is weak with surrounding | The landscape has a strong unity and character is harmony with surrounding |
| 2  | History<sup>b</sup> | a. Landscape elements<sup>a</sup> | There is only one historical element that is 50>years old | There are 2-5 historical elements that is > 50 years old | There are more than 5 historical elements that is > 50 years old |
|    | b. Area/place | There are no areas or places that have historical value of important events in the past | There are historical areas or places in the past, but now the function has change | Historical areas or places are still preserved, and also there are landmarks |
| 3  | Social/spiritual | a. Area/place | Areas/places and the socio-cultural activities of the community no longer exist | The socio-cultural activities of the community are still running but the area or place for activities is gone or vice versa | There are areas or places for socio-cultural activities of the community |
|    | b. Norm/ costumary rules | Norm or customary rules are completely abandoned by the community | Norm or customary rules is starting to disappear/ only carried by some people | Norm or customary rules are still fully implemented by the community |
|    | c. Cultural tradition | The community has completely abandoned traditions that contain spiritual values | Spiritual values in the traditions of society is starting to disappear/ only carried out by some people | The community still running traditional ritual traditions at certain events |
| 4  | Scientific | a. Activities | Activities which have no educational value/have been lost | There are still activities that have educational value but have starting to disappear | There are activities that are maintained and have potential for scientific development |
|    | b. Landscape elements | There is no element that has scientific value | Only a few elements that have a high scientific value | Each element has a high value of scientific, it can benefit to education |

Source: Modify from (a) Harris and Dines [6], (b) Austral ICOMOS [4]

### 3. Result and Discussion

#### 3.1 General Conditions

Urug Indigenous Village is located in Urug Village, Sukajaya District, Bogor Regency, West Java Province. The area of Urug Indigenous Village is ± 48.9 ha. Urug Indigenous Village is bounded by Harkatjaya Village (North), agricultural land (South), Nanggung Village (East), and PT Village (West). Urug Indigenous Village is located at the foot of Mount Halimun Salak, so that the topography of the landscape is hilly and bumpy. There are small mountains that surround the Urug Indigenous Village, that is Mount Manapa, Mount Larangan, Mount Maniis, and Mount Leutik. Kampung Adat Urug has an average rainfall of 4,086 mm/year, humidity of 77%, and an average daily temperature of 25°C.
3.2 Cultural landscape characteristic
3.2.1 Land use and activities
Land use in LU1 (Urug Lebak) is paddy field (matrix), forest (patch), forest prohibition (patch), garden (patch), settlement (patch), and cemetery (patch). Land use in LU2 (Urug Tengah) and LU3 (Urug Tonggoh) are paddy field (matrix), gardens (patch), and settlement (patch). Various social and economic activities carried out in the Urug Indigenous Village. The interesting activity of the Urug community is ngariung (eating together) which is done during traditional ceremonies and nutu (pounding rice) which is carried out after the harvest season.

3.2.2 Pattern of spatial organization

![Pattern of spatial organization](image)

Figure 3. Pattern of spatial organization

3.2.3 Response to the natural environment
Response to the natural environment that has always been carried out by the Urug community is dominant works as farmers, because of its suitable location for growing rice. The other response is make settlements on sloping lands and make terraced rice fields, this is because of the location at the foot of mountain.

3.2.4 Cultural traditions

| No | Activities         | Place                      | Intensity | Day  | LU1 | LU2 | LU3 | Information                                         |
|----|-------------------|----------------------------|-----------|------|-----|-----|-----|-----------------------------------------------------|
| 1  | Sedekah Bumi      | Traditional houses         | 1x a year | Wed  | √   | √   | √   | Ceremony before the planting season                 |
| 2  | Upacara Seren Taun| Traditional houses         | 1x a year | Wed  | √   | √   | √   | Harvest ceremonies                                   |
|    | Sedekah Musharram | Traditional houses         | 1x a year | Wed  | √   | √   | √   | The closing ceremony of the year                    |
| 4  | Sedekah Ruwah     | Traditional houses         | 1x a year | Thru | √   | √   | √   | Ceremony of devoting to the Prophet Adam as         |
| 5  | Sedekah Mulud     | Traditional houses         | 1x a year | Sunday| √   | √   | √   | Ceremony of devotion to the Prophet Muhammad SAW    |
| 6  | Sedekah Idulfitri | Traditional houses and mosque | 1x a year | Idulfitri day | √ | √ | √ | Ceremony at Idulfitri day                           |
| 7  | Sedekah Iduladha  | Traditional houses and mosque | 1x a year | Iduladha day | √ | √ | √ | Ceremony at Iduladha day                            |
| 8  | Ziarah Makam Muara Ciapus | The grave near the Cidurian River | More than 1x a year | Rabu | √ |     | Pilgrimage to the grave of the ancestors who carried out after the growing season |
| 9  | Ziarah Makam Cipatat Kolot | The grave at Cipatat Kolot | More than 1x a year | Minggu | √ |     | Pilgrimage to the grave of the ancestors who carried out after the growing season |
3.2.5 Circulation networks

There are three circulation in Urug Indigenous Village. First, primary circulation, that is the only road that connects Urug Tonggoh to Lebak, and connects to Nanggung and Harkatjaya Village. This road can be traversed by small, medium-sized cars and two-wheeled vehicles. Second, secondary circulation that is a small road that is passed by two-wheeled vehicles to reach houses. The last is tertiary circulation, that is a path in small alleys leading to residents' homes but can only be passed by walking.

3.2.6 Boundary democration

LU 1 (Urug Lebak) is directly bordered by agricultural land in the North, prohibited forest in the South, Cidurian River in the East, and Urug Gardu in the West. LU 2 (Urug Tengah) is directly adjacent to agricultural land in the North, gardens in the East, and settlements in the South and West. LU 3 (Urug Tonggoh) is directly adjacent to agricultural land in the North and South, settlements in the East, and gardens in the West.

3.2.7 Vegetation

Plants in LU 1 (Urug Lebak) have a high diversity of plants. That is because Urug Lebak has forest and prohibited forest. The species most commonly found in Urug Lebak is saninten (Castanopsis argantea) and kirai (Metroxylon sago). Vegetations in LU 2 (Urug Tengah) and LU 3 (Urug Tonggoh) are dominant fruit-producing plants such as banana (Musa sp.), Guava (Syzygium sp.), And coconut (Cocos nucifera), and in Urug Tonggoh there are many bamboo trees (Bambusa sp.).

3.2.8 Building and Structures

The buildings in Urug Indigenous Village consist of traditional, semi-traditional and modern houses, also the historical heritage buildings (Gedong Paniisan and Gedong Leuitik) and leuit (rice barn). There are three traditional houses, that is Gedong Ageung in LU 1 (Urug Lebak), traditional house owned by Abah Amat family in LU 2 (Urug Tengah), and traditional house owned by Abah Sukardi family in LU 3 (Urug Tonggoh). Leuit in Urug Indigenous Village is the same as the typical Sundanes of leuit, the sign on the roof that forms V.

3.2.9 Clusters

The clusters in LU 1 (Urug Lebak) are in the form of settlements, rice fields, funerals, and group of leuit. Settlements in LU 1 (Urug Lebak) are divided into 5 (five) sections, that is Urug Lebak in the Middle, Urug Kaler in the North, Urug Cowet in the East, Urug Kidul in the South, and Urug Gardu in the West. The clusters in LU 2 (Urug Tengah) and LU 3 (Urug Tonggoh) are only in the settlements.

3.2.10 Archaeological sites

| No | Archaeological sites | Location | Manager | Information |
|----|----------------------|----------|---------|-------------|
| 1  | Gedong Ageung        | √        | Privat and goverment | BCB         |
| 2  | Gedong Paniisan      | √        | Privat and goverment | BCB         |
| 3  | Gedong Leuitik       | √        | Privat and goverment | BCB         |
| 4  | Rumah Adat Urug Tengah | √  | Privat | non BCB |
| 5  | Rumah Adat Urug Tonggoh | √  | Privat | non BCB |
| 6  | Empat Makam Leluhur  | √        | Privat and goverment | BCB         |
| 7  | Tugu Batu            | √        | Privat and goverment | BCB         |
| 8  | Batu Dakon           | √        | Privat and goverment | BCB         |
3.2.11 Small-scale elements
The small-scale elements in Urug Indigenous Village are roofs using kirai (*Metroxylon sagu*). Other small-scale elements in the Urug Indigenous Village are leaf carving elements found in traditional house buildings, in addition, there are also elements in the form of small bridges in Urug Lebak.

3.3 Significance Value of Cultural Landscape
The assessment of the significant value is following the results of the analysis of the cultural landscape characteristics in the three landscape units (Table 5).

| Significance Value | Location | Location | Location |
|--------------------|----------|----------|----------|
|                    | LU 1 (Urug Lebak) | LU 2 (Urug Tengah) | LU 3 (Urug Tonggoh) |
| Aesthetic          | Land use       | 3        | 3        | 2        |
|                    | Architecture   | 2        | 1        | 1        |
|                    | Landscape elements | 3    | 2        | 2        |
|                    | Integrity/Unity | 2        | 2        | 2        |
| History            | Landscape elements | 3    | 2        | 2        |
|                    | Area/place     | 3        | 2        | 2        |
| Social/spiritual   | Area/place     | 3        | 3        | 3        |
|                    | Norm/ costumary rules | 2    | 2        | 2        |
|                    | Cultural tradition | 3     | 3        | 3        |
| Scientific         | Activities     | 3        | 2        | 2        |
|                    | Landscape elements | 3    | 3        | 3        |
| Total              |               | 30       | 25       | 24       |
| Significance level | High          | Medium   | Medium   |

The significance level of the cultural landscape is divided into three, that is low (11-18), medium (19-25), and high (26-33) significance levels. So it can be concluded LU 1 (Urug Lebak) has a higher priority in management and conservation compared to LU 2 (Urug Tengah) and LU 3 (Urug Tonggoh).

3.4 Stakeholders Perception
Knowledge of Cultural Landscape
The character of cultural landscape most recognized by the community and the manager of the Urug Indigenous Village is tradition and culture with a percentage of 80% and 54%, while the character of the cultural landscape most recognized by visitors is the building or structure (only Gedong Ageung and two other traditional houses) with a percentage 30%.

3.5 Priorities of Conservation
The characteristics of the cultural landscape in the Urug Indigenous Village which must be prioritized for preservation according to the Urug community are cultural traditions, according to visitors, namely land use and activities, while according to the manager, cultural traditions and land use and activities are equally important.

3.6 Element of Mental Map

| Element of mental map | Description |
|-----------------------|-------------|
| Path                  | Primary road connecting between Urug Lebak, Urug Tengah, and Urug Tonggoh |
| Node                  | Gedong Ageung also traditional house owned by Abah Amat and Abah Sukardi |
| District              | 8 district, that is Urug Legok Tonggoh, Urug Tonggoh, Urug Tengah, Urug Gardu, Urug Lebak, Urug Kaler, Urug Kidul, and Urug Cowet |
| Edge                  | Cidurian River in the East of Urug Indigenous Village |
| Landmark              | Gedong Ageung |
3.7. Recommendation

3.7.1 Concept

The concept of conservation is to protect Urug Indigenous Village as a cultural landscape, by maintaining and improving the characteristics. The characters that need to be maintained are land use and activities, spatial organization patterns, responses to the natural environment, cultural traditions, clusters, and archaeological sites. The characters that need to be improved is circulation networks, boundary democration, vegetations, building and structures, and small-scale elements. The higher conservation priority based on location is Urug Lebak. The higher conservation priority of the cultural landscape characteristics is land use and activities, also cultural traditions. The cultural traditions are related to agriculture, so land use is very influential on cultural values.

3.7.2 Conservation Zones

![Conservation zones](image)

Figure 4. Conservation zones

3.7.3 Strategies

| Zones | Conservation strategy |
|-------|-----------------------|
| Core Zone (LU 1 Urug Lebak) | • Maintaining natural boundaries and making signage as a marker of territorial boundaries  
• Increase the good identity of the district (settlement)  
• Adding small-scale elements of leaf carvings on revitalized houses to improve identity  
• Maintaining Abah Ukat’s kebun kirai and improving kirai (*Metroxylon sagu*), because the plant is useful as small-scale element of the roof traditional house  
• Improving saninten (*Castonopsis argantea*), because the current status must be conserve  
• Maintaining and checking of archeological sites |
| Buffer Zone (LU 2 Urug Tengah and LU 3 Urug Tonggoh) | • Making informal organization for Urug Tengah and Urug Tonggoh  
• Maintaining natural boundaries and create signage as markers of boundaries  
• Maintaining existing vegetation and multiplying kirai and saninten plants, because kirai are useful as the roof of the traditional houses of Urug Indigenous Village, and the status of saninten must be conserve  
• Improve the road access, especially secondary and tertiary circulation, so that it is easy to pass  
• Restoration of Abah Sukardi’s traditional house, whose condition is currently damage  
• Revitalization of modern houses into traditional houses of the Urug Indigenous Village  
• Adding small-scale elements of leaf carvings on revitalized houses to improve identity  
• Making the traditional house owned by Abah Amat and Abah Sukardi with historical object in it as Cultural Heritage Building and Object  
• Maintaining and checking the traditional houses and historical object |
4. Conclusion
The eleven cultural landscape characteristics are found in Urug Indigenous Village. The characteristics that have a strong influence on the formation of Urug Indigenous Village are land use and activities, spatial organization patterns, responses to the natural environment, cultural traditions, clusters, and archaeological sites.

Urug Indigenous Village is divided into three, that is Urug Lebak, Tengah and Tonggoh. Urug Lebak belongs to high significance value of cultural landscape, while Urug Tengah and Urug Tonggoh belong to medium significance value of cultural landscape. So, Urug Lebak has a higher conservation priority. The landscape character that characterize Urug as an Indigenous Village is cultural tradition's. The landscape characters with higher conservation priority are land use and activities. The most imagible characters are Gedong Ageung, traditional house, primary road, and Cidurian River. The conservation concept is to protect the Urug Indigenous Village by maintaining and improving the character of the Urug Indigenous Village. The conservation zone is divided into two, that is core zone (Urug Lebak) and buffer zone (Urug Tengah and Tonggoh) with different conservation strategies.

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