



The Landscape of Borobudur Temple Compounds and its Environment

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■ Abstract

Borobudur Temple Compounds is a Buddhist temple complex, designated as World Heritage since 1991, that has become a major tourist destination in Indonesia. This complex consists of the Borobudur, Pawon and Mendut Temples which are located in a straight line. The Borobudur region includes rural areas that are characterized by the extent of the existing agricultural land, especially paddy fields. Over time large areas of farmland have become urbanized, damaging the traditional agricultural landscape. Therefore, cultural heritage management of the site must not only be focused on the monuments, but also on the surrounding environment. One way to maintain the landscape of Borobudur is to raise public awareness about the importance of preserving both: heritage and environment. The local communities' awareness could also play an active role to conserve the rural areas of Borobudur. A new master plan is needed for the integrated management of Borobudur region and for the conservation of the agricultural land, particularly the paddy fields.

KEY WORDS: rural area, agricultural land, urbanization, new master plan

■ 1. Introduction

1.1 Overview of the heritage site

Borobudur Temple Compounds is located in Borobudur village, subdistrict of Borobudur, Magelang Regency, Central Java Province, Indonesia. Although the Borobudur Temple Compounds is comprised of three stone temples – Mendut, Pawon, and Borobudur, Borobudur is the main temple and the largest of the three. The monument was built on a hill that rises about 46 meters above the surrounding plain, and measures around the base about 120 square meters. More than 55,000 cubic meters of andesite stone were carved to build this massive structure in the form of a low step-pyramid. It consists of six rectangular terraces, three circular terraces, and a huge bell-shaped stupa on top. The wall and balustrade of the rectangular terraces are adorned with meticulously worked reliefs. Inside the Borobudur cultural heritage there

are archaeological remains that must be preserved, namely the Borobudur Temple, the Pawon Temple, and the Mendut Temple and other ancient remains. The Borobudur cultural heritage region became a designated World Cultural Heritage Site in 1991, under the name “Borobudur Temple Compounds.” The Borobudur Temple underwent restoration twice. The first time was in 1907-1911, by the Dutch government led by Theodoor van Erp, a military officer. The second restoration was carried out by the government of Indonesia and UNESCO in 1973-1983. After the second restoration, many tourists, both domestic and foreign, visited the Borobudur Temple.

The Borobudur Temple provides a panoramic view of the beautiful agricultural land that characterizes this area. The temple stands on a hill that has a height of about 15 meters from the surrounding area. Surrounding hills, mountains, and large rivers form the Borobudur landscape of rural character. Most of the Borobudur region is a green field of

agricultural land planted with paddy. Original plants from the Borobudur region are known, namely banana, bamboo and coconut. Despite the current rapid development in the Borobudur area, these plants are still commonly found.

1.2 Brief description of the agricultural landscape

The Borobudur region is dominated by agricultural land consisting of *sawah* (wet rice farming), *kebun* (mixed forest gardening) and *tegalan* (dryland cultivation of food crops). Types of crops in the wet rice farming include rice, pulses, and vegetables. *Kebun* (mixed forest gardening) are usually located near the settlement land with crops species such as rambutan tree (*Nepehelium lappaceum*), papaya (*Carica papaya*), banana (*Musa spp*), jackfruit (*Artocarpus heterophyllus*), breadfruit (*Artocarpus communis*), *duwet* (*Syzgium cumini*), kepel (*Stelechocarpus burahol*), sapodilla (*Manikara kauki/M. Achras*), coconut trees (*Cocos nucifera*), teak (*Tectona grandis*) and *segon* (*Albizia falcataria*). Types of plants that are in the *tegalan* area (Dryland cultivation of food crops) are cassava (*Manihot utilissima*), tobacco (*Nicotiana tabacum*), chilli (*Capsicum annum*), peanuts (*Arachis hypogaea*) and beans (*Vigna sinensis*). Planting design on *tegalan* areas (dryland cultivation of food crops) occurs in the form of interplanting, (*tumpang sari*) which is a mixture of crops in one field.

Most of the population are farmers of wet rice, which can be harvested twice a year. Wet rice farming with technical irrigation dominates village land use, with rivers and springs as the water sources for irrigation. During the rainy season paddy fields are planted with rice, while in the dry season crops such as maize, cassava, peanuts, tobacco and chilli are planted.

Some farmers, working on their land, hire their neighbors in exchange for half of the product. When the harvest season comes, usually several villagers work together to help farmers harvest rice, and they share the product. To harvest rice, farmers are still using the traditional method called *ani-ani*: cutting the stalks of rice with a bamboo tool clipped on their fingers, even when this is time consuming. These jobs are usually done by women farmers. This way of working has been done by farmers for generations.

■ 2. Significance of The Heritage Place

2.1 Borobudur Temple Compounds as a World Cultural Heritage Site

In 1991, Borobudur was inscribed on the World

Heritage List, together with two other smaller stone temples, Pawon and Mendut. These three stone temples are located in a straight line about three kilometres on east-west orientation, and are regarded as belonging to a single temple complex. Known as the Borobudur Temple Compounds, this World Cultural Heritage Site met three criteria of the Operational Guidelines for the Implementation of the World Heritage Convention: (i) *The Borobudur Temple Compounds with its stepped, unroofed pyramid consisting of ten superimposing terraces, crowned by a large bell-shaped dome is a harmonious marriage of stupas, temple and mountain that is a masterpiece of Buddhist architecture and monumental arts;* (ii) *The Borobudur Temple Compounds is an outstanding example of Indonesia's art and architecture from between the early 8th and late centuries that exerted considerable influence on an architectural revival between the mid 13th and early 16th centuries.* (vi) *Laid out in the form of a lotus, the sacred flower of Buddha, Borobudur Temple Compounds is an exceptional reflection of a blending of the very central idea of indigenous ancestor worship and the Buddhist concept of attaining Nirvana. The ten mounting terraces of the entire structure correspond to the successive stages that the Bodhisattva has to achieve before attaining to Buddhahood!*

2.2 Other values

Besides the cultural values (historical, architectural, spiritual, aesthetical) that support the inscription of Borobudur Temple Compounds as a World Heritage property, the area of the Borobudur Temple has value as a rural natural environment that ought to be recognized. The Borobudur region has rural characteristics comprised of numerous agricultural lands, especially paddy fields. The value of natural resources that exist around this heritage can be added to increase the value of Borobudur's heritage. The study of cultural landscapes in Indonesia has not been carried out extensively, although there are many cultural landscapes.

In 1992, Cultural Landscapes have been recognized as subject of Outstanding Universal Value, with its sub-categories: a) clearly defined landscapes designed and intentionally crafted by man, b) organically evolved landscapes, and c) associative cultural landscapes.² Borobudur and its environment could be categorized as a cultural landscape composed of the existing agricultural land, the culture of rural communities that is still ongoing, the architecture of the region, and its natural forms. The cultural landscape approach could more appropriately define the area of

1 <http://whc.unesco.org/en/list/592>

2 <http://whc.unesco.org/en/culturallandscape/>

Table 1. JICA Zonation of Borobudur Region

No	Zone	Remark
1.	Zone-1: sanctuary areas (Archaeological Environment Preservation)	Zone for protection and prevention of destruction of the physical environment of the archaeological monuments.
2.	Zone-2 (Archaeological Park Zone)	Zone for provision of park facilities for the convenience of visitors and preservation of the historical environment.
3.	Zone-3 (Land Use Regulation)	Zone for regulation of land use around the parks and preservation of the environment while controlling development in areas surrounding the parks.
4.	Zone-4 (Historical Scenery Preservation Zone)	Zone for maintenance of the historical scenery and prevention of destruction of the scenery.
5.	Zone-5 (National Archaeological Park Zone)	Zone for undertaking archaeological surveys over a wide area and prevention of destruction of undiscovered archaeological monuments.

Source: JICA, 1979

protection and its values. The natural values in Borobudur area would benefit from a nature-culture approach for conservation and management.

■ 3. Current Management Arrangements

3.1 Old Master plan

In response to the request of the government of the Republic of Indonesia, the Government of Japan conducted a study on the development of the National Archaeological Parks at Borobudur and Prambanan in Java. JICA (Japan International Cooperation Agency) has conducted this study for a masterplan of the Borobudur and Prambanan area, completed in 1979. Unfortunately, this masterplan is not supported by the government law and therefore cannot be applied, although it is included in the document proposing Borobudur as World Heritage. According to the JICA masterplan, the Borobudur region is divided into five zones (table 1, figure 1).

Currently, the JICA masterplan is not valid because the period of this masterplan

is for 20 years and it ended in the year 1999. This masterplan could have been useful to consider the larger environment and other values of Borobudur, such as its agricultural landscape, through zones 1, 2, and 3, which include the environment, the scenery and the land use. The importance of re-arranging the new masterplan lies in the need to protect and preserve the values of Borobudur and the wider environment.

3.1 Heritage Management

Related to the JICA masterplan, Heritage management of the Borobudur Temple and its surroundings is currently carried out by 3 different agencies. The Borobudur Conservation Office under the Ministry of Education and Culture, manages zone 1 (the monument of the temple and its yard). Zone 2, a tourist park around the temple, is managed by PT Taman Wisata Candi Borobudur and Prambanan under the State Minister for State Owned Enterprises. Zone 3, in the form of settlements surrounding the temple along with the agricultural land area, is managed by the

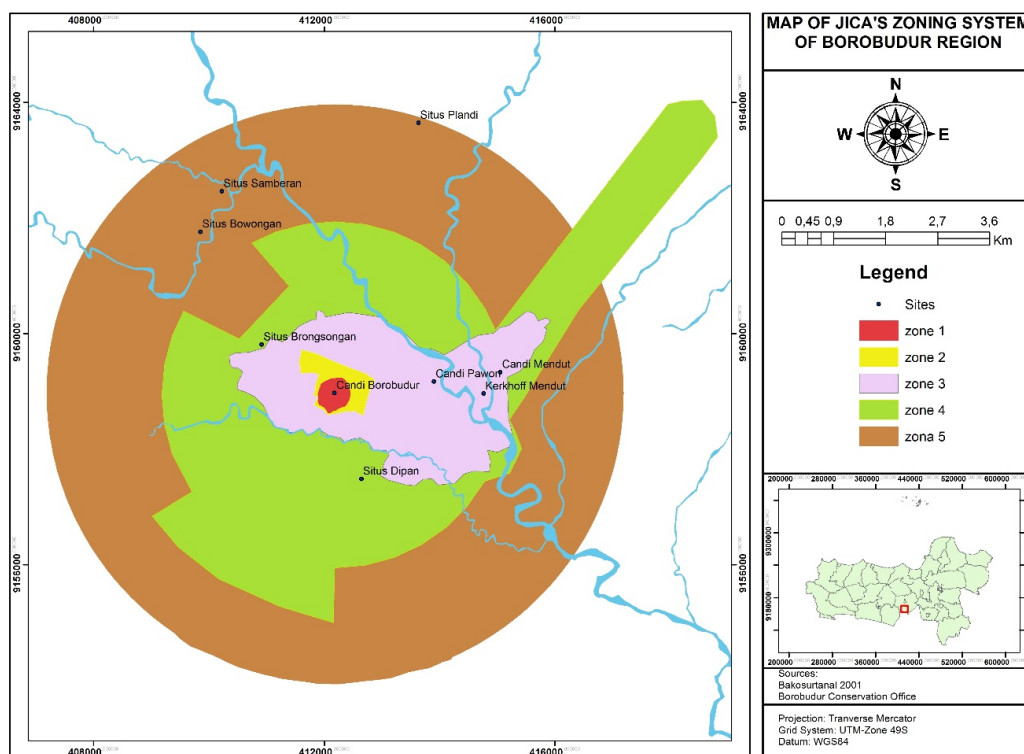


Figure 1. Map showing zoning system in Borobudur Region according to the JICA master plan of 1979 (Source: Prepared by Fransiska Dian Ekarini)

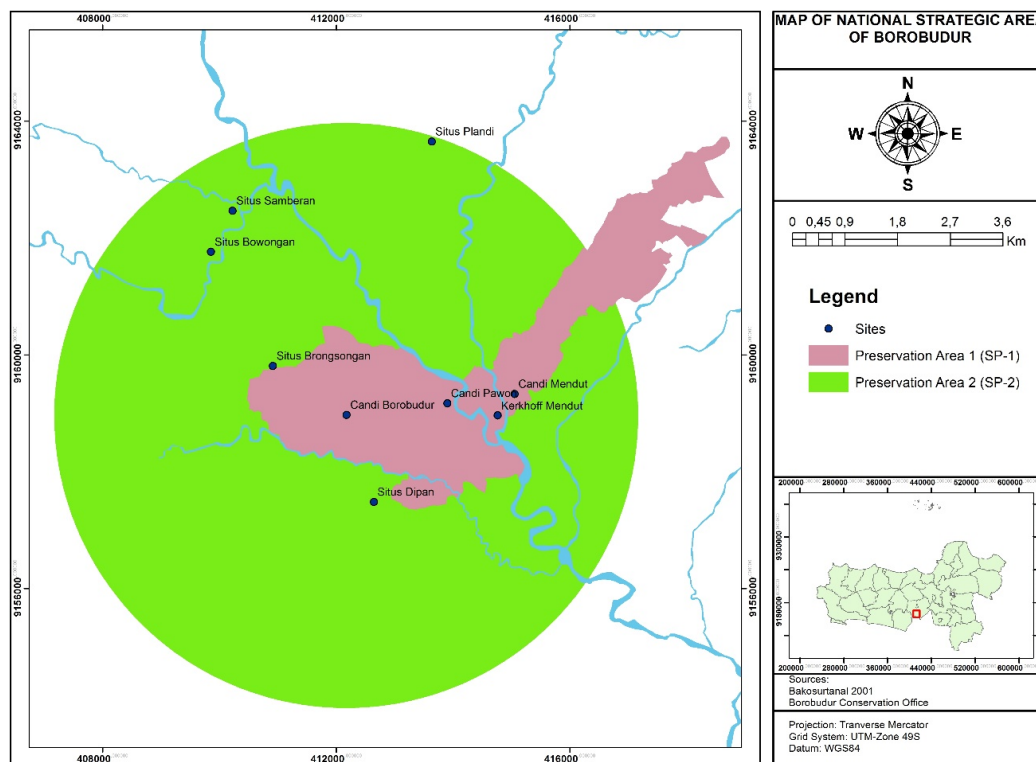


Figure 2. Map showing the National Strategic Area of Borobudur (Source: Prepared by Fransiska Dian Ekarini)

Local Government of the Magelang Regency, under the Ministry of Home Affairs. Visitors who go to Borobudur Temple will pass through zone 3 and zone 2 first, and then to the monument of the Borobudur Temple.

As for the sustainability of agricultural land, which characterizes the Borobudur area, we can only conduct monitoring and evaluation activities and provide recommendations to other authorized institutions. This is something that makes the preservation of agricultural land in the World Heritage of the Borobudur area a difficult task: there is an unclear management of sustainability of the Borobudur area, and a lack of coordination between agencies regarding the implementation of applicable legislation.

With such a management system, local people obtain almost no financial or cultural benefits from Borobudur's heritage. Income from the tourism sector of the Borobudur Temple is managed by PT Taman Wisata Borobudur and Prambanan Temple, which is the central institution. The local government of the Magelang Regency does not get an important role in the management of the Borobudur Temple. This is also true for the local people. Local people around the temple have not gained an important role in managing the preservation of the Borobudur Temple. Most people utilize the tourism in Borobudur Temple through trading, parking, or cleaning services. An official Government statistic shows

that Borobudur is the poorest village in the Magelang Residency. It calculates economic poverty as an economic inability measured by the food expenditure approach (equivalent to 2,100 kcal per person per day), plus the inability to fulfill non-food basic needs (education, basic health, housing facilities, and clothing, Magelang Government 2015)³.

3.2. Spatial Management

The management of a World Heritage property is not only limited to the monument but also to the surrounding environment. The area around Borobudur Temple is dominated by an agricultural landscape and its management is coordinated by the Regional Government of the Magelang Regency. The land around the monument is owned by the local people. In order to maintain the regional landscape of Borobudur as a World Heritage area and a national strategic area, land use in this region is governed by Spatial Planning and Regional Planning of the Magelang Regency and Presidential Regulation Number 58 of 2014 (concerning Spatial Planning of Borobudur Area and its Vicinity).

In this spatial planning regulation, the Borobudur area is divided into 2 zones (Figure 2): preservation area 1 (SP-1) and preservation area 2 (SP-2). Even if with these new spatial regulations, the Borobudur area was divided into two zones and management still relies

³ Based on data from Magelang government, in the year 2012 in Magelang Regency there are 56 villages belonging to high poverty level which is worse than the national poverty level. Criteria of the poverty classification uses: high, if the poverty rate is greater than 26.23%, moderate, if the poverty rate is in the range of 13.35 and 26.23% and low, if the poverty rate is smaller than 13.35%.

on the old regulations (Presidential Decree Number 1/1992).

4. Current State of Conservation and Challenges for Continuity

Current conditions in the Borobudur area include land use change from agricultural to non-agricultural uses. Many *sawah* (wet rice farming), *kebun* (mixed forest gardening) and *tegalan* (dryland cultivation of food crops) have been urbanized. In the period 2005-2015 the percentage of agricultural land decreased in the Borobudur national strategic area as seen in the chart below (Figure 3).

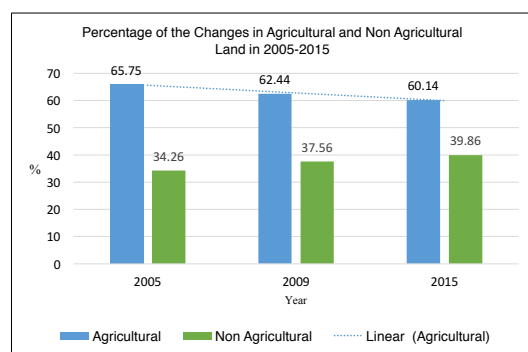


Figure 3. Graph of percentage of land use change from agricultural to non-agricultural land from 2005 to 2015 (Source: Ekarini, F.D, 2016)

There are several challenges in the preservation of the Borobudur area such as increasing pressure of development, tourism, weathering of stone temples, and management of heritage values, which are not integrated in the strategic plan or the master plan. This is consistent with global issues of concern to the World Heritage Committee, such as climate change, energy and mining, tourism, and urbanization (World Heritage Centre, 2007).

The separation of the institutions in charge of the management of the monuments and the existing agricultural landscape around the temple is not optimal for heritage management. Management of the monuments (temples) is under the Borobudur Conservation Office, while permission for land use change is under the authority of Magelang Government, without going through the permission of the Borobudur Conservation Office. For example, if there are people who would like to sell or change the use of their farming land, they will just apply for consent to the Magelang Government without consultation with the Borobudur Conservation Office. This situation makes it difficult to control the preservation of the agricultural landscape surrounding Borobudur.

5. Recommendations

The preservation efforts of World Heritage requires strong and clear regulations. The agricultural landscape around Borobudur

Temple is located in an area outside the temple monument that is not managed by the institutions that deal with the archeological heritage. Thus, it is difficult for coordination in case a problem concerning the agricultural land in the area of Borobudur arises. Providing incentives to the community who maintain the farming land has not been able to cover the necessities of life for the farmers, so the trade of agricultural land for urbanization sometimes becomes unavoidable.

A new master plan is needed to establish an integrated management of Borobudur's cultural heritage so that the preservation of the monument and its environment can work together. We need to develop a nature-culture approach to conservation that could promote a more integrated conservation of the monument and the agricultural landscape by inviting local people to preserve the agriculture so that the conservation of nature can be maintained and the culture of the society remains sustainable.

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