



Studio Bagan

Building in Heritage Context

b-tu

Brandenburg
University of Technology
Cottbus - Senftenberg



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University of Technology
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01 INTRODUCTION



Figure 1. Sunrise in Bagan from pottery mound west (Rellensmann 2017)

STUDIO BAGAN

BUILDING IN HERITAGE CONTEXT

by Clara Rellensmann and Alexander Römer

Temple climbing, although it sounds like it, is not a new trendy sport, but a serious issue that has been affecting Bagan, Myanmar's most prominent tourist destination, for decades. The term relates to all activities that involve standing on the monuments that are spread throughout the site – not only on temples, but also on stupas and other historic structures – usually with the objective of obtaining a panoramic view during sunrise and sunset times.

Bagan is one of Asia's most prominent Buddhist sites, comparable in its grandeur to Borobudur in Indonesia or Angkor in Cambodia. Originally built during the 11th to 13th centuries, the old city of kings comprises more than 3.000 Buddhist monuments, ranging from small stupas and temples to monastic complexes and several enormous stucco-covered structures on an area of about 25 square kilometers.

With the political reforms that started in Myanmar in 2011, Bagan has re-appeared on the international tourist map. Since then, visitor numbers have dramatically increased, making the issue of temple climbing even more pressing. Popular monuments are nowadays overcrowded during the peak sunrise and sunset times, which in the long run is likely to have an impact on their historic fabric. At the same time, there is a lack of safety for the visitors who climb on top of these monuments. It is clear that, particularly in the aftermath of a major earthquake in August 2016, which structurally affected a large number of monuments in Bagan, as well as in the face of the on-going World Heritage nomination process for Bagan, which requires sustainable conservation of the monuments, a solution to the issue of temple climbing has to be found. Over the past two years, the authorities responsible for the conservation of the site and various stakeholders have been heavily debating how to address the issue. This debate is also reflected in the press review of articles on Bagan. One of the most likely solutions that is debated in these articles is a so-called temple climbing ban which – if no alternatives are found – will deny the many visitors to Bagan the experience of stunning panoramic views of this majestic landscape.

The aim of our study project, titled “Studio Bagan: Building in Heritage Context”, was therefore to undertake a careful assessment of the issue of temple climbing and subsequently to develop concepts for alternative and heritage-sensitive viewing platforms.

The interdisciplinary study project was set within the field of cultural heritage conservation and design. Preparatory sessions held at BTU Cottbus-Senftenberg in October and November 2017 provided the participating students with background knowledge on heritage management with a focus on World Heritage requirements, traditional architecture of Myanmar, specific considerations for designing in heritage contexts, as well as participatory processes for developing design-build projects. Eight students from BTU went on the field trip to Myanmar that took place from 20th November to 1st December 2017 and included eight days of field work in Bagan. During our field trip, we closely collaborated with our local partners, the Association of Myanmar Architects, who sent two of their members to Bagan with us, and the Department of Archaeology, who kindly designated one senior and four junior staff members, mainly engineers from the Bagan Branch Office, to work with us during our stay. In follow-up of the field study in Bagan, the participating BTU students elaborated on their collected data and ideas throughout the winter semester 2017/2018, resulting in this report.

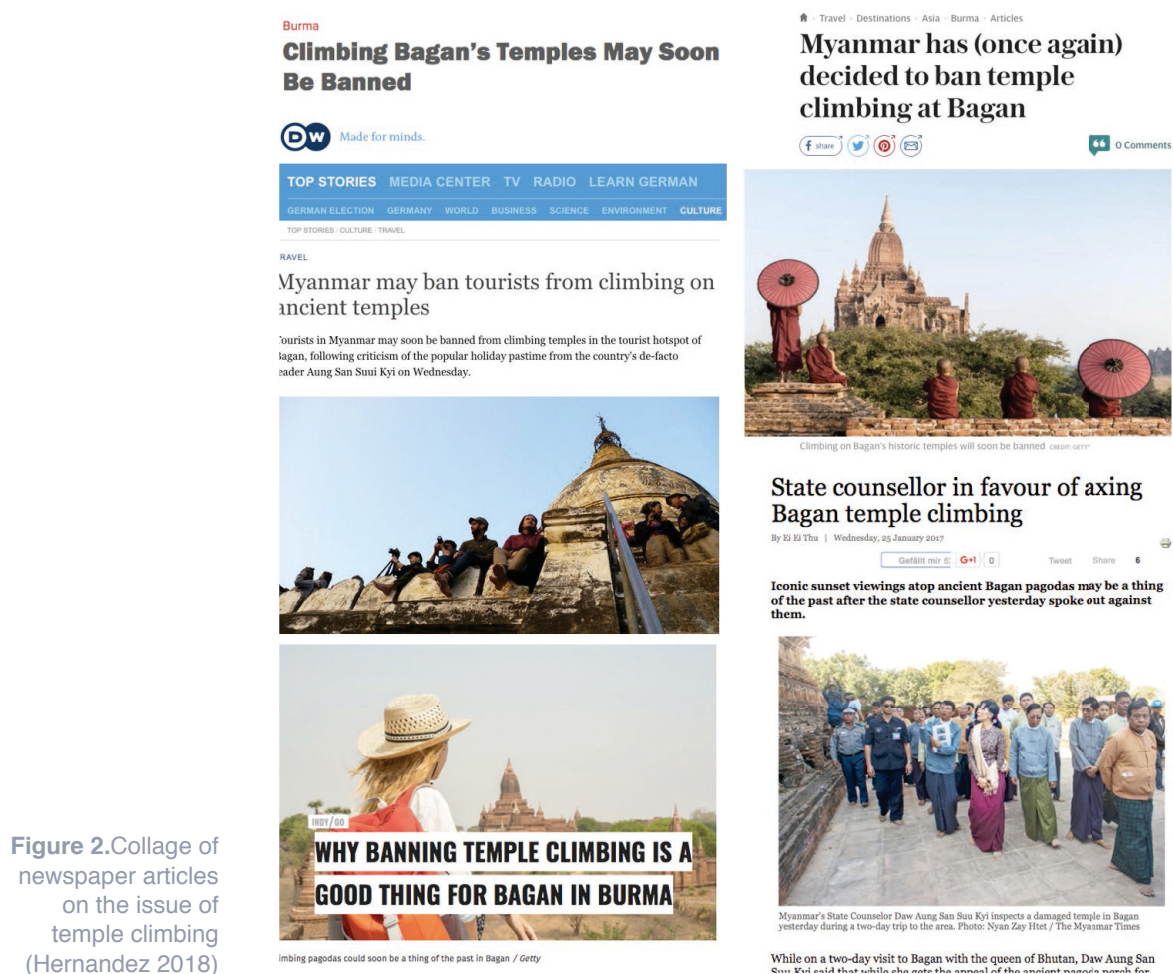




Figure 3.Members of the Association of Myanmar Architects, Staff of the Department of Archaeology and BTU team exploring artificial viewing mounds (Rellensmann 2017)

For the study project, we pursued a hands-on approach. The issue of temple climbing itself and the need for alternative tourism infrastructure such as viewing platforms were assessed in dialogue with stakeholders in Yangon and in Bagan. A central focus of the field work in Bagan was to first understand the cultural significance or multiple values of the site, as well as the local perspectives on the issue of temple climbing, in order to be able to develop suitable and heritage-sensitive design ideas. As the site is being prepared for World Heritage listing, any new facilities that are inserted into this sacred urban landscape must not have any adverse impacts on the site's cultural significance, meaning its heritage values and respective tangible and intangible attributes. Design ideas were also meant to take into consideration locally available materials, traditional construction techniques, and of course, local zoning and design regulations.

Understanding the issue of temple climbing also meant that we had to chase the sun every morning and every evening. We had to explore the popular and the hidden spots that provided the best sunrise and sunset views and to quiz the tourists that we found at these spots to find out about the experience they were seeking. The time between the stunning sunrises and sunsets was spent interviewing local stakeholders, exploring the site, assessing all existing viewing situations, scouting new locations by using a drone, developing design ideas and learning from local experts how to build with bamboo. As a result of our preliminary field assessment, a design for a small prototype viewing platform was developed. On the last day, our group joined forces with local bamboo craftsmen to build the prototype, which was based on the traditional bamboo scaffolding technique.

During our field work observations, it quickly became apparent that alternative viewing platforms alone would not suffice to fully address the problem

Figure 4.Our team consulting with Sayagyi Aung Kyaing from the Bagan Heritage Trust (Römer 2017)



of temple climbing in its various dimensions. The issue is, of course, much broader and interlinked with many aspects of site management. Our report touches upon these various aspects, but also acknowledges that more in-depth analysis may be needed to come up with suitable management and design solutions.

The report “Studio Bagan: Building in Heritage Context” is structured into two parts, an analytical first part and a more practical second part. The analytical part starts with an analysis of the issue through personal observations and stakeholder opinions. Different typologies of viewing platforms and situations currently available in Bagan are introduced and assessed with the help of SWOT analysis and Heritage Impact Assessment (HIA) in order to determine characteristics that an ideal viewing platform should or should not have. The first section also contains a location analysis that identifies parameters for selecting suitable locations for potential alternative viewing platforms. The second part presents three scenarios for the issue of temple climbing, which all require slightly different responses in terms of site management and design. The design ideas presented in this section respond to these scenarios. The final section includes a documentation of the design and construction process of the on-site prototype that we built during our field trip to Bagan.

As it stands, the report forms the basis for discussing further steps and potential collaboration with Myanmar partners to address various practical issues in Bagan through applied research and design by Myanmar students and international students of architecture, heritage studies, and related disciplines.



PART I

Analysis

02

ASSESSING THE ISSUE



Figure 5. Bu Le Thi
stūpa during sunrise
(Rellensmann, 2017)

UNDERSTANDING VARIOUS DIMENSIONS OF TEMPLE CLIMBING

by Isabelle Mühlstädt

INTRODUCTION AND DEFINITION

The first step in assessing the issue of temple climbing was to understand and analyse the needs, public concerns, and values of stakeholders in regard to monument climbing and tourist behaviour. The analysis and considerations of stakeholders' concerns were fundamental in ensuring a participatory approach for our project. The techniques used for involving the stakeholders were questionnaires for international and national tourists, individual interviews with local stakeholders, experts and officials, as well as personal observations of situations and behaviour of the different stakeholder groups.

Drawing on the stakeholder analysis, the shared understanding of culture, religion, and heritage conservation concerns served as a base for all planning activities regarding alternative viewing platforms and proposed management measures.

The term temple climbing is a rather colloquial term, referring to all activities which involve standing on monuments. The monuments of the cultural heritage site Bagan do, of course, not only include temples. They vary in size, shape and type, ranging from stupas to temples and monasteries. Some monuments are solid, with an exterior staircase or small steps, others have an interior staircase. Therefore, temple climbing does not necessarily mean actual climbing; it may also include the use of staircases. The term is used to describe all activities that involve people standing or sitting on top of the monuments, particularly when there is the potential of impacting the historic structures physically or in terms of their spiritual associations.

According to the Department of Archaeology in Bagan, temple climbing is officially banned; however, enforcing the ban proves to be difficult in the face of large numbers of monuments which would have to be guarded during peak sunrise and sunset times.

Figure 6. Loose bricks on Bu Le Thi (Mühlstädt 2017)



PERSONAL OBSERVATIONS

Through personal observations, several issues became apparent in Bagan concerning temple climbing.

One alarming observation was the large numbers of tourists flocking to a small number of monuments with the reputation of providing the best views at sunrise and sunset. We observed that Bu Le Thi, a large stupa built in the 13th century AD, was climbed by up to 60 people for sunrise and sunset who were sitting and standing densely on the small terraces and steps. (Fig. 5) The caused decay was directly visible, as loose bricks were falling. (Fig. 6)

Other observations we made concerned the type of visitors we encountered at the various viewing situations, particularly on popular monuments such as the Bu Le Thi. We often came across the “romantic couple” type of tourists who want to enjoy the sunrise in peace and quiet and most probably highly value the experience of being on top of a historic monument. These isolated couples were disturbed by the “high-tech amateur photographer”

type who would bring all equipment (sometimes even with help of a porter) on top of a monument and set it up at the very best spot to capture the perfect photograph. While this category of visitor is mostly concerned with taking a good photograph, this practice obstructs other people's views and causes noise pollution, especially if drones are involved. Most likely, such amateur photographers would not care much about whether he/she is sitting on a monument or on any other type of platform. Then there are the backpackers, who often come in groups of three to six people, sometimes more. They are often in their early twenties, are not too knowledgeable about the site, and are unaware of codes of conduct when visiting Buddhist monuments. Therefore, they can sometimes be noisy or inappropriately-dressed. You will see them taking photos and selfies with their smartphones to post on social media. Contrary to the backpackers, there is also a "high-end and elderly tourist" type. These tourists are more interested in the local culture and most probably rather careful and quiet. However, they are often not able or willing to climb the monuments, because of the steep steps and the uncomfortable seating situation. For sunrise, one finds some of the elderly tourists on the largest stupa (Shwesandaw, which is currently closed to visitors) and during sunset times you will find many of them on the artificial mounds where they are dropped off by big tour buses.

Our observations made clear that there are different types of visitors with different needs and behavioural patterns, which is something that would need further analysis and response through management measures and design solutions.

One thing that became very clear is that, at the least, a limitation on the number of visitors per monument should be required immediately. At the moment, it is in fact not allowed to climb on any monument, other than on the Bu Le Thi. However, we observed that an almost complete ban on temple climbing has been nevertheless an ineffective solution, as people continue to climb on monuments. Therefore, it is important to develop a strategy of how to control the situation and how to monitor and secure the large number of monuments.

Due to these issues, controlling visitor flow should be an essential target in the long term. For this reason, it was a significant experience to see that even though guards stood in front of a few monuments for sunrise and sunset, they had only the ability to control whether the tourists had paid the archaeological entrance fee but could not control neither the number of tourists nor their behaviour. Moreover, the signs in front of most monuments seem insufficient, which becomes apparent by the lack of recognition of the rules. A new awareness-raising campaign on the issue of temple climbing for tourists, locals, and employees of the DoA could be a useful tool to create a more responsible and careful treatment of the historic substance and religious traditions.

This goes along with an evaluation on the stability of monuments, which ones are adequate for visitors to stand on and which ones need immediate protection from temple climbing. The observations have shown at first glance that some of the monuments that are promoted on the map for sunrise and sunset need a strict ban on temple climbing, as their decay and instability was evident.

The heritage site of Bagan contains more than 3600 monuments. This constitutes a major challenge for monitoring and securing such a number of monuments with limited financial and human resources. One possibility could be generating more pagoda trusts. At the moment, only a relatively small number of monuments have a key holder who takes care of their maintenance and the surrounding environment on a regular base. More trustees for at least grade one or two monuments could significantly improve their maintenance. A strategy could be developed on how to acquire more trusts to take care of middle and smaller sized monuments. Moreover, this engagement offers opportunities to involve the local community into the management process of Bagan.

INTRODUCING THE STAKEHOLDERS

The stakeholders were divided into three categories to allocate their relation towards the site. The first group are the primary stakeholders. These include all stakeholders with a private or non-professional heritage background, such as the local community, villagers, farmers, sellers, civil society organizations, and the private tourism-related sector. Secondary stakeholders comprise all stakeholders who stand in a professional relation and interest to the site. These can be institutions, international organizations, researchers, heritage managers, and scholars. The third group contains the state party stakeholders, which are related to the government sectors and therefore are policymakers, including ministries, departments, administrators, and authorities.

The following list presents all stakeholder groups and individuals that were consulted. It shall not be forgotten that there are many more important stakeholders and the following stakeholder analysis does not demonstrate a holistic overview of all stakeholders due to the limited time on site. However, the collected data served to develop a good understanding of the site and to get an insight into the various concerns and opinions on the issue of temple climbing.

Table 1 gives an overview on all stakeholders that were consulted and interviewed during the fieldtrip to Bagan.

EVALUATION OF OPEN INTERVIEWS

The interviews with stakeholders provide insight into the needs and concerns of people who have an interest in the site or are directly affected by the site's management. However, it must be noted that they do not represent all stakeholders that exist on-site, as due to time restriction the number of interviews conducted had to be limited, too. It also has to be noted that particularly the interviews with individuals of the primary stakeholder category do not demonstrate the opinion of an entire stakeholder group, but rather the opinion of individuals.

For this reason, the interviews of primary stakeholders are sub-divided into the statements of secondary and state party stakeholders, as the latter hold an official and mostly professional position and their statements are representative of their stakeholder group.

Primary Stakeholder	Secondary and State Party Stakeholder
Theravada Buddhists and monks	Association of Myanmar Architects: U Sun Oo (president of AMA) and Wint Tin Htut Latt
Farmers	UNESCO: Dr. Kai Weise and Daw Ohnmar Myo
Community of traditional villages	Dr. U Aung Kyaing
Locals	Department of Archaeology: Soe Peing Tan and Zar Zar Lin
Tourists (national and international)	Pagoda Trustee: Maung Naing Win
Sellers	Assistant manager of Bagan tourism center
Tour guides	
Balloonists	
Bamboo scaffolding workers	

Table 1. Overview of consulted stakeholders

OPEN INTERVIEWS WITH PRIMARY STAKEHOLDERS

Farmers and their traditional agricultural techniques constitute an important part of Bagan's intangible cultural heritage. Two farmers were interviewed during their work near the pottery mound. Concerning temple climbing, the farmers pointed out that it is dangerous for people and that it is not respectful of Buddhist beliefs. Interesting additional information was that both farmers lived in the nearby traditional villages, which are accessible for tourists, and that their second source of income is the production and selling of souvenirs. This information in itself is not conclusive, but one could assume that in these specific cases the tourism sector had already impacted the traditional lifestyle of the local farmers and that they were afraid of further intrusions on their lifestyle, i.e. on their religion.

Unfortunately, local monks were not available for interviews. However, two monks who visited Bagan for the purpose of pilgrimage were interviewed and equally stated their feeling of unease about the temple climbing, as it stands in conflict with their cultural traditions and religious beliefs. According to the precepts of Buddhism, one is not allowed to climb on the highest part of the temple, pagoda, since it is a realm where Buddha stands. Also, according to the monks, Buddhism deems it inappropriate for women to climb a pagoda. Therefore, the monks spoke out in favor of a complete ban of temple climbing while making it clear that regular visiting of temples should be allowed for tourists.

Sellers of souvenirs, food, and beverages are present all over Bagan, especially in the touristic core zones. The sellers in general had a more tolerant attitude towards the temple climbing and the tourist behavior. They pointed out that temple climbing for sunrise and sunset is one of Bagan's main attractions and should therefore not be forbidden. About 60,000 locals

Figure 7. Amateur photographers on Bu Le Thi for sunrise (Rellensmann 2017)



are employed in tourism-related industries (handicrafts, textiles, etc.) hence the tourism sector constitutes an important economic sector for the region. (Association of Myanmar Architects, 2017, p.21) Against this background, the reaction of sellers in the tourism sector on the issue of temple climbing is comprehensible, since they strongly rely on the tourism and an increasing visitor number for economic survival.

Another stakeholder who was interviewed was a balloon pilot, who was representative of the second signature activity in Bagan – ballooning over the monuments during sunrise. The balloon pilot argued in support of temple climbing, as long as it concerns only monuments that the DoA designated for this practice. Even though temple climbing has disadvantages, it enables tourists to experience one of Bagan's signature features.

The 500 local tour guides of Bagan belong to the group of primary stakeholders, as they have an extensive knowledge of the site and could even be considered experts, too. The consulted tour guide was especially concerned about mass tourism and the increase of tourism that is expected in Bagan over the next decade. He stressed that an alternative to temple climbing will be necessary.

Tourists, who also belong to the group of primary stakeholders, are dealt with in section 2.6., since their opinion on the issue of temple climbing requires special recognition and was evaluated through questionnaires.

CONCLUSION OF OPEN INTERVIEWS WITH PRIMARY STAKEHOLDERS

The evaluation of concerns by individuals of the primary stakeholder group revealed that many express unease about temple climbing. Buddhism and

Buddhist traditions are deeply rooted in the local community; however, the region is strongly dependent on the tourism sector. The total labour force generated directly or indirectly by tourism, as well as the trades related to tourism in the 11 townships of the Bagan area, numbers up to 900,000 people. This means that nearly 15% of employed people in the 11 townships of the zone work in tourism-related industries. (Association of Myanmar Architects, 2017, p.21) As tourism constitutes an important economic factor for the region, it might be the reason why the consulted stakeholders show more acceptance of tourist behaviors, such as temple climbing.

OPEN INTERVIEWS WITH SECONDARY AND STATE PARTY STAKEHOLDER

The statements of secondary and state party stakeholders will be presented together, since their statements are not only based on professional and expert opinions but are also representative of their stakeholder group.

During the interviews, three main concerns on temple climbing became evident, including conservation, security, and the Buddhist associations.

A) BUDDHIST ASSOCIATIONS AND TOURIST BEHAVIOUR

One major issue of temple climbing is that the behaviour of tourists is seen as disrespectful to Buddhist beliefs.

Maung Naing Win, archaeologist and trustee at Gu Byauk Gyi Temple, stated that it is not good when people stand above Buddha's level. He argued that the disrespect toward spiritual associations of the site is not just related to temple climbing; visitors are also generally misbehaving in the site, such as urinating on the monuments, leaving trash, and simply not being aware of the serious dangers of temple climbing. (Win, 2017)

Dr. Aung Kyaing, former Deputy Director-General of the DoA, brought up that it is a tradition that women are not allowed to climb up the temples and emphasised the severe conflict between touristic interests and Buddhist tradition. At the same time, he acknowledged that temple climbing is a meaningful experience, as it allows visitors to Bagan to fully understand the site through the panoramic view (Kyaing, 2017)

U Sun Oo, president of the Association of Myanmar Architects, pointed out the architectural structure of the monuments in Bagan. According to him, staircases and terraces of the monuments suggest a certain dynamism and were designed to be experienced. Without visiting temples and following the processional walk up the terraces, one would not gain a comprehensive understanding of this Buddhist site and its practices. (Oo, 2017)

This, to some extent, conflicts with the statement of a DoA engineer Soe Peing Tan, who emphasised that the terraces have only a symbolic character and the stairs serve a maintenance function. (Tan, 2017) This contradiction shows that religious interpretations of the architectural form and their function differ.

B) CONSERVATION

Dr. U Aung Kyaing, former director of the DoA, highlights that, from a conservatory perspective, smaller monuments are particularly harmed by tourists trying to climb up, creating stress on the structure. However, in his opinion, temple climbing has a rather small impact on monuments, which are solid and should therefore be open for tourists to climb in an official capacity. As an example, he mentions Shwe San Daw and Bu Le Thi, both of which have a solid core. (Kyaing, 2017)

However, personal observations have shown that temple climbing does have an impact on the physical fabric of some of these monuments, for example on Bu Le Thi. Even so, it might not have a severe impact on the structural stability of the monument; architectural details and the surface of solid monuments still suffer. (see Fig. 5)

Shwe San Daw had been the most popular temple for sunrise and sunset views but is currently closed due to required construction work after heavy rainfalls. Shwe San Daw offered wide, all around terraces and an attractive view for sunrise and sunsets. The trustee of Shwe San Daw confirms its structural stability; however, conservation work is needed. Moreover, he states that temple climbing should remain allowed but a limit on the visitor number should be adopted.

This goes along with the opinion of DoA engineer Soe Peing Tan, who demands a partial ban of temple climbing on weak structures and a limit of visitors, such as for Shwe San Daw. (Tan, 2017)

The interview with Daw Ohnmar Myo, a project officer at UNESCO, presented a different picture on the impact of temple climbing on the state of conservation. Temple climbing demonstrates no problem to her in terms of conservation. She stressed the fact that no more viewing mounds or platforms should be built in order to protect the cultural landscape of Bagan, as they destroy archaeological evidence when they intrude into the ground. (Myo, 2017) Her statement stands in contrast to Mr Kai Weise's stance, who is a strong opponent of temple climbing and suggests a ban on all climbing activities.

Overall, it became evident that even among people associated with the same organizations, be they UNESCO or the DoA, positions can contradict and need to be carefully considered.

C) SECURITY

The factor of security has special importance for the DoA, as they are liable, and an official permission to climb on temples would increase their legal responsibility to take care of the security of people climbing on temples. The recent death of a young American tourist who fell from a temple has brought new attention to the safety aspect of temple climbing. (Htun, 2017) There are no official numbers about incidents of casualties and fatalities. Maung Naing Win, archaeologist and trustee at Gu Byauk Gyi, is especially concerned about people who hold on to detached elements on the monuments and risk a fall. (Win, 2017)

D) GENERAL

A more general comment by Kai Weise, who has been responsible for the management plan in Bagan, stated that the site and the authorities should not promote the sunrise and sunset viewing as a main activity for Bagan, since Bagan offers many more features and activities for tourists than just watching sunsets and sunrises. (Weise, 2017)

The assistant manager of Bagan tourism center proposed limiting the number of tourists on temples instead of prohibiting temple climbing, just as Zar Zar Lin from the DoA suggested a limit of visitors; for example, not more than 50 people at South Guni for sunrise watching. Moreover, she stressed the need for raising awareness, as there are no signs that temple climbing is currently forbidden. (Lin, 2017)

CONCLUSION OF SECONDARY AND STATE PARTY STAKEHOLDER INTERVIEWS

The interviews with experts and officials have shown that three main proposals exist on how to deal with the issue of temple climbing - the complete temple climbing ban, a partial ban, and the no intervention approach. These three scenarios will be further considered in section 4.1., along with appropriate management strategies.

However, most experts argue in favor of no temple climbing ban or just a partial ban. Several expert voices state it would be reasonable to open solid monuments for visitors from a conservation perspective. However, further evaluation on which specific monuments are stable would be required. General standing on the monuments is no severe problem, but the large numbers of tourists is, as they cause vibrations, and their weight pressures the historic substance, eventually causing a threat to the structural stability of the monuments.

The main argument in favour of a complete temple climbing ban is the aspect of disrespect for Buddhists spiritual beliefs, which goes along with disrespectful behaviour and the violation of rules.

An interesting point is that different religious interpretations of the temple terraces and staircases had been mentioned by experts. This illustrates that a critical reflection on expert opinions is needed, as their statements are based on different motivations and intentions.

During interviews with employees of the DoA, it also became apparent that processes and decisions are strongly influenced by the nomination of Bagan to become a World Heritage Site.

Figure 9.Result of question 1: Would you like to climb on one of the temples?
- 82 participants

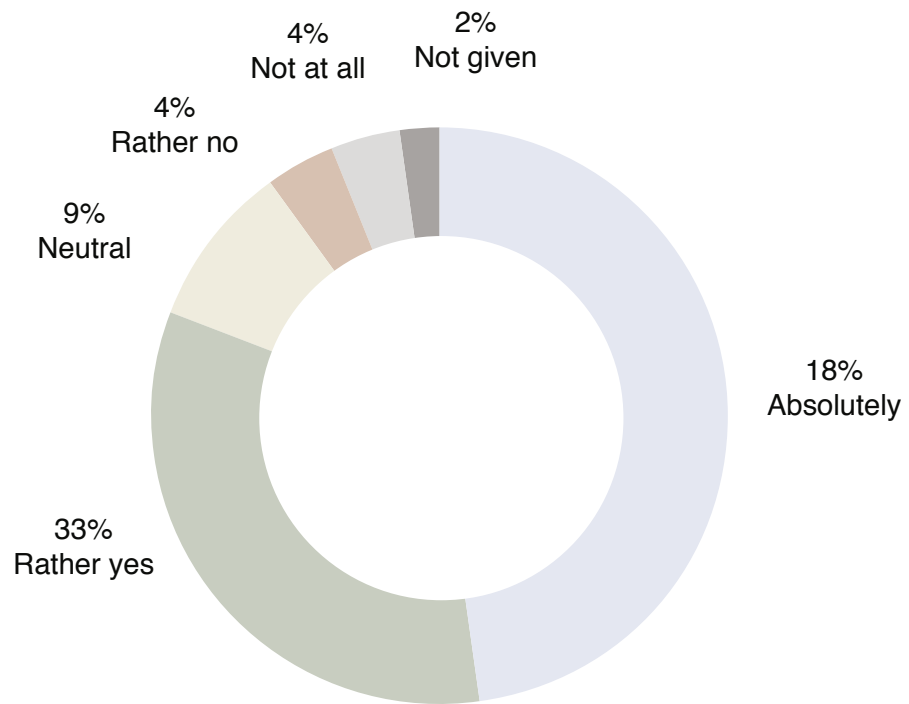
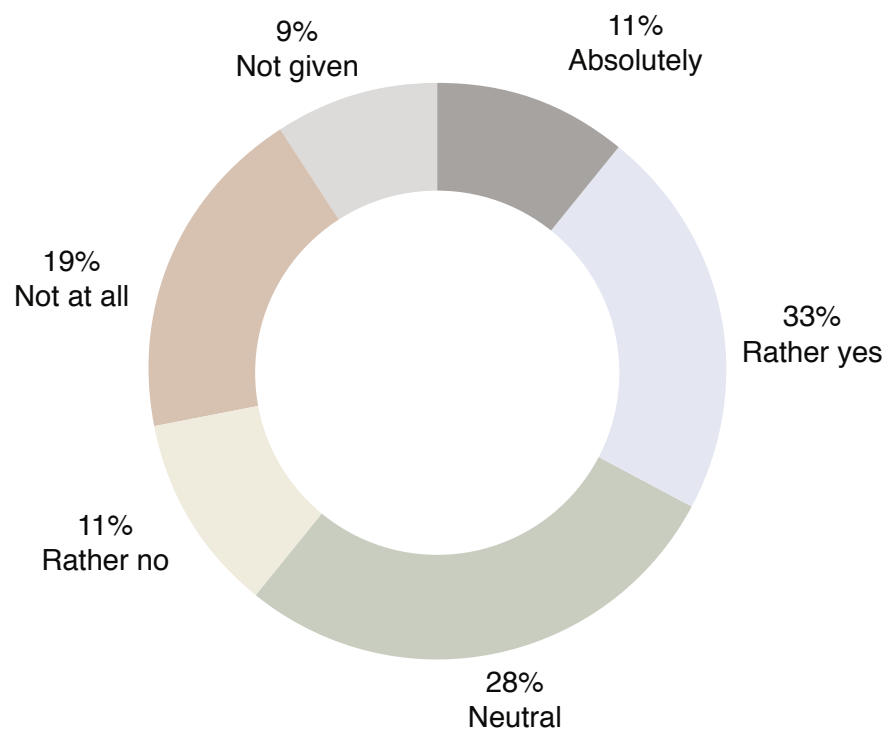


Figure 8.Result of question 2: Would it reduce the quality of your stay if only viewing points were available and climbing temples was prohibited?
- 82 participants



EVALUATION OF QUESTIONNAIRES

Tourists play a special role regarding the issue of temple climbing, as they are the active part causing the issue. However, tourism remains essential for the cultural heritage property of Bagan as an economic resource for the region. The Bagan/ Nyaung-Oo heritage area receives around 0.4 million tourists and local pilgrims per year (level of 2015). (Association of Myanmar Architects, 2017, p.17) A questionnaire was developed to get a broader idea of tourists' expectations, needs, and concerns. National and international tourists were asked to fill out a questionnaire with 27 questions. The first block of questions included general inquiries regarding, age, gender, profession, and the purpose of their visit. The next block of questions related to their visitor experience, such as their impression of the infrastructure, the sunrise and sunset experience, and the relative importance of temple climbing. The last questions were meant to measure their opinion on the existing viewing platforms and requirements of viewing platforms in the future.

Altogether, 82 national and international visitors were consulted. Two questions seemed especially relevant for the issue of temple climbing: the first asked if they would like to climb on one of the monuments. Almost half of the participants answered "absolutely" and one third answered "rather yes". Altogether, a considerable majority of 81% of surveyed visitors gave high priority to the experience of standing on one of the monuments.

The second question concerned the prospect of how a complete temple climbing ban would impact the quality of the tourist experience in case only viewing platforms for sunrise and sunset would be available. The result was less distinct. Only 33% responded "absolutely" or "rather yes" while the majority of 28% had a neutral opinion and even 30% answered it would not significantly diminish the quality of their visit to Bagan. The results give hope that alternatives viewing platforms may be viable solution for tourists to watch the sunrise and sunset over Bagan.

The evaluation of tourists' opinions on the importance of temple climbing demonstrated a strong desire of visitors to climb on temples. However, it seems that prohibition of this practice would have a less severe impact on the quality of the visits than expected. Many had a neutral opinion or even stated that they would accept the use of alternative viewing platforms to temple climbing. Only for 33% it would lead to a quality decrease for their visit to Bagan. Once again, the questionnaire and its results do not demonstrate representative numbers due to the limited number of participants, especially national tourists were outnumbered. But the results do give an idea of a general tendency in favour of temple climbing.

REFERENCES

- Association of Myanmar Architects, 2017. Bagan Heritage Zone- Urban and Regional Plan of the Environs. [PDF].
- Htun, H., 2017. American Tourist Dies After Falling From Bagan Pagoda. The Irrawaddy, [online]. Available at: <https://www.irrawaddy.com/news/burma/american-tourist-dies-falling-bagan-pagoda.html> [Accessed 5 January 2018].
- Dr. Kyaing, U., 2017. Opinion about temple climbing [Interview] (25 November 2017). Lin, Z., 2017. Opinion about temple climbing [Interview] (26 November 2017).
- Myo, D., 2017. Opinion about temple climbing [Interview] (28 November 2017). Oo, U., 2017. Opinion about temple climbing [Interview] (21 November 2017). Tan, S., 2017. Opinion about temple climbing [Interview] (25 November 2017).
- Dr. Weise, K., 2017. Opinion about temple climbing [Interview] (28 November 2017). Win, M., 2017. Opinion about temple climbing [Interview] (26 November 2017).

03

ASSESSING THE PLACES



Figure 10.Bagan archaeological area and monuments (Rellensmann 2017)

SWOT ANALYSIS OF EXISTING VIEWING SITUATIONS

by Catalina Ponce Vargas

INTRODUCTION TO SWOT ANALYSIS

The SWOT analysis (strengths, weaknesses, opportunities and threats) is used to analyze the major internal strengths and weaknesses of an organization, project, or business enterprise and the external opportunities and threats that it faces. It can be used either as a tool for general analysis, or to look at how an organization might address a specific problem or challenge (International Cooperation and Development. European Commission, 2004, p. 72).

We chose the SWOT analysis to assess viewing conditions within the archeological area in Bagan, due to this particular instrument's simplicity and clarity. In this sense, the SWOT analysis was applied as a key tool for recording and listing the internal strengths and weaknesses of various selected viewing situations – comprising all identified typologies – followed by the analysis of external opportunities and threats that may hinder or affect them.

As such, the SWOT analysis does not work with a standardised methodology or data sets to identify these various aspects (Alex Coman, 2009, p. 5677). Thus, for the purpose of this assessment, personal observations, photographic records, and sketches carried out on the locations have been analysed in order to identify relevant factors and characteristics.

Each viewing situation was analysed on the basis of the following seven categories: a) Function and Use, b) Form and Design, c) Location, d) Setting, e) Materials, f) Economic/Social Implications, g) Spirit and Feeling. These categories stem from the Nara Document of Authenticity (1994), a key document in international conservation practice aimed at improving objective evaluation of values and authenticity of cultural properties, and were deemed as useful and appropriate for the purpose of this study.

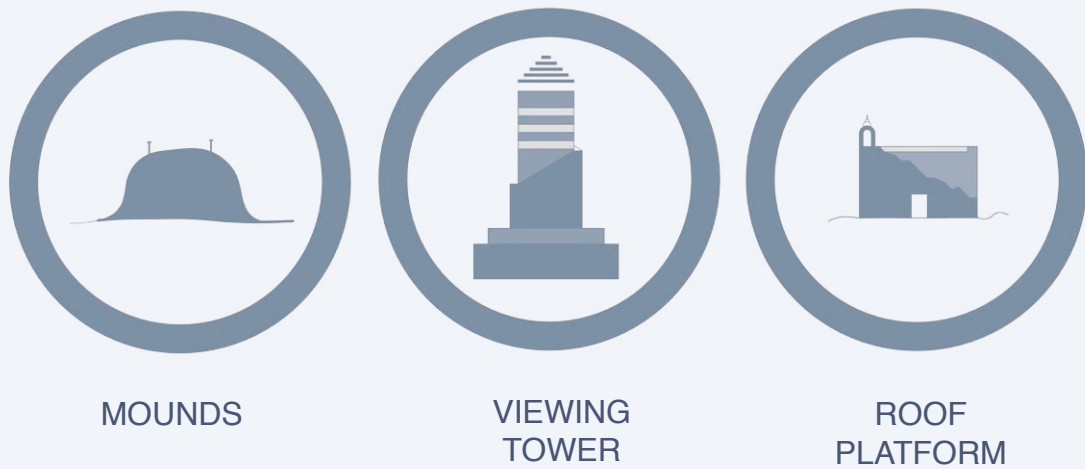


Figure 11.
Typologies of
existing viewing
situations
(Heimann 2017)

It is important to consider that the SWOT analysis does not provide an indication of causality among the strengths and weaknesses, nor are they ranked within any hierarchy. Also, one must take into account that this assessment was conducted as a one-time event; therefore, it lacks any mechanism for monitoring the changes of strengths and weaknesses over the longer term (Alex Coman, 2009, p. 5677).

This analysis could be helpful to explore the possibilities for new efforts and solutions to the issues of temple climbing. Moreover, the assessment of the existing viewing situations might clarify directions, choices, and possibilities to further elaborate design proposals that could improve the existing viewing situation.

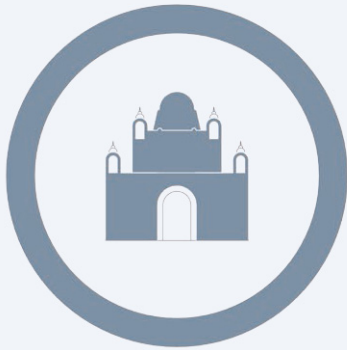
From the 32 viewing points visited in the archeological zone of Bagan, 14 were selected, all of which we considered more significant and suitable for viewing points or platforms in terms of view, accessibility, impact on heritage attributes, and other characteristics for the ideal location as presented in the previous section. Overall, we identified six typologies: (1) stupa form, (2) roof platform, (3) temple, (4) river side, (5) viewing tower, and (5) mounds. For each typology, two to three examples of viewing platforms were identified that best illustrate the characteristics of the respective type. The following section presents a synthesis of the SWOT analysis for each typology, followed by a section on the detailed SWOT analyses of the individual viewing platforms.

SYNTHESIS OF SWOT ANALYSIS FOR EACH TYPOLOGY OF EXISTING VIEWING SITUATIONS



THE STUPA FORM

The stupa form contains a solid core and terraces, which, when in a sound structural condition, makes the stupa an attractive option for visitors for



MONUMENTAL
TEMPLES



STUPA



RIVERSIDE
PAGODAS

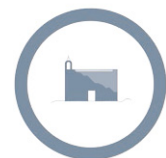
viewing sunrises and sunsets. In terms of altitude, it provides, depending on the size of the monument, a medium-level to high-level viewing experience of a panoramic 360° landscape, composed of temples, agricultural fields, and natural features. There are many stupas in Bagan in various locations, many of which do not have an active religious function and may therefore be suitable for “temple climbing”. However, despite the lack of active religious function, the stupas continue to at least have a religious symbolic value for stakeholder groups, particularly practicing Buddhists. These groups would feel offended by seeing visitors ascend the stupas for sunrise and sunset views. Due to the narrow medial staircases and narrow corridors, as well as the sometimes unknown structural condition, there is also a certain danger for visitors when climbing these monuments. This danger is heightened by large numbers of visitors.

Viewing situations analysed:

- Bu-le-thi-hpay-a-gyi No.394
- Stupa No.1555 (Law ka-ou-shaung)

ROOF PLATFORM

The roof platform is a reconstruction and modification of a ruined structure, sometimes associated with a monastic complex. These modifications offer extended spaces where people can gather to experience a panoramic 360° view, protected by border walls that in sum offer a safe viewing experience. The additional stairways placed next to or within the structures allow for relatively safe access. While this typology hosts fewer numbers of visitors than most stupas (because it does not have tiered roofs or terraces that would provide for a condensed seating arrangement) it is a safe option that could potentially be used more widely. However, it is an option that would have to be considered very carefully: suitable ruined structures/monuments for an abstract reconstruction or modification would have to be identified on the basis of various parameters,



as interventions are most likely irreversible and should not be done to any structures of high cultural significance.

Viewing situations analysed:

- Stupa No. 1775 (Shwe nan yin taw complex)
- Monastery No.690 (Shin byu Shin complex)
- Monument No. 861



MONUMENTAL TEMPLES

The large monumental temples in Bagan, for example, Shwe-gu-gyi Temple, offer 360° panoramic views on different levels together with extended platforms that can host a relatively large number of visitors. Upper terraces are usually safely accessible via interior and exterior staircases. However, the border walls are not very high, and the terrace-corridors are often quite narrow. With adequate measures and regulations, such temples could provide a safe viewing experience for all kinds of visitors. One could possibly consider making the upper terraces of larger and structurally-stable temples accessible. However, one must keep in mind that many of them have an active religious use, which may conflict with their role as “viewing platforms”.

Viewing situations analysed:

- Sulamani gu-hpaya No.748 (upper parts access prohibited)
- Temple No.1589



RIVERSIDE PAGODAS

Riverside pagodas such as Loka-nanda or Bu-hpaya offer a different type of vista than most other viewing points or platforms, namely the riverside view of the surrounding geomorphic features and the Irrawady river. These pagodas have extensive surrounding surfaces and offer wide views (however not of 360° because the open balconies cover only two sides of the complex) to appreciate the landscape, particularly during sunset, as the orientation is to the west. They convey a sense of safety; no temple climbing is required, and they allow larger numbers of people to gather. The two famous riverside pagodas host both religious practices as well as social activities.

Viewing situations analysed:

- Loka-nanda Pagoda
- Bu-hpaya



VIEWING TOWER

The Nan Myint Viewing Tower offers the highest viewing point in the whole archaeological area. It provides a full 360° panoramic view of both nearby and distant monuments, hotel complexes, and agricultural fields in the vicinity. However, visible monuments appear small due to the great height of the tower. Its accessibility is not the best, as it is located far away from the main landmark monuments. An entry fee is required to be granted access. It offers, however, other facilities for tourists, such as a bar offering alcoholic beverages, a restaurant, exhibition halls, and toilets.

There is a generally negative perception from local people regarding the unfair expropriation of agricultural lands for the tower's construction and its subsequent disruption of the visual integrity of the landscape. Many locals refer to it as "crony tower" named after its principle owner, a business tycoon who used to closely collaborate with the former military government.

Viewing situations analysed:

- Nan Myint Viewing Tower

MOUNDS

The mounds are relatively low compared to the monuments or to the Nan Myint Viewing Tower. Nevertheless, they provide a panoramic view of 360°. Their relatively low height also prevents them from having any major negative impact on the visual integrity of the site. In terms of safety, ascending the mounds seems to be much safer than climbing monuments. There are currently five mounds in use as viewing platforms, which can be classified as two different types: there are two pottery mounds that are deemed "natural mounds" because they have existed for a rather long time, and there are also three "artificial mounds", soil mounds that have been created recently. The artificial mounds were built on top of already-existing smaller soil mounds next to water ponds. These smaller "original" soil mounds were created as a result of the annual community practice of digging out debris from the pond to ensure that cattle would have access to water all year around. Despite this underlying traditional practice, several heritage experts involved at Bagan deem the extension of these mounds as harmful to the archaeology of the site. The creation of these mounds may cause damage to the ancient irrigation system that still lacks research and documentation.

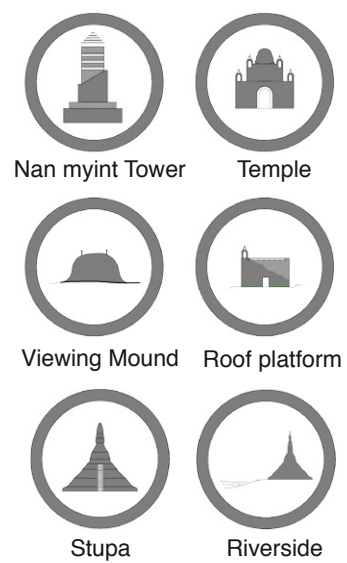
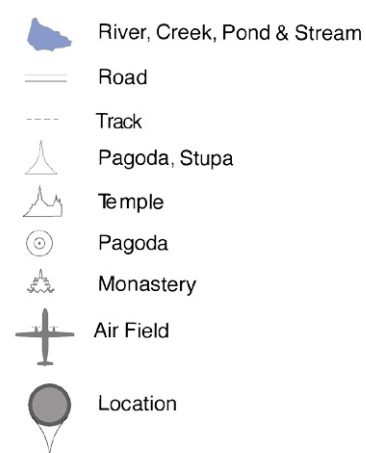
Therefore, constructing more artificial mounds would have to be approached extremely carefully and would require a comprehensive HIA, including in-depth archaeological investigations.

Viewing situations analysed:

- Nyaung let phat kan (artificial mound)
- Anauk O-htein taung (natural mounds): Pottery mound west, Pottery mound east



LEGEND



DETAILED SWOT ANALYSIS FOR SELECTED VIEWING SITUATIONS

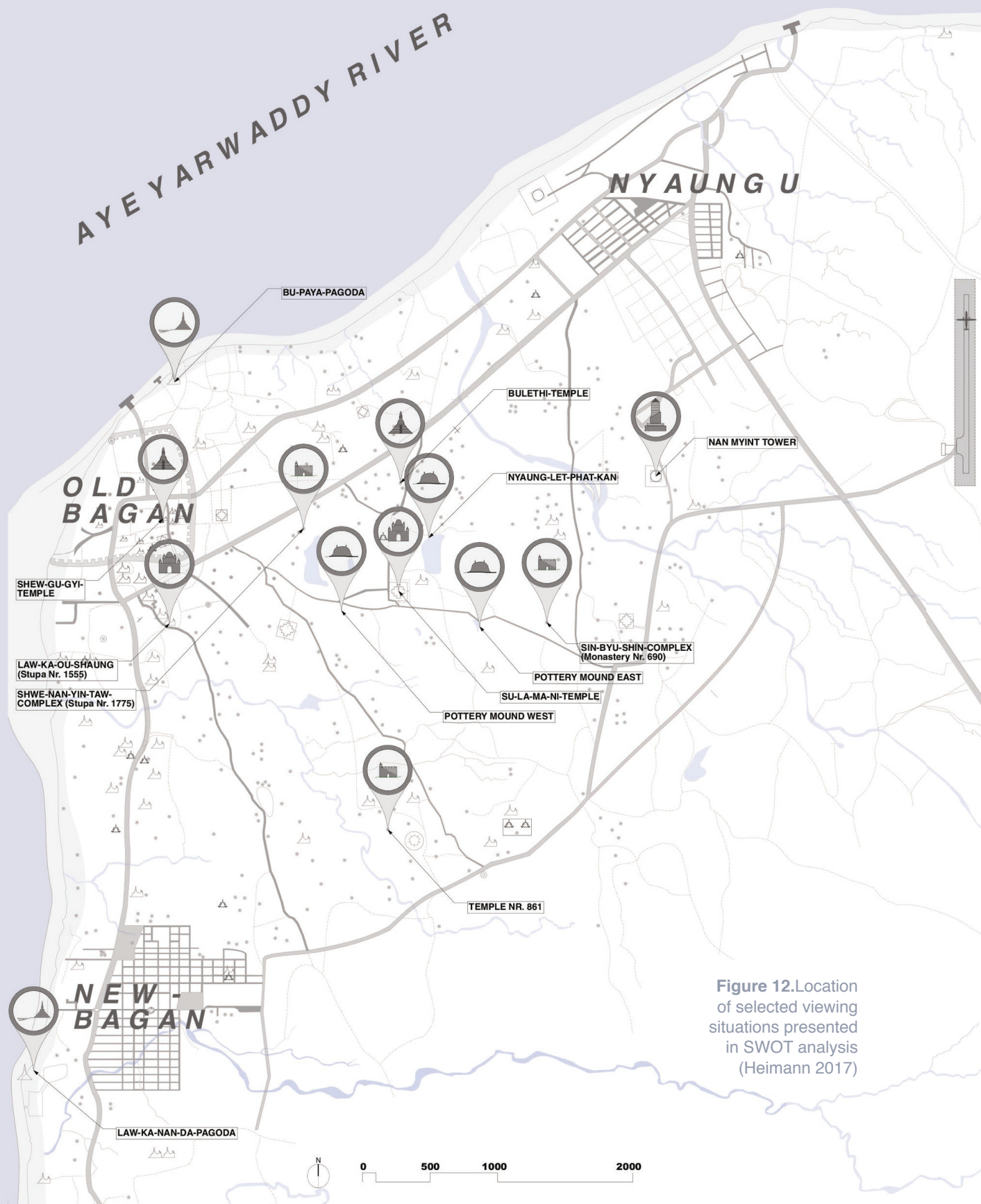


Figure 12. Location of selected viewing situations presented in SWOT analysis (Heimann 2017)



STUPA FORM

BU-LE-THI-HPAYA-GYI NO.394

Bu-le-thi-hpaya-gyi, recorded as monument no.394, is a large stupa built in the 13th century AD and located southwest of Wetkyi-in village. It has three accessible square terraces and a stairway in the middle of each side. Its upper part consists of a hemispherical dome with twelve vertical-radial bands issuing from naga heads and a twelve-sided crowning block. The monument features plain stucco mouldings on its base and terraces, as well as, ornate stucco mouldings on its dome. (Pichard, 1992, pp.196- 197)



Figure 13.
Bu-le-thi
(Kauhanen 2017)

Figure 14.
Bu-le-thi terraces
and visitors
(Ponce 2017)

Bu-le-thi-hpay-a-gyi No.394

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Closed solid stupa not used for active religious practices	As it is not used for active praying, it is mostly used by visitors	Provides an opportunity to be used as a high viewing point for sunrise	Used by large numbers of visitors to climb and appreciate mainly the sunrise
Form/ Design	Resembles Shwe-hsan-daw prototype, it is one of the highest stupas, medial stair flights cutting up to the terraces	Steepened terraces, high slope, very high stairway and narrow stair steps, the aisles very narrow	Favorable regulations (controlled access) towards climbing using the medial stairs of temple	Medial stairs too tight and risky for climbing, conveys certain dangerousness
Location	Close proximity to Anawratha road, central location within the site, ca. 600m close to Hitlomino Temple	Due to its easy accessibility and signage, larger number of tourists have been attracted, coming by buses, e-bikes, motorbikes, and cars	Not anonymous, but rather a well-known stupa	Vulnerability to earthquake activity
Setting	Rather expansive view of sunrise, of far distance temples, agricultural fields, mountain ranges, balloon flights.	Few monuments in the proximity	Provides a wider, expansive view of landscape	Possible noise disturbances, trash
Materials	Bricks, structurally stable	Materials vulnerable to earthquake impacts, Some bricks are loose	Conservation, renovation, periodic monitoring of its fabric	Damages by earthquake activity
Economic Implications	Presence of commercial activities (painting-selling)	However, very low presence of paintings sellers (1-2)	Mayor economic benefits for local sellers	Relocation of sellers according to tourism demands
Spirit/ Feeling	As a stupa it is a significant example of Buddhist architecture	No presence of religious practices	Fostering historic awareness of the temple	Climbing to the upper parts below the central shrine conflicts with the spiritual beliefs of Buddhists

Table 2. SWOT analysis Bu-le-thi-hpay-a-gyi No.394



STUPA FORM

STUPA NO.1555 (LAW KA-OU-SHAUNG) [SUNRISE]

The Stupa 1555 is a medium size stupa built in the 13th century AD. It is located southwest of Shwe-hsan-daw Pagoda (listed as monument no. 1568), and in proximity to the Loka-ok-shaung temple. It has three square terraces with a medial stairway on each side. Its upper part consists of a circular bell-shaped dome. The material used for this stupa was brick masonry, and it also features traces of plain stucco mouldings. The condition was assessed in 1992, and the report stated that the monument was half-ruined and endangered, the base and terraces disintegrated, and its upper parts badly damaged. (Pichard, 1992, pp. 168). However, the present condition of the monument shows that these elements have been reconstructed.

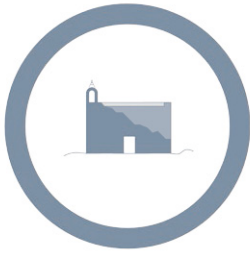


Figure 15.
Overview Stupa
1555, of Law
ka-ou-shaung
(Buentello, 2017)

Stupa No.1555 (Law ka-ou-shaung)

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Solid Stupa not used for active religious practices	As it is not used for active praying, it is mostly used by visitors	Provides an opportunity to be used as a high viewing point	Used by large number of visitors to climb and appreciate the sunrise
Form/ Design	Closed, solid medium size Stupa with medial stairs providing access to terraces	Medial stairs very tight and narrow, difficult to climb	Favorable regulations (controlled access) towards climbing using the medial stairs of temple	Medial stairs and terraces too tight and risky for climbing. Conveys certain dangerousness
Location	Very central location, south of Anawratha Road and east to Chauk Road, in proximity to Law ka-ou-shaung temple	Due to its easy accessibility and signaging of Law ka-ou-shaung temple, larger number of tourists have been attracted coming by, e-bikes, motorbikes, cars	Not to remain anonymous, but rather become a well-known stupa	Vulnerability to earthquake activity
Setting	Panoramic view 360° of both nearby temples and middle-distance temples such as Shwe-hsan-daw and Dhammayangyi temples, as well as agricultural fields	Very small space to walk around and admire the panoramic view	Provides an expansive view of landscape	Conveys dangerousness
Materials	Bricks, structurally stable	Materials vulnerable to earthquake impacts	Conservation, renovation, periodic monitoring of its fabric	Damages by earthquake activity
Economic Implications	Presence of commercial activities (painting, clothes-selling, post cards)	However, very low presence of sellers	Mayor economic benefits for local sellers	Spatial relocation of sellers according to tourism demands
Spirit/ Feeling	As a stupa conveys a significant example of Buddhist architecture	No presence of religious practices	Fostering historic awareness of the temple	Climbing to the upper parts below the central shrine conflicts with the spiritual beliefs of Buddhists

Table 3. SWOT analysis Stupa No.1555 (Law ka-ou-shaung) [sunrise]



ROOF PLATFORM

STUPA 1775 . SHWE NAN YIN TAW COMPLEX [SUNRISE]

The Stupa 1775 is a small size stupa built in the 13th century AD, located northeast of the Shwe nan yin taw complex. It has two square terraces and a twelve-sided terrace; its upper part consists of a circular bell-shaped dome and conical spire. The material used for this monument was brick masonry and stone reinforcements at the corners. It also features traces of plain stucco moldings on base and terraces. The conditioned assessed in 1992 stated that the monument was half-ruined and endangered, the base and terraces disintegrated and its upper parts badly damaged. (Pichard, 1992, pp. 168). However, the present condition of the monument presents also reconstructions of these elements.



Figure 16. Visitors on opened platform (Heimann 2017)

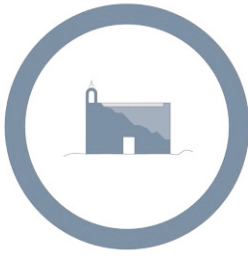
Figure 17. Opened roof-platform from Monument 1775 (Heimann 2017)



Stupa 1775. Shwe nan yin tau complex

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Mostly used by tourists and not local people	Substantial number of tourists use it for viewing purposes	Regulation and management of them could be improved	Used by large numbers of visitors might over exceed its capacity
Form/ Design	Highest monument within that complex, wide opened roof relatively high, border walls high, circa 80cm to delimit the area and prevent people from falling down, adjacent stairway leads to the roof	However, the stairway is wide and small, The slope is high while steps are big	Using the wide staircase provides an easier access compared to other temples where climbing is required	Nevertheless, accessibility might be difficult for older people
Location	Good accessibility, there were signs to direct the visitor towards the complex	Due to its location and signs, large presence of vehicles (big buses, cars, and e-bikes)	Possible restricted space for big buses. Opportunity to become a better-known place	Damages from earthquake activity
Setting	Good landscape view of the sunrise, view of really close temples, sky and vegetation, good visibility of the other monuments with roofs-terraces.	In the direction of the sunset not too many temples were visible, mostly vegetation, just in the background some examples, view of the balloons are very far away from this perspective	Wide extended panoramic view at an acceptable height	Possible noise caused by large number of tourists (if case)
Materials	Bricks, solid structure, no traces of instability, or falling bricks	Use of different materials due to interventions, repaired with concrete structures, reconstruction processes	Feels a pretty safe monument because of the reconstruction, constant conservation, renovation, periodic monitoring of its fabric	Possible damages by earthquake activity
Economic Implications	Presence of sellers (paintings, drinks, books) in front of the main entrance, as well as on the roof and downstairs	Scant presence (2-3) of sellers them compared to other monuments in the archeological site	Increase of income to local sellers, artists, families involved in the sector	Commodification of handicrafts, artistic products
Spirit/ Feeling	As a stupa it is a significant example of Buddhist architecture	Religious aspect not provided since it is currently not used for these purposes	Fostering historic awareness of the temple within complex	

Table 4. SWOT analysis Stupa 1775. Shwe nan yin tau complex



ROOF PLATFORM

MONUMENT 861

Monument 861 is a small, single storey temple built in the 13th century AD. Together with temple 860, it is located within a walled enclosure north of Dhamma-yazika temple (recorded as 947). The temple has a square central shrine, a vestibule, a porch on north face, and a blind forepart to east, south and west. The main material used for its construction was brick masonry and stone reinforcements. The condition assessment in 1992 stated that the temple was ruined, its base disintegrated, vaults and upper parts collapsed, the ground floor buried under debris; and its upper parts destroyed. (Pichard, 1992, pp. 57). The present condition of the monument shows that its reconstruction allowed for the upper parts to be used as a roof platform.



Figure 18. View of nearby Dhamma-yazhika temple (Kauhanen 2017)

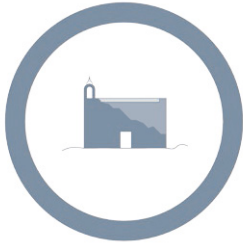
Figure 19. Staircase to access the temple (Heimann 2017)



Monument 861

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Mainly used by visitors	Few presence of local visitors	Encourage awareness for more local visitors	Risks becoming overcrowded in future
Form/ Design	Small one-storey temple, with central shrine in ground plan, adjacent staircase just for the purpose to access the viewing roof, contains a border wall that helps secure people	Limited access of people due to the only use of the staircase	Opened platform-terrace very accessible by means of the staircase, hinders the temple climbing	Staircase wide but accessibility might be difficult for larger numbers of people
Location	Overall good location, easy accessibility, located near bigger monumental pagodas such as Dhamma-yazhika (red/golden)	To find it one must use as reference other landmarks like the golden-red Dhamma-yazhika pagoda. By itself is hard to find it, due to lack of specific name	Opportunity to become a better-known stupa	Vulnerability to earthquake damages
Setting	Offers 360° panoramic view, very close view to nearby monuments such as Dhamma-yazhika pagoda, among others. Visibility of mountain ranges, far-distance temples, vegetation	Not the highest platform for viewing landscape compared to other monuments	Wide extended panoramic view at an acceptable height	Possible noise caused by a large number of tourists
Materials	Bricks in good conservation state, solid and stable structure	Materials vulnerable to earthquake impacts	Uses of materials different from bricks. Conservation, renovation, periodic monitoring of its fabric	Possible damages by earthquake activity
Economic Implications	Flow of income coming from painting sellers placed within the monument (5), as well as on the ground. (5)	An economic dependence on tourism	Increase of income to local sellers, artists, families involved in the sector.	Commodification of handicrafts, artistic products
Spirit/ Feeling	As a stupa conveys a significant example of Buddhist architecture	Religious aspect not provided since it is currently not used for these purposes	Fostering historic awareness of the temple within complex	

Table 5. SWOT analysis Monument 861



ROOF PLATFORM

MONUMENT 690. HSIN BYU SHIN COMPLEX

Monument 690 is a small single storey monastery built in the 14th century AD. It is located on the outer enclosure of Hsin-byu-shin monastic complex, and northwest of Minnanthu temple. The former monastery has a rectangular central room, two doors on the east face, one door on the south and north faces, an axial niche on the east face, and an internal staircase in the north-east corner that leads to the roof. Its upper parts consist of a flat roof. The main materials used are brick masonry, timber, and stone reinforcements. The conditioned assessed in 1992 stated that the temple was repaired in 1992. (Pichard, 1992, pp. 57). The present condition of the monument shows that conservation works have made to use its flat roof as a viewing platform possible.

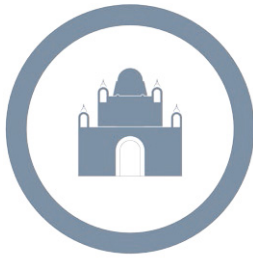


Figure 20.
Landscape view
from Monument
690
(Heimann 2017)

Monument 690. Hsin byu Shin complex

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Used largely by tourists and visitors	Not used for praying, rather by a small number of tourists.	Encourage awareness for more local visitors	Risks becoming overcrowded in future
Form/Design	Holds a concrete roof over the former ruined monastery. Has approx. 50cm of wall border and a big opened space	No specific architecture is conveyed except for the roof and the walls. The whole roof space is not complete bordered.	Option to use the flat extended roof as a viewing platform	Staircase very wide, so accessibility might be difficult for larger numbers of people
Location	Easy to get to the area, within the monastery complex	However, it is easy to find the stupa only when one sees it if from the other monument placed in front of it.	The use of other ruins on different places like this one	Possible presence of underground fabric.
Setting	Panoramic view of 360°, Very nice for sunset, provides view of small temples, trees, and the monastery complex	It is not the highest point compared to the neighbor monuments	Wide extended panoramic view at an acceptable height	Possible noise, disturbances caused by large numbers of Tourists (potentially)
Materials	Bricks, concrete, and solid structurally speaking for few people	For big numbers might be a problem since some bricks were not that fixed -Staircase very tight for using it (ca. 60cm x 150cm)	There is the possibility to use different materials from bricks	Possible damages by unpredictable earthquake activity
Economic Implications	-	No presence of sellers directly there, but rather in the other temples	Increase economic activities in order to improve the income to local sellers, artists, families involved in the sector	Commodification of handicrafts, artistic products
Spirit/ Feeling	As a stupa conveys an example of Buddhist architecture	Religious aspect not provided since it is not being currently used for these purposes	Fostering historic awareness of the temple within complex	-

Table 6. SWOT analysis Monument 690. Hsin byu Shin complex



TEMPLE FORM

SULAMANI GU-HPAYA TEMPLE NO.748 [UPPER ACCESS PROHIBITED]

Sulamani gu-hpaya is a very large two-storey temple, which according to epigraphic sources was built in the year 1183 AD. It is located between Old Bagan and the Min Nan Thu village. It is placed on a low platform with stairways on its four sides and at the center of a walled enclosure with four gates. Its ground floor and upper storey have square solid cores; main and secondary shrines on east, south, west and north sides, aisles, lateral and secondary porches; corridors; a vestibule; an entrance hall; and an internal staircase leading to the upper sections. Its upper parts are constituted by nine lower and upper terraces, together with an axial stupa and square tower. The material used for this monument were brick masonry, stone reinforcements, stone course under cornices, stone pavement and thresholds. The temple features traces of plain stucco mouldings, ornate cornices and pediments, glazed elements, while in the interior contains a variety of mural paintings under vaults and walls. It also embodies four seated Buddha figures facing each the four cardinal points, and one seated Buddha in the upper storey facing east. The conditioned assessed in 1992 stated that the temple was regularly maintained, repaired in two occasions from 1920-23, and 1977-79, and that the top of tower was destroyed (Pichard, 1992, pp. 296-301). Based on recent observations, the upper storey of the monument was under conservation works due to the impacts caused by the earthquake in 2016, therefore the access to these upper sections has been prohibited to the general public.

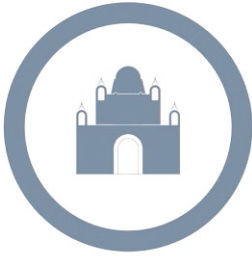


Figure 21.
Landscape view
from Sulamani
(Heimann 2017)

Sulamani gu-hpaya Temple No.748

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Highly used for religious practices, contains Buddha images, significant mural paintings, it is currently forbidden to access upper parts (terraces)	Large number of visitors, both locals and also international	Possibility to gain ever more visibility as a key monument within the area	Possible disturbance by visitors to praying activities, meditation of believers
Form/ Design	It is one of the highest points and in the center of the archeological area, not dangerous, has a fence that borders the terraces-corridors	Less number of extended areas (platforms), rather more terraces, tight staircase	Opened extended platform-terrace allows appreciation of the landscape view	Highly damaged by former earthquake activity
Location	Central location, visible from many points, a very central point of the whole area	Very congested, high traffic during the day	Offers opportunity to be well located by visitors	Easily leads to overcrowded spaces, internal corridors within the temple
Setting	360° panoramic view with different levels and heights, view of many main landmarks: Museum, Palace site, stupas in many layers, mountains, and the Nan Myint tower	-	Provide a significant viewing experience for a regulated number of visitors	Possible remains of waste, trash as a result of massive tourism
Materials	Bricks, very new materials, stable structurally	Materials vulnerable to earthquake impacts	Uses of materials different than bricks, due to conservation, renovation, periodic monitoring of its fabric	Vulnerability from earthquake impact. Possible damage to fabric, reliefs, plaques, sculptures, caused by undesirable behavior of people.
Economic Implications	High presence of commercial activities, (ca.20 sellers and shops), presence of guided tours	A strong economic dependence on tourism	Place has toilet facilities, (brick house in front of the temple)	Commodification of handicrafts, artistic products
Spirit/ Feeling	Religious, merit-making practices, taking place	-	Fostering awareness of the temple as a living monument	Climbing to the upper parts beyond the central shrine conflicts with the spiritual believes of Buddhists

Table 7. SWOT analysis Sulamani gu-hpaya Temple No.748



TEMPLE FORM

SHWE-GU-GYI TEMPLE NO.1589

Shwe-gu-gyi is a large single storey temple which was erected in the year 1131 AD according to epigraphic sources. It is located inside the city wall, and north of That-byin-nyu temple (recorded as 1597). The temple contains a solid core with four niches, one shrine at the north side of the core, a corridor, an entrance hall with lateral porches, a vestibule, two windows on the east, south, and west walls, and an internal staircase that leads to the upper part. Its upper part consists of three square terraces with corner turrets, a square tower, a conical spire, and an umbrella. The materials used for this monument were brick masonry and stone thresholds. It features traces of plain stucco mouldings, ornate cornices, pediments and friezes, carved wooden doors, as well as four seated Buddha figures in the interior. The conditioned assessed in 1992 stated that temple was white-washed, regularly-maintained, and repaired between the years 1976-79 (Pichard, 1992, pp. 214-217).



Figure 22.
Visitors on western
terrace
(Ponce 2017)



Figure 23.
Pilgrims praying on
platform of
Shwe-gu-gyi
(Buentello 2017)

Shwe-gu-gyi Temple No.1589

Content	Strengths	Weaknesses	Opportunities	Threats
Function/Use	For visitors but also religious practices	Lack of awareness of the religious function of the temple among visitors	Still is been used for religious practices (pilgrimage), while being a key tourist attraction	Possible disturbance from visitors towards praying and meditation of believers
Form/Design	Temple sits upon a tall platform (approx. 4m high), oriented in a northerly direction. Square ambulatory with staircase leading to terraces which are wide enough to allocate a large number of (ca.89) visitors in a safe way.	Less number of extended areas (platforms), rather more passages (terraces)	Higher terraces allow groups of people (pilgrims) to gather and pray together during sunset, staircases would provide easy access	Low border walls that secure people
Location	Central location, within the walls of Old Bagan, good accessibility, close to That-byin-nyu Temple	Crowded roads, paths containing large buses, horse carriages, motorbikes	Offers possibility of been well located by visitors, highly visited	Easily leads to an overcrowded access of visitors within the temple
Setting	Panoramic view 360° of nearby major temples such as That-byin-hyu Temple, Palace Site, Archeological Museum, Ananda Temple and far-away monuments, including mountain ranges, glimpse of river	There are elements visible such as the electricity cables, posts	Provide a significant viewing experience for a regulated number of visitors	Waste, trash founded in the surrounding areas adjacent to the temple
Materials	Strong materials (cement) on floor that may be minimally affected by visitors	Diverse materials with different characteristics and compatibilities	Materials can be replaced, renovated, restituted in case of need (floors)	Possible vulnerability from earthquakes impacts, possible damages to fabric, reliefs, plaques, sculptures, caused by people's behavior
Economic Implications	Higher flow of income coming from commercial activities (handicrafts, souvenirs, services: transportation, guided tours, etc.)	An economic dependence on tourism	Increase in income to local sellers, artists, families involved in the sector	Commodification of handicrafts, artistic products

Table 8. SWOT analysis Shwe-gu-gyi Temple No.1589



RIVER SIDE

LOKA-NANDA PAGODA NO.1023

Loka-nanda is a large stupa built in the 11th century AD. It is located on the river bank of the Irrawaddy River, in a walled enclosure with one gateway on north and south, and southwest of Thiripyitsaya village. The stupa contains three accessible octagonal terraces with stairways on north, east, and south, and two low sixteen-sided terraces. Its upper part consists of a circular bell-shaped dome with conical spire and umbrella. The main material used for its construction was brick masonry. The stupa also features traces of plain stucco mouldings on the base and terraces, as well as ornate waistband and frieze around the dome. The Buddha footprint carved in a stone slab, which is currently exhibited in the Archeological Museum, belonged to the stupa. The conditioned assessed in 1992 stated that the monument was white-washed and repaired in several times (1927-30, 1975-77 and 1989-90). (Pichard, 1992, pp. 253). According to current observations, it can be seen that the bell-shaped dome was under conservation works, covered by bamboo scaffolding structures.



Figure 24.
Viewing balcony
western side
(Buentello, 2017)

Figure 25.
Loka-nanda
extended platform
(Buentello, 2017)



Loka-nanda Pagoda No.1023

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Active use for praying, meditation, pilgrimage site as it contains replica of tooth relic brought from Sri Lanka.	Smaller number of international visitors	Viewing platform within an active religious site. Provides different experience from temple climbing	Overcrowded in the future
Form/ Design	Solid stupa, with extended space, and viewing balcony counts with stairways that allow the appreciation of landscape	The viewing balcony covers only two sides of the overall complex	Wide extended platform, safe, suitable for larger number of visitors	-
Location	Facing the riverside next to New Bagan, transited, affluent area, easy accessibility	Not as high as Bu-hpaya or other temples. It is suitable mainly for sunset	Offers a viewing platform placed on the river bank	Direct exposure to monsoons, heavy rains
Setting	Landscape of Irrawaddy river, nature, vegetation	Does not convey 360° panoramic view	Offers different landscape from that of the temples and monuments	Noise, trash, wastes caused by inappropriate behavior
Materials	Diverse use of materials: bricks, cement, gold leaves, mosaic.	Materials vulnerable to earthquake impacts and constant human use	Conservation, renovation, periodic monitoring of its fabric due to constant use	Deterioration not only by earthquake activity, but also by human use
Economic Implications	Very active area of commercial activities (food, shops, souvenirs, handicrafts)	An economic dependence on tourism	Increase of income to local sellers, artists, families involved in the sector	Commodification of handicrafts, artistic products
Spirit/ Feeling	Well-expressed spiritual practices; also bears evidence of active social life	Crowded leaves less space for meditation	Raise awareness of Buddhism's religious practices among other tourist's groups	Possible misconduct from certain subjects

Table 9. SWOT analysis Loka-nanda Pagoda No.1023



RIVER SIDE

BU-HPAYA NO.1657

Bu-hpaya is a small stupa built in the 11th century AD. It is located on the river bank of the Irrawady River, on the northern part of Bagan's city wall. The stupa rests on a polygonal platform with one stairway on the east; it has a circular base and pavilions, while its upper parts consist of a circular, bulbous, gilded dome with a conical spire and umbrella. The material used for its construction was brick masonry. The condition assessment in 1992 stated that the stupa was whitewashed, totally destroyed by the 1975 earthquake and rebuilt as a hollow reinforced concrete structure in the following years 1976-78. (Pichard, 1992, pp. 314-315).



Figure 26.
Platform and stupa
(Buentello 2017)

Figure 27.
View to boats
(Ponce 2017)



Bu-hpaya No.1657

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Active use for praying, meditation and as pilgrimage site	Fewer number of international visitors	Viewing platform within an active religious site, different experience from temple climbing	Overcrowded in the future
Form/ Design	Solid stupa, with extended space, and viewing balcony counts with lower balconies that allow the appreciation of the landscape	The viewing balcony covers only two sides of the overall complex	Wide extended platform, safe, suitable for larger number of visitors	Earthquake activity
Location	Central location Facing the riverside next to port of boats, transited, affluent area, of easy accessibility	More highly positioned than Loka-nanda Pagoda, but lower altitude compared to other temples, suitable mainly for sunset	Offers a viewing platform placed on the river bank	Direct exposure to monsoons, heavy rains
Setting	Landscape of Irrawaddy river, nature, vegetation	Does not convey a fully 360° panoramic view	Offers different landscape from that of the temples and monuments	Noise, trash, wastes caused by inappropriate behavior
Materials	Diverse use of materials: bricks, cement, gold leaves, tiles, highly decorated with sculptures, altars	Materials vulnerable to earthquake impacts and constant human use	Conservation, renovation, periodic monitoring of its fabric due to constant use	Deterioration not only by earthquake activity, but also through ordinary human use
Economic Implications	Very active area for commercial activities (food, shops, souvenirs, handicrafts, boat rental)	An economic dependence on tourism	Increase in income to local sellers, artists, families involved in the sector	Concentration of power and capital waste could enter the surrounding ecosystem
Spirit/ Feeling	Highly conveyed spiritual practices but also bears social life	Crowded lefts less space to meditation	Raise awareness of Buddhism's religious practices among other tourist's groups	Possible misconduct from certain individuals

Table 10. SWOT analysis Bu-hpaya No.1657



VIEWING TOWER

NAN MYINT VIEWING TOWER

The Nan Myint Viewing Tower was constructed in the year 2004. It is located near the groups of Azagawna temples and Winido Temple, next to the Aureum Palace Hotel and south of Bagan Golf Course. It consists of a solid concrete, reinforced steel structure of 60 meters high, comprising thirteen floors in total. The first level hosts a small gallery with a souvenir shop; the second floor contains meeting rooms; the subsequent levels are used as office rooms, while the last ones hold a panoramic restaurant and viewing terrace. It has a carrying capacity of approx. 2000 visitors. International visitors are required to pay entrance fees of approx. 5 USD. (Shwe, S. N., 2014.)

See also: Heritage Impact Assessment section



Figure 28. Nan Myint Viewing Tower (Kauhanen 2017)

Figure 29. Landscape view from viewing tower (Buentello 2017)



Nan Myint Viewing Tower

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Bears different uses: restaurant, exhibition area, offices and viewing platform	Accessible for people able to pay the fees	Restricted number of visitors, fixed opening/ closing times	Permanent artificial structure
Form/ Design	The highest viewing point in the archeological area (60m.)	Massive form, visible from many locations within Bagan	Provides wide space to contain large number of visitors	Inconsistent with the surrounding architecture
Location	Far away from the monumental buildings in the center of the archeological area, near groups of Azagawna temples, and Winido Temple.	Surrounded by agricultural fields, far away from landmark monuments, however still located in monuments zone	Offer a viewing experience from a far distance location within the archeological site	Archeological fabric, underground layers
Setting	Offers a wide, panoramic view of 360° of whole archeological area	Very far distance monuments, use of binoculars needed	Appreciate the landscape from a higher perspective	Impacts on the visual integrity of the area Possible land-use, environment impacts
Materials	Solid concrete, steel reinforced	Massiveness, heavy materials	Provides an artificial architectural platform	Possible impacts to underground features
Economic Implications	Triggers employment, services, connected to hotel complex besides it	Benefits stay in private ownership since it's managed by the hotel, unfair exploitation of agricultural fields	Address a wider population including local people	Concentration of power and capital Wastes could go on the surrounding ecosystem
Spirit/ Feeling	Exhibits in the first-floor traditional handicrafts and wool techniques	weak interpretation, communication of the exhibitions	Become a cultural space of interchanges, exchanges	Possible affectations to other ownership

Table 11. SWOT analysis Bu-hpaya No.1657



MOUNDS-NATURAL/ARTIFICIAL

ANAUK O-HTEIN TAUNG MOUNDS

The Anauk O-htein taung site is located 2 km. southeast of the Ananda temple and comprises two earth mounds placed approx. 500m. apart from each other. The western mound was dated with radiocarbon technique and was found to stem from the time between 1010 and 1220 A.D. It is about 90m. long, 35m. wide, and up to 7.5m high. The eastern mound was dated to be earlier, between 650 and 830 A.D.. It has an L shape, and each side measures about 80 m long, 25 m. wide, and more than 6 m. high at the highest point. The mounds were covered with scatters of potsherds and dense layers of fragmented pottery visible around and between them. They are surrounded by plowed areas for crops such as maize, which come up to the edges of the mounds. However, it has been pointed out that the mounds themselves are not plowed. Additionally notable is the presence of cattle and goats, which regularly graze on the surrounding area and mounds. (Hudson Bob, 2001, p. 53)



Figure 30. Pottery mound east
(Buentello 2017)

Pottery mound east

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Use for visitors to appreciate the landscape, offers an alternative to temple climbing.	Smaller number of visitors, less advertised for its use compared to other mounts	Provides an adequate viewing experience different from the monuments.	Possible challenges of overcrowding in the future
Form/ Design	Conveys natural shape of a mound, relative wide, extended space, considerable height	Maybe not high enough for some, but has nevertheless an acceptable height	Could bear a higher altitude if other layers are added subsequently in the future	
Location	Overall good location, accessible mostly by e-bikes and motorcycles	Not widely advertised, communicated its location	To become a well-known viewing point	Few facilities for visitors
Setting	Very good view, major temples not that close, only very small stupas, wide view of natural landscape, agricultural fields	No water features, such as a lake, not so many temples	A natural element located in archeological area	
Materials	Earth, natural materials, no metal (guard rails)	During the rainy season the mounds wash away, so they have to rebuild it with	Materials can be replaced, change, removed, added	Certain vulnerability during the rainy seasons
Economic Implications	Presence of sellers	Lower presence of sellers and economic activities	Increase economic benefits to local sellers, artists, families involved in the sector	Commodification of handicrafts, artistic products
Spirit/ Feeling	Conveys a sense of harmony within the given landscape	Not connected to religious practices		

Table 12. SWOT analysis Pottery mound east



MOUNDS-NATURAL/ARTIFICIAL

ANAUK O-HTEIN TAUNG MOUNDS

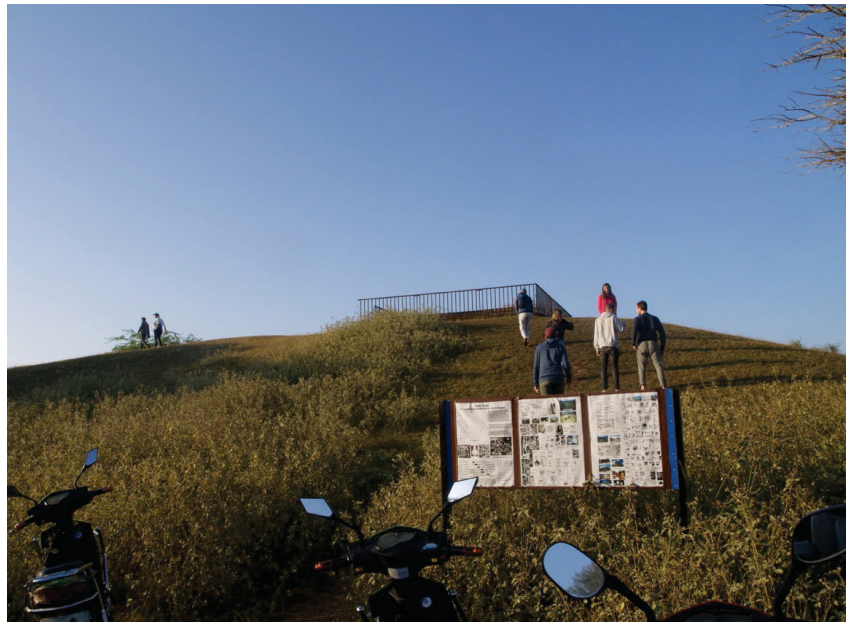


Figure 31. Access to mound
(Kauhanen 2017)

Figure 32. West mound
(Ponce 2017)



Pottery mound west

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Use for visitors to appreciate the landscape, offers alternative to temple climbing.	Fewer number of visitors, less advertised for its use compared to other mounts and monuments	Provides an adequate viewing experience different from the monuments.	Possible challenges of overcrowding in the future
Form/ Design	Conveys natural shape of a mound, relative wide, extended space, considerable height	Maybe not high enough for some, but has nevertheless an acceptable height	Could bear a higher altitude if other layers are added subsequently in the future	Doesn't affect visitors because of its height.
Location	Overall good location, accessible mostly by e-bikes and motorcycles	Difficult accessibility not widely advertised nor communicated its location	To become a well-known viewing point	Few facilities for visitors
Setting	Very good view, major temples not that close, wide view of natural landscape, agricultural fields, better viewing landscape than neighbor mound	No visible water features, such as a lake, not so many temples	A given, artificial element but with natural materials placed in archeological area	
Materials	Earth, natural materials, no metal (guard rails), no introduction of new materials. The soil of the mound over time could improve in quality if managed properly	During the rainy season the mounds wash away, so they must be rebuilt with new sand	Materials can be replaced, changed, removed, added. Plant in certain spaces native bushes species to hold with big rooting system could prevent erosion.	Certain vulnerability during the rainy seasons Landslides could affect or improve the soil quality of the agricultural fields standing right next to it.
Economic Implications	Almost imperceptible presence of sellers	Lower presence of sellers and economic activities	Increase in economic benefits to local sellers, artists, families involved in the sector	Commodification of handicrafts, artistic products
Spirit/ Feeling	Conveys a sense of harmony within the given landscape	Not connected to religious practices		

Table 13. SWOT analysis Pottery mound west



ARTIFICIAL MOUND

ARTIFICIAL MOUND. NYAUNG LET PHAT KAN (SUNRISE/SUNSET)

The mound named Nyaung let phat kan is located northeast of Sulamani gu-hpaya, and it was erected and opened to the general public after year 2016. Its dimensions are aprox. 120m. in length, 7 m. high and 7,62 m. wide. It bears a carrying capacity of approx. 700 people. (Zaw, M., 2017). Based on observations about its present condition, it is currently in active use by tourists and visitors.



Figure 33.
Landscape view
from mound
(Ponce 2017)

Figure 34. Sunrise
view from mound
(Heimann 2017)



Artificial Mound. Nyaung let phat kan

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Used mostly by large number of visitors, offers alternative to temple climbing.	Still less advertised for its use compared to monuments (like Shwe-san-daw and others)	Provides an adequate viewing experience different from the monuments.	Possible challenges of overcrowded in the future
Form/ Design	Very wide, extended space, considerable height	Perhaps not high enough for some, but compared to other mounds has an acceptable	Could bear a higher altitude if other layers are added subsequently in the future	-
Location	Good location, accessible by all means of transportation	Not widely advertised, communicated its location	To become a well-known viewing point	Few facilities, only one trash basket for 100 people
Setting	Very good view, major temples not that close, only very small stupas. offers view of lake, reflections of the balloons	View of not so many temples	To offer a wider view of landscape that includes water features	An added, artificial element placed in archeological area
Materials	Earth, natural materials, metal (guard rails)	During the rainy season the mounds wash away, so they have to build it with new sand	Materials can be replaced, change, removed, added	Certain vulnerability during the rainy seasons
Economic Implications	Social, community work High number of sellers during the sunset	However, for sunrise presents less commercial activities	Increase economic benefits to local sellers, artists, families involved in the sector	Commodification of handicrafts, artistic products
Spirit/ Feeling	Conveys a sense of harmony within the given landscape	Not connected to religious practices		

Table 14. SWOT analysis Artificial Mound. Nyaung let phat kan



ARTIFICIAL MOUND

ARTIFICIAL MOUND. NYAUNG LAT PHAT KAN

The mound named Nyaung lat phat kan is located southwest of Sulamani gu-hpaya, and it was constructed and opened to public after 2016. Its dimensions are about aprox.85m. in length, 7 meters high, and approx. 8 meters wide. It has a curved shape and a carrying capacity of approx.700 people. Its present condition shows an active use by visitors and tourists.

Source: Anni Kauhanen Assessment



Figure 35.Far distance temples (Kauhanen 2017)

Figure 36.Obstructed view from lake by trees (Kauhanen 2017)



Artificial mound. Nyaung lat phat kan

Content	Strengths	Weaknesses	Opportunities	Threats
Function/ Use	Used mostly by small number of visitors, offers alternative to temple climbing.	Less known and advertised for its use compared to monuments (like Shwe-san-daw and others)	Could provide an adequate viewing experience different from the monuments	Possible challenges of overcrowding in the future
Form/ Design	Wide, extended space, considerably low height. Well adapted to the landscape	Maybe not high enough for some, but compared to other mounds has an acceptable height	Could bear a higher altitude if other layers are added subsequently in the future	-
Location	Good central location, close to Bu-le-thi, accessible by all means of transportation. Access through a main road that connects with the Anawrahta road to the Min Nana Thu village.	Not widely advertised. Location not well-known	To become a well-known viewing point, it is so central, that it would attract more people	More traffic would be attracted to this central area.
Setting	Offers view of lake Provides better view of sunset. Are visible the Dhamma-yazhika temple, Sulamani gu-hpaya very close, and Dhamagayi Patho temples.	Not so many temples, major temples not that close, only very small stupas, the view that faces the lake is obstructed by trees, the other view is also low, just visible: trees, agricultural fields, the biggest upper parts of the Dhamagayi Patho, while smaller stupas are covered	The view is not optimal, but has potential to be improved, since trees can't be cut down, adding height or an additional feature that makes it higher could be a proposal to consider	An added, artificial element placed in archeological area
Materials	Earth, natural materials, metal (guard rails)	During the rainy season the mounds wash away, so they have to build it with new sand	Materials can be replaced, change, removed, added	Certain vulnerability during the rainy seasons
Economic Implications	Social, community work, presence of sellers.	Few local sellers, of drinks and clothes (2)	Increase economic benefits to local sellers, artists, families involved in the sector	Commodification of handicrafts, artistic products
Spirit/ Feeling	Conveys a sense of harmony within the given landscape	Not connected to religious practices		

Table 15. SWOT analysis Artificial mound. Nyaung lat phat kan



Figure 37. BTU students searching for the perfect view (Rellensmann 2017)

BIBLIOGRAPHY

- Alex Coman, B. R., 2009. Focused Swot. Diagnosing critical strengths and weaknesses. *International Journal of Production Research*, 15 October, 47(20), pp. 5677-5689.
- Hudson Bob, L. N. W. M., 2001. The Origins of Bagan. *New Dates and Old Inhabitants. Asia Perspectives*, 40(1), pp. 48-74.
- International Cooperation and Development. European Comission, 2004. *Aid Delivery Methods. Project Cycle Management Guidelines Vol.1*, Brussels: EuropeanAid Cooperation Office. Available: https://ec.europa.eu/europeaid/aid-delivery-methods-project-cycle-management-guidelines-vol-1_en. [Accessed 17.02.2017]
- Pichard, P., 1992–2002. *Inventory of Monuments at Pagan, Vols 1–8* (Vol. 1 1992, Vol. 2 1993, Vol. 3 1994, Vol. 4 1994, Vol. 5 1995, Vol. 6 1996, Vol. 7 1999, Vol. 8 2002). KISCADALE EFEO UNESCO.
- Shwe, S. N., 2014. *Conservation of Cultural Heritage Buildings in Bagan Area*, Yangon Technological University. Available: http://www.burmalibrary.org/docs21/Society%20and%20Culture/San-Nan-Shwe-2015-Conservation_of_Cultural_Heritage_Buildings_in_Bagan_Area_en.pdf [Accessed 28.12.2017]
- Strachan, P., 1989. *Pagan, Art and Architecture of Old Burma*. Kiscadale Publications.
- Travel Myanmar, 2013. *Nan Myint Viewing Tower*. [Online] Available: <http://bagan.travelmyanmar.net/nann-myint-tower.htm> [Accessed 11.12. 2017].
- Zaw, M., 2017. *New place to view Bagan pagodas*. [Online] Available at: <https://www.mmtimes.com/national-news/mandalay-upper-myanmar/27079-new-place-to-view-bagan-pagodas.html> [Accessed 18. 12. 2017].

03

ASSESSING THE PLACES



Figure 38. Balloons over Bagan during sunrise (Rellensmann 2017)

HERITAGE IMPACT ASSESSMENT (HIA) OF EXISTING VIEWING SITUATIONS

by Desirée Buentello García

INTRODUCTION TO HERITAGE IMPACT ASSESSMENT

Sites of cultural heritage like Bagan constantly face changes related to the introduction of large-scale developments, such as roads, buildings, new infrastructure, demolitions, and excessive or inappropriate tourism practices, among others. All these alterations represent potential threats to the site's cultural significance and can directly or indirectly change its skyline, fabric, or even in its socio-cultural context¹ (ICOMOS, 2011, pp. 1,8). Thus, in order to evaluate the severity of the impact before any change is carried out, it is necessary to conduct a Heritage Impact Assessment (HIA) analysis.

The HIA study is a tool for managers, developers, and decision-makers to anticipate and evaluate the effect of the proposed developments within the Management Plan (ICOMOS, 2011, pp. 1-2). Its results can be used to recommend conservation strategies that best mitigate impacts and conserve the resources.

For conducting a HIA analysis, it is necessary to have a broad understanding of the cultural significance of the site, which in the case of World Heritage properties are mostly conveyed through their Outstanding Universal Value (OUV) (ICOMOS, 2011, p. 1). Additionally, further values, concerning its context, setting, and relationship to its intangible aspects are also considered either at the local or national level (ICOMOS, 2011, pp. 6-7). Then, the identified values are assessed in relation to statutory designations using a grading scale that consists of six levels, being “very high” at the top and “unknown” at the bottom² (ICOMOS, 2011, p. 8). This scale is later used to generate a scale of severity that defines how the proposed impact will alter the attributes depending if it represents no change,

¹ Impacts can either be direct or indirect, temporary or permanent, reversible or irreversible, cumulative, visual, physical, social, cultural and even economic (International Council on Monuments and Sites, 2011, p. 8).

² Very high, high, medium, low, negligible and unknown (International Council on Monuments and Sites, 2011, p. 8).

negligible change, minor change, moderate change, or major change (ICOMOS, 2011, p. 9). Finally, a nine-point scale³ summarises the significance of the effect of change as either adverse or beneficial to propose a variety of methods to minimise the effects and enhance the site's significance (ICOMOS, 2011, pp. 9-11).

Thus, in order to conduct a HIA analysis in Bagan, first it is necessary to recognise the site's attributes to evaluate how developments such as new tourism infrastructure would impact them.

ATTRIBUTES-ASSESSMENT

The Outstanding Universal Value of Bagan as nominated World Heritage Property of UNESCO states that the site, located in the central dry area of Myanmar, is an extensive cultural landscape framed by the Ayeyarwady River and the Tankyi-taung and Tuyin-taun hills, with the traditional boundary of four stupas in the corners (Weise, 2017, pp. 5,12).

Bagan, as the heart of the Buddhist empire in the medieval world, had its peak period between the 11th and 13th century, becoming a regional centre of economic, socio-political, and cultural interchange, (Weise, 2017, p. 5). Moreover, the Buddhist tradition of merit-making practice until today has been the key element for its development and maintenance, repair, and reconstruction of monuments (Weise, 2017, p. 5). Thus, the site of Bagan can be considered living heritage, due to the continuity and strong associations with traditional beliefs and practices (Weise, 2017, p. 42).

The property covers 3,595 religious monuments - most of them dating from the period mentioned above - that are classified as Grade 1, 2, or 3, according to the significance of their historical and architectural value, their state of conservation, and relation to other cultural assets, such as archaeological remains and water management features. Additionally, within the site we can also find seven villages (traditional settlements) and two towns (Weise, 2017, pp. 5,12).

The attributes acknowledged within the OUV retain the highest value for their international status and encompass not only the overall setting of Bagan (along with its adjacent river and the landscape of monuments), but also its many inscriptions, mural and cloth paintings, sculptures, remains of water management features, archaeological deposits, and objects safeguarded at the museum and in other areas -in situ-within the property (Weise, 2017, p. 5).

Moreover, although the relevance of the land-use component and the natural features within the landscape are mentioned along the Final Draft Integrated Management Framework of Bagan (2017), they are not explicitly named as part of the OUV or in the conditions for authenticity and integrity.

It is relevant to mention that Kai Weise from (UNESCO consultant) pointed out in an interview that, until now, there has not been sufficient research to

³ Major beneficial, moderate beneficial, minor beneficial, negligible beneficial, neutral, negligible adverse, minor adverse, moderate adverse, and major adverse (International Council on Monuments and Sites, 2011, p.9).

BAGAN'S PROPOSED OUTSTANDING UNIVERSAL VALUE

Criterion iii: Bagan is exceptional. It is an early and continuing testimony to the important cultural tradition of Buddhist merit-making on an impressive and unprecedented scale, and also as an exceptional testimony to the peak of the civilization which created Bagan in the 11th-13th century as the capital of a powerful and the most influential regional empire (Department of Archaeology and National Museum, Ministry of Religious Affairs and Culture, 2017, p. 10).

Criterion iv: Bagan is an outstanding example of a rich ensemble of Buddhist architecture, reflecting the strength of religious commitment and wealth of the first and the most influential Buddhist empire in the region, as well as to continuing religious commitment (Department of Archaeology and National Museum, Ministry of Religious Affairs and Culture, 2017, p. 13).

Criterion vi: Bagan is a supreme example of historical and living Buddhist tradition and of beliefs associated with merit-making, expressed through the remarkable number and density of surviving stupas, temples, and continuing religious practice there. Department of Archaeology and Museum, Ministry of Religious Affairs and Culture, 2017, p. 16).

Bagan's integrity includes all the necessary attributes to express its ouv, where the large ensemble of monuments from the bagan period (temples, stupas, monasteries, ordination halls,

the old Bagan wall, a palace site, and fortifications comprise the dominant visual attribute, along with the river and the site's four corner stupas (Weise, 2017, p. 6). Nonetheless, associated with them, we can find many cultural assets, such as mural and cloth paintings, inscriptions, and sculptures (Weise, 2017, p. 6). Additionally, there is also an extensive and largely intact subsurface of archaeological deposits, and two ancient reservoirs and other water management features which may date from the Bagan period (Department of Archaeology and National Museum, Ministry of Religious Affairs and Culture, 2017, p. 17).

Furthermore, the authenticity of the site relies in its monuments and their decorative elements, such as stucco detailing and paintings that "express the full splendour and technological achievements of the Bagan period" (Department of Archaeology and National Museum, Ministry of Religious Affairs and Culture, 2017, p. 18). Additionally, the site has retained is use and functions as a place of worship and religious practice over the centuries, a use that has sustained the monumental landscape (Department of Archaeology and National Museum, Ministry of Religious Affairs and Culture, 2017, p. 18; Weise, 2017, p.7)

Despite modern restorations and being fully rebuilt, monuments have been criticised, though they are considered authentic in terms of use and function, not to mention that they are also significant for the spirit of Bagan in its landscape and their connection to merit-making practices (weise, 2017, p. 6).

Table 16.
Summary of
attributes
assessment.

Summary of attributes assessment

Rank of value	Value	Attribute	Contribution to significance
International value	Landscape of monuments	Monuments ensemble, its setting and aural noise	Very high
International value	Living traditions	Continuity of religious practices: festivals, celebrations, rituals, and merit-making contributions	Very high
International value	Overall setting of Bagan	River and corner stupas	Very high
International value	Archaeological remains	Sub-surface archaeological deposits, Old Bagan Wall, the ancient palace site, ancient reservoirs and other water management features	Very high
International values	Associated cultural assets	Sculptures, mural and cloth paintings, and inscriptions	Very high
International and national value	Landscape	Ensemble of monuments+ agricultural fields+ settlements + natural features	Very high-high
International and national value	Ecosystem	Flora, forestry, fauna and wildlife	Very high-high
Local value	Land-use	Agricultural fields	Medium

link the current land-use to the period under which Bagan was nominated, and therefore, this attributes cannot be considered an international value. Regardless, the agricultural techniques have not yet been investigated enough to highlight their possible uniqueness among others within Myanmar or worldwide (Weise, 2017).

The official site as nominated to the World Heritage List mainly consists of thousands of monuments spread along an agricultural landscape (Weise, 2017, p. 37), the human settlements (towns and villages) and the natural features also contribute to the rich visual integrity. Therefore, all areas included within the demarcated World Heritage Boundary and Buffer Zone should be considered as landscape areas, including the river and forest (Weise, 2017, p. 56). For instance, a tourism website of Myanmar mentions that “No visit to Myanmar, formerly known as Burma, can be considered complete unless one has been to Bagan, a land famous for its panoramic beauty” (Anon., 2013).

The natural components of Bagan, its flora and fauna undoubtedly form part of the essence of its landscape. The integrated management framework of Bagan (2017) also mentions that there is a designated forestry area in the township of Loka-nanda Sanctuary with endangered species such as the Golden Deer and the Star Turtle; and the Ayeyarwady River Region is internationally designated as an “Important Bird Area” and “Key Biodiversity Area” because of the numerous endemic species (Weise, 2017, p. 111).

The table 16 on page 68 summarises the information provided in the attributes-assessment section. Further information regarding Bagan’s criterion for inscription, integrity and conditions for authenticity can be found in the focus box on page 67.

SUMMARIZED HIA OF NAN MYINT VIEWING TOWER AND ARTIFICIAL MOUNDS

The increasing tourism pressure in Bagan carries the need to regulate various kinds of goods and services. This includes the introduction of new infrastructures, the control of economic activities, the allocation and management of the transportation system, and regulation of inappropriate behaviour towards the sanctity of the monuments - such as overcrowding and climbing monuments - among others (Weise, 2017, p. 14).

The impact of such activities and developments on the site must be anticipated and regulated to ensure not only the physical conservation of the monuments, but also the preservation of the landscape and proper respect towards the livelihoods of local communities (Weise, 2017, p.14).

For example, due to the 6.8 magnitude earthquake that damaged more than 184 monuments in August 2016 (UNESCO Bagnkok, 2017), some monuments had to be closed for tourism activities, including temple-climbing for sunset and sunrise experiences. Instead, monitoring, conservation, and stabilisation processes took place (Reid, 2017). As compensation, after conducting a Heritage Impact Assessment analysis, new options for “lookout spots” were introduced at the site, including man-made hills (Reid, 2017).

Another piece of infrastructure for tourists pursuing sunrise and sunset experiences is the Nan Myint viewing tower, which was introduced to the site in 2004. Both the viewing tower and the artificial mounds have particular characteristics that will be briefly described in a concise HIA analysis in the following paragraphs.

THE CASE OF THE NAN MYINT VIEWING TOWER

In 2004, the tower was built up next to a five-star resort (Aureum Palace) by private investment within the Monument Zone of Old Bagan in the vicinity of ancient monuments. The tower is 60 meters height and 13 levels, and it is the tallest building in Bagan (see Figure 39). The tower is 13 minutes away from the Nyaung U Aiport and holds a small galleria and souvenir shop, meeting rooms, offices, a restaurant, and a viewing area at the top (Anon., 2015). Its height goes beyond the limit of 30 feet demarked by the authorities (San Nan Shwe



Figure 39.
Landscape of
Bagan and the Nan
Myint viewing
tower
(Buentello 2018)



PhD, et al, 2014, p. 18; Department of Archaeology and National Museum, Myanmar and UNESCO, 2014, p. 85), and its construction, according to the information gathered through interviews with local residents during field work, is the result of unfair appropriation of the land (2017).

Since the tower has already been constructed, a HIA study can only be done in retrospect. This means that some information is based on assumptions backed up by information from field consultations and observations.

Although the tower has a limited physical dimension, its impact is majorly adverse, permanent, irreversible, and extended. It can be considered as extended because it alters the visual integrity directly of the aural atmosphere and landscape of Bagan; and, due to its proximity to the surrounding monuments, it marks a moderate to major change in the skyline.

In the same vein, seeing as the context and setting of the tower are now fixed, unless excavation research was done before building the tower, if there happened to be underground archaeological remains the damage is already done, with permanent consequences. Besides this, the use, purpose and ownership of the land changed dramatically, and its natural elements have been altered permanently.

Unfortunately, a retrospective HIA analysis made by the DoA states that no records were made before constructing the tower, and therefore, it is certain that the potential archaeological deposits of the area are now lost (and possibly destroyed) forever (Department of Archaeology and National Museum, Myanmar and UNESCO, 2014, p. 88).

On the other hand, the tower does not have an impact on the fabric of the monuments, related cultural assets, and has not apparently changed

Bagan's living traditions. For instance, its design and colour make it stand out from the ancient religious monuments, and therefore, it is respectful towards the spiritual beliefs associated with them (Department of Archaeology and National Museum, Myanmar and UNESCO, 2014, p. 83).

The introduction of the tower indisputably represents a major change in the landscape, land-use, and natural features, as well as on the non-researched sub-surface archaeology. But since it is already there and despite the fact its revenues are kept in private hands, it should be promoted to deter temple-climbers.

From the information gathered through the interviews we made during field work, we are aware that the fee to enter the tower is considered too high by both international and domestic tourists, which limits the number of prospective users. Further, the analysis provided by the DoA (2014) states that the tower has a minimal number of visitors even during high season, and that the majority of the tourists prefer to climb monuments (Department of Archaeology and National Museum, Myanmar and UNESCO, 2014, p. 93); therefore, more managerial strategies should be implemented to defuse visitors' focus on this activity (see section 4 on management strategies for different scenarios).

To mitigate the visual impact of the tower within the landscape, the DoA recommends conducting a study intended to reduce its height and proposes that more alternative viewing options be available to reduce temple climbing activities. Finally, they also recommend that the tower be beneficial for the local residents and serve to raise awareness of the values of Bagan; for example, by creating a "free to visit information/education centre" (Department of Archaeology and National Museum, Myanmar and UNESCO, 2014, p. 90).

THE ARTIFICIAL MOUNDS

"After the earthquake of August 24, 2016, The Japan International Cooperation Agency (JICA) proposed to building a raised earthen bank at the northwest corner of Nyaung Lat Phat pond near Sulamani temple for tourists to watch sunsets" (AFP, 2016).

The introduction of four artificial mounds in 2016 was the result of a previous HIA Analysis that helped the DoA staff determine their characteristics and minimise their effect⁴ (Lin, 2018). Although we cannot personally access such a document because it is written in the language of Myanmar, we can assume its results showed that the construction of the mounds would not cause any damage to the sub-surface archaeology, nor would they gravely interrupt the landscape or interfere with agricultural practices.

Today, the introduction of these man-made hills is minorly beneficial to the site, mainly because they provide a resourceful option to appreciate the landscape. However, they also influence the merit-making practices and beliefs of local and national Buddhists.



⁴ Two of these mounds were build up next to Naung Let Ta Fa ancient lake and Sulamani ancient lake.

Figure 40.
Artificial Mound
(Buentello 2018)



For one, correspondent funds for the construction of the hills came from donations given by Buddhist practitioners all over Myanmar (Lin, 2018). Furthermore, the mounds' maintenance is also part of community work. These mounds have an average height of 10m (Lin, 2018), but year by year their height diminishes due to erosion as they are constantly exposed to the elements. In order to recover their height, the community works together, bringing up material as part of their merit-making practices.

One of the major benefits of the mounds, is that their dimensions (approximately 13m wide and over 100m in length) provide large areas to accommodate a great number of visitors. At the same time, they appear relatively safe in comparison to climbing on the monuments. Additionally, there is no restricted access to them during the day, and people can use them freely without extra charge. Nevertheless, their parking space is limited, so that buses and major means of transport usually remain parked in the nearby roads⁵.

These mounds also pose negligible adverse changes on the nearby monuments, but due to their characteristics (earth covered in grass, see Figure 40) and low height, they blend with the natural features of the landscape. Nonetheless, there are some issues that must be improved to increase their use.

By administering questionnaires to tourists in Bagan, we know that these viewing spots are as yet unknown to most tourists travelling solo, and just one of the tourist maps⁶ of Bagan shows the location of two out of three of these mounds. Additionally, in the Tourist Information Centre they mostly advertise visiting the monuments for sunrise or sunset, but no one mentions the

⁵ The introduction of buses driving near monuments must be regulated according to the regulations made by Department of Archaeology and National Museum in their Instruction Order-No. 2 and 3 in 2014.

⁶ MAP OF BAGAN. Bagan Myanmar Group Companies

existence of the mounds. Moreover, there are no signs on the roads to point tourists towards these viewing points. This suggests that only tourists accompanied by local guides visit the mounds, unless they find the sites by coincidence.

REFERENCES

- AFP, 2016. Myanmar makes U-turn on Bagan temple climbing ban. [Online]
Available at: <http://www.telegraph.co.uk/travel/destinations/asia/myanmar/articles/myanmar-u-turn-on-bagan-temple-climb-ban/>
[Accessed 13 January 2018].
- Anon., 2013. Bagan, Myanmar's land of millions Pagodas. [Online]
Available at: <http://www.themalaysiantimes.com.my/bagan-myanmars-land-of-millions-pagodas/>
- Anon., 2015. Bagan Viewing Tower. [Online]
Available at: <https://www.justgola.com/a/bagan-viewing-tower-1912507> [Accessed 13 January 2017].
- Department of Archaeology and National Museum, Ministry of Religious Affairs and Culture, 2017. Proposed World Heritage List, Cultural Heritage Site in Myanmar.. s.l.:s.n.
- Department of Archaeology and National Museum, Myanmar and UNESCO, 2014. Heritage Impact Assessment Report on Bagan, Bagan, Myanmar: Archaeological Assessments Ltd. International Council on Monuments and Sites, 2011. Guidance on Heritage Impact Assessments for Cultural World Heritage Properties. Paris: UNESCO.
- Lin, Z., 2018. Artificial Mounds in Myanmar [Interview] (12 January 2018).
- Reid, S., 2017. Why banning temple climbing is a good thing for Bagan in Burma. [Online]
Available at: <http://www.independent.co.uk/travel/asia/burma-pagoda-temple-climbing-bagan-ban-unesco-world-heritage-site-responsible-tourism-a7823271.html>
[Accessed 14 January 2018].
- San Nan Shwe PhD, et al, 2014. "Conservation of Cultural Heritage Buildings in Bagan Area". Chiang Mai, Asia Pacific Sociological Association (APSA) and Faculty of Social Sciences, Chiang Mai University.
- UNESCO Bagnkok, 2017. Drone over Bagan after the 2016 Earthquake. [Online] Available at: <http://bangkok.unesco.org/content/drone-over-bagan-after-2016-earthquake>
- Weise, K., 2017. Bagan Cultural Heritage Site, Myanma: The Integrated Management Framework (Management Plan). s.l.:UNESCO.
- Weise, K., 2017. Bagn Heritage Site, Management Plan [Interview] (2017 November 2017).

03

ASSESSING THE PLACES



Figure 41. Sunset view
of Sulamani Temple
(Rellensmann 2014)

LOCATION ANALYSIS

by Anni Kauhanen, visual analysis by Jan-Hendrik Strümpel

DEFINING THE CHARACTERISTICS OF AN IDEAL LOCATION

This section describes the characteristics of an ideal location for a viewing point. As described in other sections of this reader, visitors of Bagan like to climb temples. Some factors that make the overall temple climbing experience desirable can also be experienced in other ways, particularly as climbing a historic structure is only a small part of the overall experience. Another, perhaps even more central, factor is the view that the temples and monuments offer. As many of Bagan's Buddhist monuments are considerably higher than the surrounding land, they offer especially panoramic views over Bagan. Some monuments with terraces or climbable steps surrounding the central stupa tower offer a 360° view over the architectural complex. Since the monuments are sprinkled throughout the archaeological zone, including in central locations, the act of climbing offers tourists an unparalleled variety of vistas. These characteristics must be kept in mind when designing alternative viewing platforms and determining their location. The choice of using both the terms "viewing point" and "viewing platform" throughout this text is intentional: viewing platforms are new structures, whereas viewing points are any locations from which visitors can access a view.

PERFECT VIEW-THINGS WE WANT TO SEE



VIEW

An ideal view, free of disturbances.

Figure 42. One of the main roads (Buentello 2017)



IMPACT HERITAGE ATTRIBUTES

The potential physical and visual impacts on heritage are crucial to keep in mind.

Figure 43 Surroundings of Buledi at sunrise (Kauhanen 2017)



ACCESSIBILITY

A viewing point must be accessible. There is no sense building a perfect viewing point in a location that cannot be reached.

Figure 44. One of the main roads (Buentello 2017)

PERFECT VIEW-THINGS WE WANT TO SEE



TEMPLES AND MONUMENTS IN THE FOREGROUND AND BACKGROUND

An optimal viewing point is situated so that there are many objects of interest, including temples, ruins, and natural elements, visible in different scales.

The view is particularly desirable when there is a variety of built structures to see in varied scales, as in this image. Some elements are close to the viewer, while others fade into the distance.

Figure 45 A view with depth (Kauhanen 2017)



Ideally, the closest monument does not have to be right in front of the viewing point; however, it should be close enough to see some details that are not visible in the monuments far away.

Figure 46 View from the eastern parts of Bagan (Kauhanen 2017)



SUNRISE AND SUNSET

Naturally, the most interesting views face directly east and west, as they offer dazzling views of the sunrise and sunset.

For sunrise there needs to be an unobstructed view of the east, even though the red color of the sun changes the color of the western view.

Figure 47 Sunrise seen from Buledi (Kauhanen 2017)

PERFECT VIEW - THINGS WE WANT TO SEE



SUNSET

At sunset, the principal view is to the west.

Figure 48 Sunset seen from the Nan Myint viewing tower (Kauhanen 2017)



MIST

Air pollution and smoke that appears like rolling mist and hot air balloons are typical features at sunrise. These are particularly visible in views facing east.

In the morning, “mist” appears to rise from the ground, adding another visual layer at sunrise.

Figure 49 Mist seen from Buledi at sunrise (Kauhanen 2017)



BALLOONS

Balloons rise from the east right after sunrise, adding yet another unique feature to experience in the morning.

Figure 50 East from South Guni (Kauhanen 2017)

DISTURBANCES IN THE PERFECT VIEW - THINGS WE DON'T WANT TO SEE



STREET LIGHTS AND DISTINCTIVE POWERLINES

Although both are undesirable, street lights are a bigger interference than power lines because they stand out in the dark. If a viewing point is situated too close, it can impede the atmosphere and enjoyment, especially sunrise.

Figure 51 Street lights at sunrise at Shwe-Leik-Too (Kauhanen 2017)



It is difficult to eliminate power lines from the view entirely, but if they are close to the viewing point and in the main view, they can disturb the viewing experience.

Figure 52 Powerlines seen from Shwe-leik-too (Kauhanen 2017)



TRAFFIC, PARKING AND OTHER VIEWING POINTS

Along with street lights and power lines, traffic, parking, and additional viewing points are generally not considered desirable features in a view. Parked vehicles and busy roads unpleasantly dominate the view if they are directly in front of a viewing point.

Figure 53 Surroundings of Buledi (Kauhanen 2017)

DISTURBANCES IN THE PERFECT VIEW - THINGS WE DON'T WANT TO SEE



Generally speaking, visitors do not wish to see other viewing platforms sticking out in Bagan's landscape. This applies not only to the Nan Myint tower, but also to any potential new viewing platforms.

Figure 54 view with the Nan Myint viewing tower
(Kauhanen 2017)



BUILDINGS TOO CLOSE TO OR TOO FAR FROM THE VIEWING POINT

If a structure is right in front of the viewing point, it can block the view.

Figure 55 View from temple number 514
(Kauhanen 2017)



On the other hand, if the foreground of the viewing point is monotonous without buildings, the view takes on a certain emptiness.

Figure 56 View East from Shwe-Leik-Too
(Kauhanen 2017)

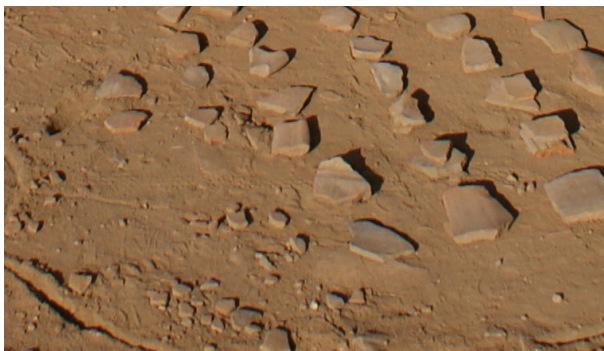
IMPACT ON HERITAGE ATTRIBUTES



PHYSICAL IMPACTS - IMPACTS ON ARCHAEOLOGICAL AND ARCHITECTURAL HERITAGE

Big vehicles create vibration in the earth, which in time can harm the historical monuments and the archaeological heritage underground. Big vehicles should not be allowed on small roads leading to the central area of the archeological zone..

Figure 57 Surroundings of Nyaung Let Phat Kan viewing mound at sunset
(Rellensmann 2017)



When building a new viewing platform, it should be considered that there is archaeological material all over the zone. Heavy structures and deep foundations cannot be realised in the area – at least not without a ground scan first.

Figure 58 Archeological heritage on the Eastern Pottery Mound (Mühlstädt 2017)



VISUAL IMPACTS - THE ROLE OF A VIEWING POINT IN THE LANDSCAPE

The potential view is only a part of what must be considered when identifying a location for a new viewing point. Of equal importance is its impact on the view seen from other perspectives. Viewing platforms are not meant to stand out in the landscape.

The height of a new structure needs to be carefully planned. A platform that is too high or on very high ground could dominate the landscape. On the other hand, if a structure is very low, it would not necessarily serve as a good viewing point.

Figure 59 A view with the Nan Myint viewing tower (Kauhanen 2017)

IMPACT ON HERITAGE ATTRIBUTES



VISUAL IMPACTS - THE ROLE OF A VIEWING POINT IN THE LANDSCAPE

Positioning new viewing platforms among trees makes more sense than placing them out in the open. This way, it is easier to build higher without interfering with the landscape.

Figure 60 Near Sulamani temple (Kauhanen 2017)



The choice of material and the lightness of a structure play a big role in how well a viewing platform is integrated in the landscape. Bamboo is a material that already appears in the landscape, most notably in the scaffolding used for restoring monuments. This makes it a material which would not necessarily disturb the landscape as much as foreign materials would.

Figure 61 A bamboo structure on the Eastern Pottery Mound (Kauhanen 2017)



A new viewing point does not merely occupy the area of the new structure: it also requires facilities around it, especially for parking. This is likely to impact at least the immediate surroundings of the specific viewing point. It is not only a visual issue but also a factor to be considered when thinking of the amount of land needed for a new viewing platform. In sum, the actual land needed is much larger than that upon which the structure itself stands.

Figure 62 Frontside of Buledi at sunrise (Kauhanen 2017)

ACCESSIBILITY - HOW TO REACH A VIEWING POINT

DIFFERENT LEVELS OF ACCESSIBILITY

It is best to avoid a lot of traffic, especially big vehicles, entering the archeological zone. Vehicles cause vibration, which harms delicate archeological material over time. This is also why large crowds of people should be urged to stay near main roads. However, for people who want a more intimate viewing experience, smaller viewing points could be offered inside the zone. If the roads to reach these places were small, big vehicles would automatically be ruled out.



The main paved roads surrounding the central archaeological site are suitable for big vehicles, such as tourist buses and vehicles bringing the material needed for building new viewing infrastructure. Keeping large viewing points for similarly-sized crowds of people next to these roads would decrease total traffic inside the central area. These viewing points would be easy to reach, with hassle-free parking, since these sites would be next to the main roads.

Figure 63 On one of the main roads (Buentello 2017)



A viewing point accessible by only dirt paths would automatically cut out the presence of big vehicles.

These kinds of viewing points could offer a more peaceful and central sunrise/sunset experience. Strategically planning a portion of viewing points behind small roads and paths would also mean less vibration caused by big vehicles. On the other hand, it should be considered that particularly difficult-to-reach, isolated, or poorly-maintained routes might suffer from a lack of users.

Figure 64 A small path (Buentello 2017)

ACCESSIBILITY - HOW TO REACH A VIEWING POINT



CONDITION OF ROADS

Traffic depends on available routes. Not all roads within the area are accessible – at least not for all kinds of vehicles. This cannot always be detected on the map.

Figure 65 A sandy path south of Nyaung-U (Kauhanen 2017)



PARKING

Around a viewing point, there should be a suitable amount of parking space for visitors, and its placement should be assigned. The various physical and visual impacts on heritage are an significant consideration when developing new viewing points.

Figure 66 Parking near Ananda temple (Buentello 2017)



The area occupied by parking can be surprisingly large, especially near main attractions. Even one tourist bus occupies an area of 14 x 5 meters, and when a comparable number of people come in separate vehicles, rather than a bus, they need even more space for parking.

Figure 67 Parking at South Guni at sunrise (Kauhanen 2017)

ZONING REGULATIONS

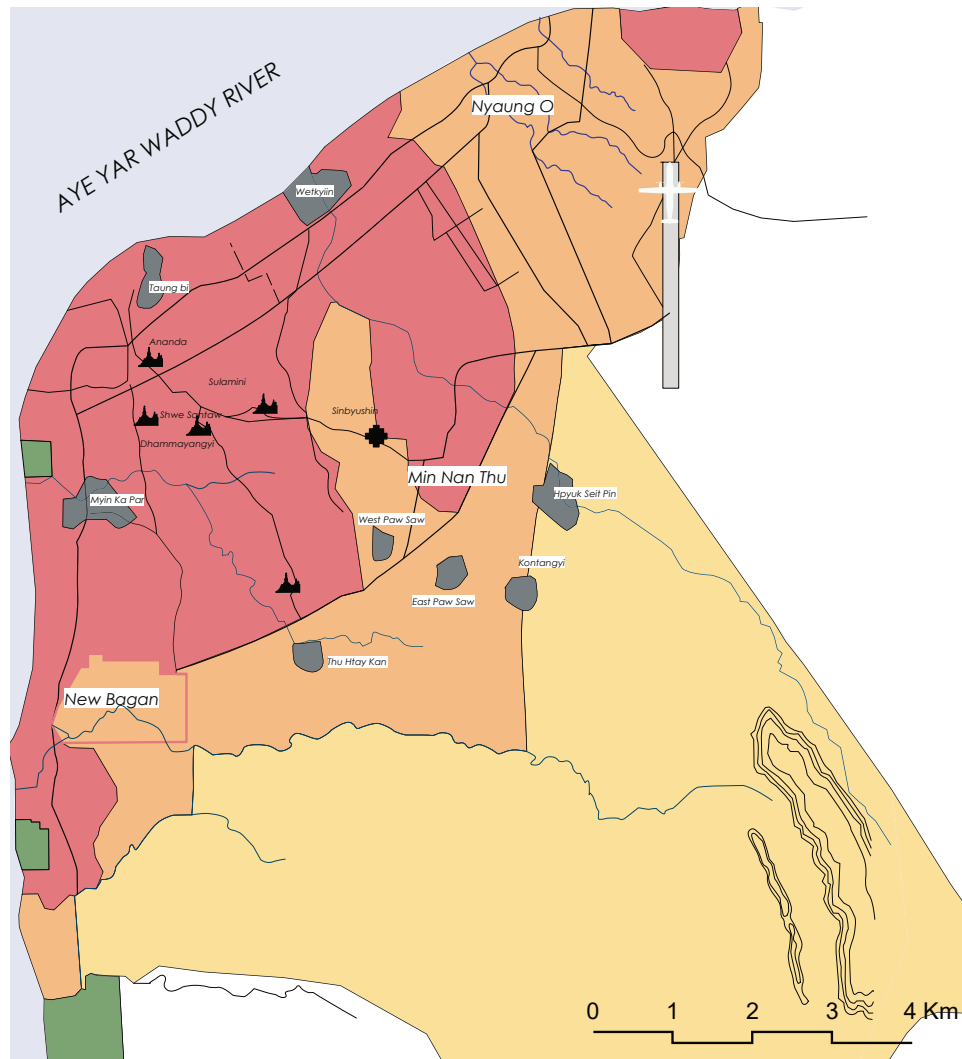


Figure 68 Protective Zoning of Bagan (Strümpel 2018 based on DoA map)

- Ancient Monumental Zone
- Ancient Site Zone
- Protected and Preserved Zone
- Hotel Zone
- Villages
- Urban Area

The protective zoning regulations, as updated by the Myanmar government in 2014, have to be respected when planning for any new viewing platform. The boundaries for the Ancient Monumental Zone (MZ), the Ancient Site Zone (AZ), the Ancient Protection and Preserved Zone (PZ), the Hotel Zone and Urban Areas are indicated above. For the detailed content of the zoning regulations please see ANNEX 1.a

ZONING REGULATIONS

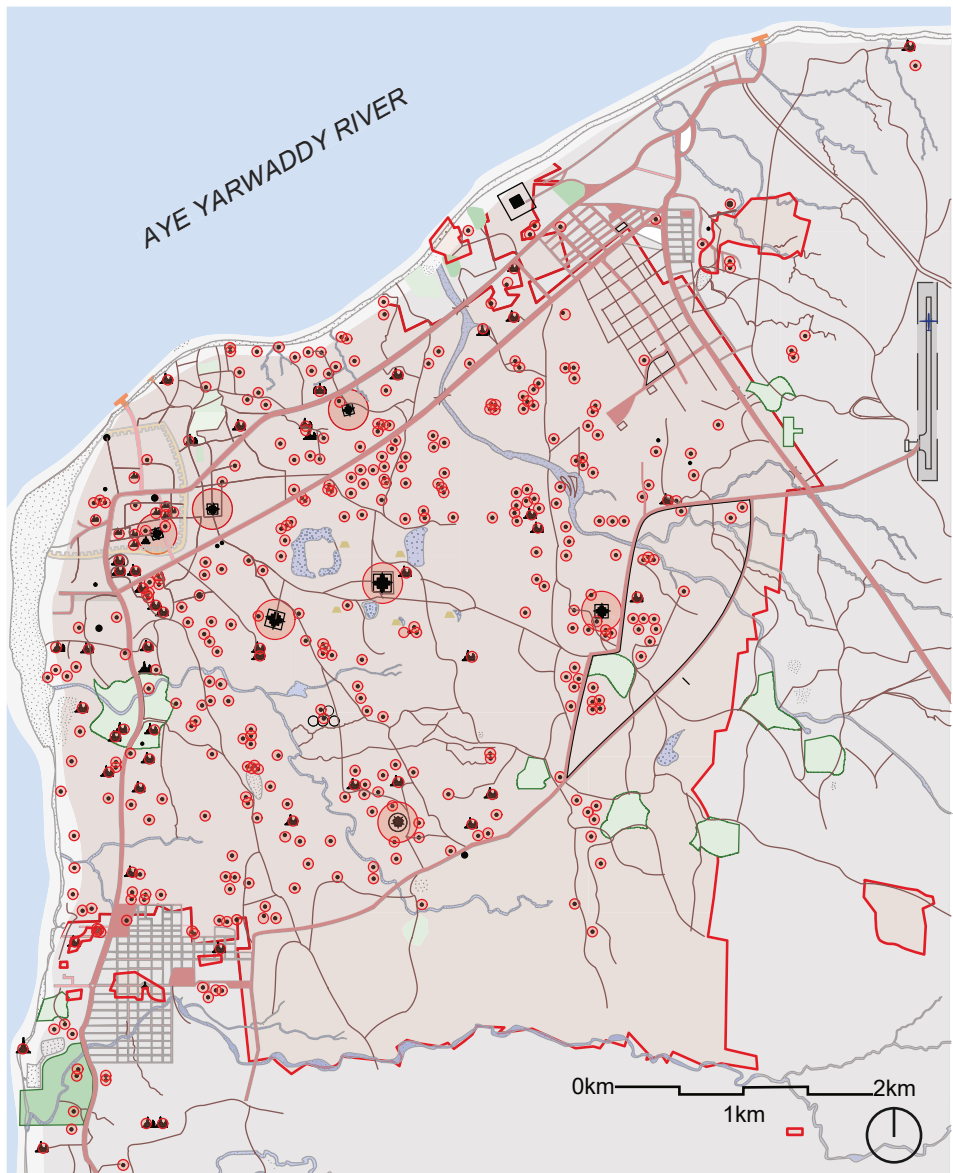


Figure 69 Illustration of Zoning regulations: new buildings must maintain a distance of 130 ft (ca. 40 m) from a monument (Strümpel 2018 based on DoA map)

- River, creek, pond stream
- Road
- Track
- Pagoda
- Temple
- Pagoda with reference number from Archaeology Department
- Monastery
- Mountain
- Airfield
- Sites, government/ private compounds
- Railway line and station
- 40m radius
- Nominated Property Area

The zoning regulations that apply to the Ancient Monumental Zone (MZ) and Ancient Site Zone (AZ) are the same. One of the key regulations which must be considered when choosing a location for a temporary viewing platform is that a building must maintain a distance of 130 feet (ca. 40 meters) from any ancient monument. This regulation is exemplarily illustrated on the map on page 86. It also must be noted that this map does not show the location of all 3000+ monuments in Bagan.

LAND OWNERSHIP

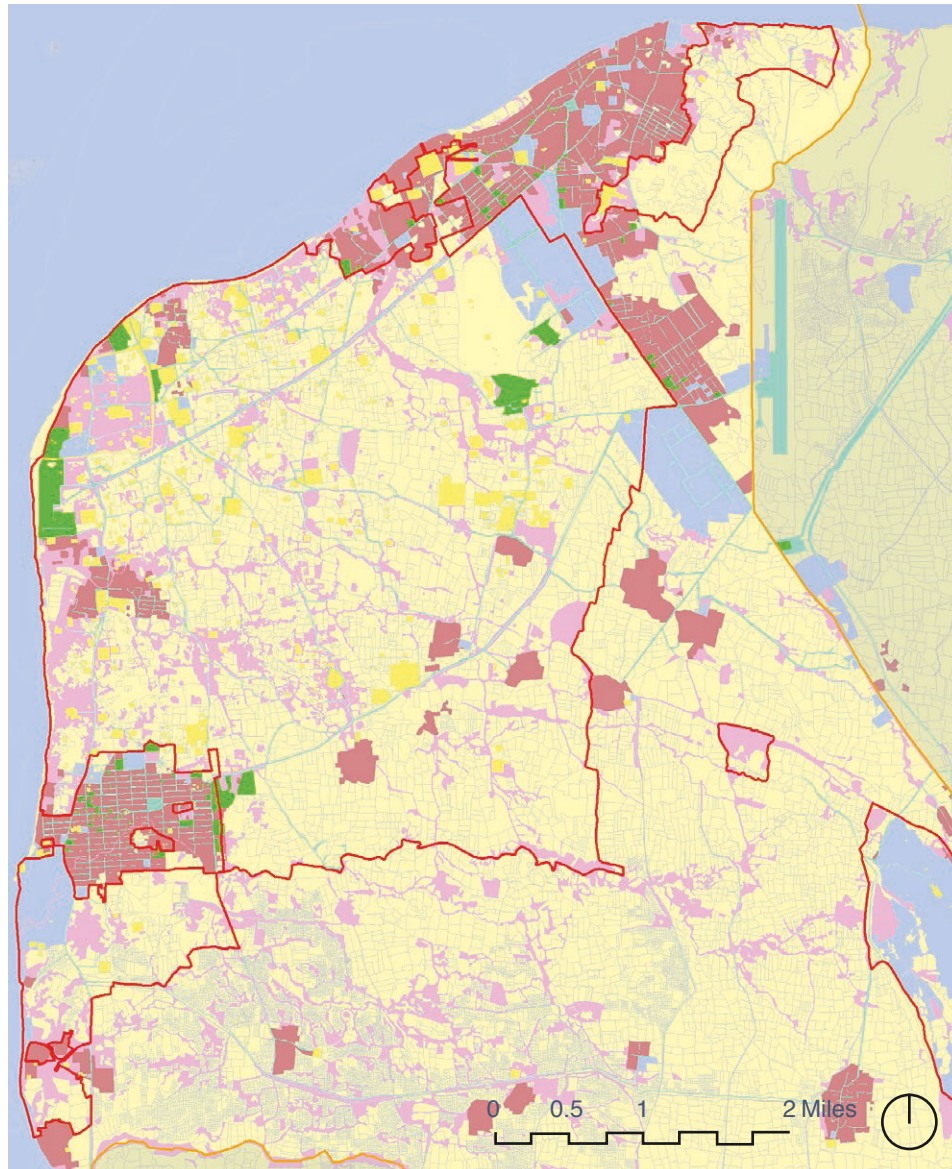


Figure 70 Land-ownership map (DoA)

- ▬ Nominated property area
- ▬ Buffer zone
- Private (accommodation)
- Private (agriculture)
- Private (residential)
- Public (community)
- Public (government)
- Public (infrastructure)
- Religious

Land needed for a new viewing platform may have to be built on land that is already dedicated for something else. The building rules of the area state that most of the land is not permitted be used for new building activity, but may in some cases be negotiated, at least for temporary structures, in order to gain a larger variety of possible locations.

LAND USAGE + TREES



Figure 71 Map showing vegetation coverage (DoA)

- Barren land
- Bush or scrub
- Cultivation
- Forest
- Grass
- Island
- Orchard plantation
- Religious area
- Irrigation channel
- Lake/ pond
- River
- Stream (seasonal/intermit)
- Sandbad
- Swamp
- Scattle tree
- Settlement area
- Sparse forest
- Transportation
- Buffer Zone
- Nominated property

Areas with thick vegetation and tall trees may function as potential locations for temporary viewing platforms, as they provide camouflage. At the same time, thick vegetation could also obstruct clear views. A proper assessment would therefore have to be done on-the-ground.

TOPOGRAPHY



Figure 72 Topographic map (Kauhanen 2017 based on DoA)

Building on high ground offers a better view with a lower structure. Low areas are ones where mist rises from in the morning.

CONCLUSION AND VISUALISED LOCATION ANALYSIS

From our analysis, we concluded that defining one perfect location for a new viewing platform is probably impossible, as there are sometimes contradictions between various parameters. Finding a balance between having an ideal view while refraining from inserting another new viewing platform into the landscape is an additional difficulty, for which some suggestions are offered in the design section of this reader. Additionally, having a central view with lots of iconic monuments without bringing too much traffic into the center of the area is a challenge.

It is, however, not necessary to find one perfect solution and location to solve every problem, since distinct kinds of viewing points can be spread in many places. Various parts of Bagan area offer likewise different kinds of views, and the variety can be seen as a possibility to make a network of diverse viewing points for a range of needs.

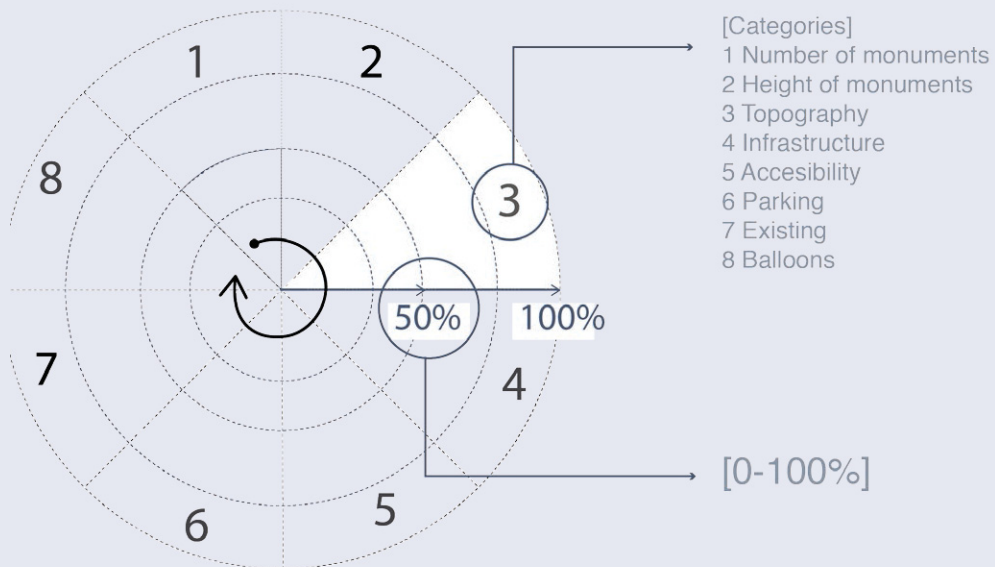
The following diagrams and map are an attempt to visualise our location analysis on the basis of parameters considered in this section. It must be noted that it is a rather preliminary, desk-based assessment that was prepared as a follow-up to the field trip to Bagan. It is therefore in need of improvement and on-the-ground verification. The pie chart functions as an assessment matrix of eight different parameters that were deemed important when defining a good location for a view point/viewing platform as follows: (1) Number of (surrounding) monuments: large numbers of monuments in the surrounding area; (2) Height of (surrounding) monuments: monuments of a certain height in the area surrounding the view point, particularly in the eastern and western viewing axis; (3) Topography: that the location is on a comparatively higher ground, combined with low areas from where mist can rise; (4) Infrastructure: infrastructure such as restaurants, toilets, souvenir shops, etc. near this location; (5) Accessibility: easy access, including good conditions of roads to reach this location; (6) Parking: possibilities for parking big and small vehicles in this location; (7) Existing (structures): possibility to use existing structures to create alternative viewing platforms in this location; (8) Balloons: The ability to see rising balloons during sunrise times in the morning from this location.

In the matrix, each parameter was assigned a specific color and could be positively assessed with up to 100 % in increments of 25 %, each of which is represented by the four circles.

From the location analysis, it becomes clear that locations no. 3, 6, and 9 would be the most suitable for alternative viewing platforms. However, prior to an actual construction project, a thorough on-the-ground assessment would be necessary.

Figure 73.
Explanation of pie
chart assessment
matrix
(Hernandez 2018)

FOCUS BOX 2



(1) Number of monuments: large numbers of monuments in the surrounding area;

(2) Height of monuments: monuments of a certain height in the area surrounding the view point, particularly in the eastern and western viewing axis;

(3) Topography: this location is on a comparatively higher ground, combined with low areas from where mist can rise;

(4) Infrastructure: infrastructure, such as restaurants, toilets, souvenir shops, etc. near this location;

(5) Accessibility: easy access, including good condition of roads, to reach this location;

(6) Parking: possibilities for parking big and small vehicles in this location;

(7) Existing (structures): possibility to use existing structures to create alternative viewing platforms in this location;

(8) Balloons: The ability to see rising balloons during sunrise times in the morning from this location.

Figure 74.
Overview of
assessment
(Hernandez/
Strümpel 2018)

- 1 Number of
monuments
- 2 Height of
monuments
- 3 Topography
- 4 Infrastructure
- 5 Accessibility
- 6 Parking
- 7 Existing
- 8 Balloons



ASSESSED LOCATIONS

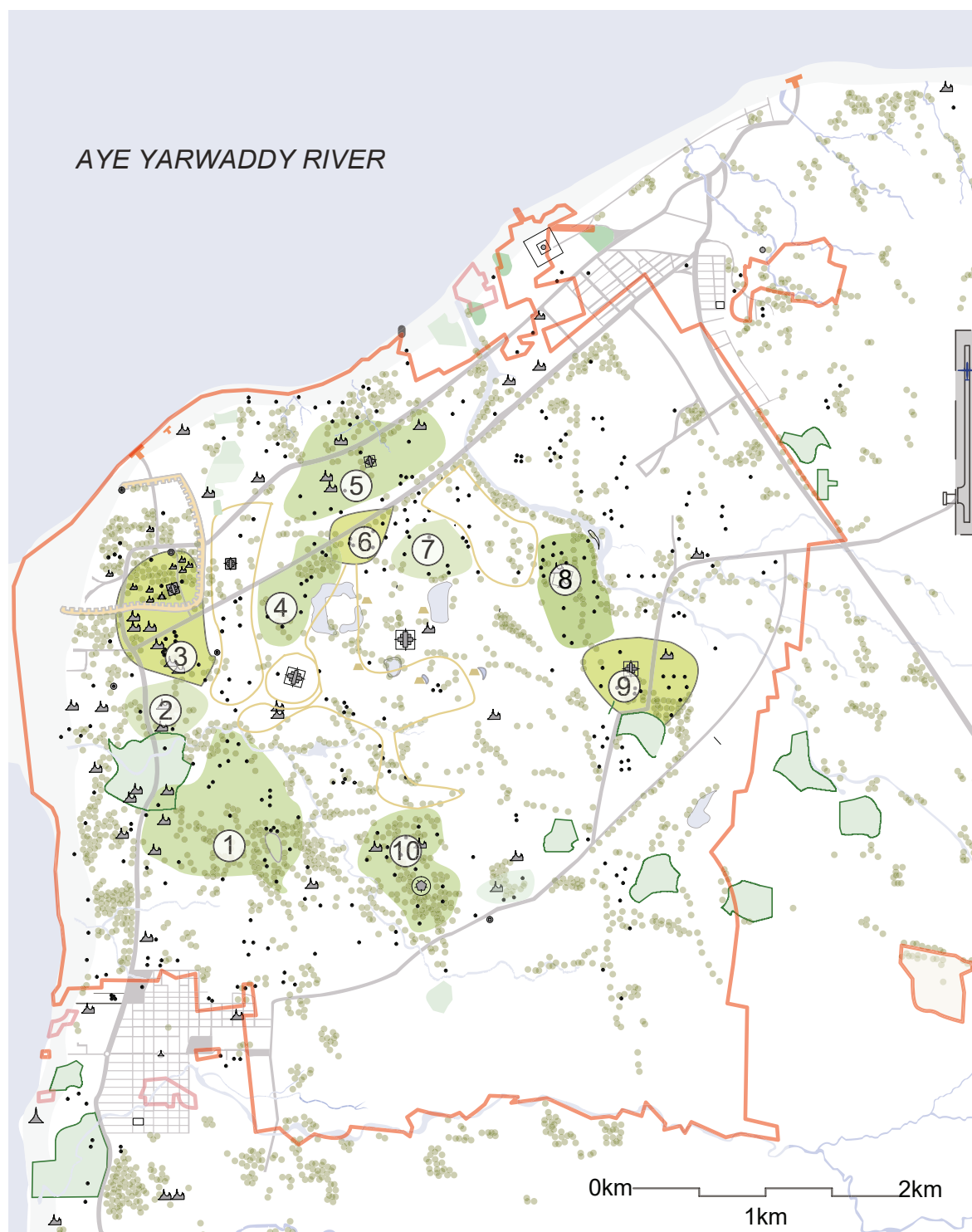


Figure 75 Map showing locations that were assessed (Strümpel 2018 based on DoA map)





PART II

Recommendations & Design Ideas

04

THREE SCENARIOS



Figure 76.
Tourists on Shwe-
san-daw Pagoda

MANAGEMENT STRATEGIES

by Desiree Buentello Garcia

Tourism can either be a positive activity that opens visibility to sites and cultures around the world, or it can be suicide when not well managed and controlled. Considering that Bagan is a living site, the complexity of tourism management has a multidirectional perspective. Here, the issue of people searching for viewing points for sunrise and sunset experiences represents only a small slice of the cake, which cannot be isolated from the overall system.

In this section, a few management strategies for the entire site will be presented to explain three possible scenarios, which seek to address the problem of temple climbing based on expert opinions from the stakeholder analysis. All scenarios will be described alongside appropriate introductory information, considerations, limitations and management strategies according to the needs of each case.

The first scenario is centred on the idea of permanently banning temple climbing activities, leading to the urgent need to provide alternative viewing platforms for visitors. The second one runs in middle terms, where only selected monuments would be made accessible for temple climbing, while alternative platforms could also be introduced to disperse tourism pressure. And, finally, the third scenario presents a situation where temple climbing is permitted on the site, limiting or eliminating the need for alternative viewing platforms.

GENERAL MANAGEMENT STRATEGIES FOR BAGAN CULTURAL HERITAGE PROPERTY

By personal experience in the site, additional literature related to visitor's management studies (Crabolu, 2015), and a Pilot Model for Regional Tourism Development in Bagan (by JICA), we have seen that temple climbing is only one of the many problems that arise due to the lack management tools and insufficient human resources (JICA, 2014, pp. S. 2, 11)

The Pilot Model, developed by JICA, is based on an alarming increase in international tourists, which is re-emphasised throughout the document (JICA, 2014, pp. S. 2, 1).

Figure 77. Group of tourists praying at Swe-gu-gyi temple (Buentello 2017)



Some of the problems that arise with these figures are tourist concentrations during peak season in sunset and sunrise spots, large buses that drive in the proximity of the monuments (JICA, 2014, pp. S.2, 15), and misbehaviour by tourists towards the sacredness of the monuments.

This document also mentions that current sightseeing experiences are reduced, and therefore tourists are usually limited to stay for just one or two nights, limiting the profits that could positively impact the local economy (JICA, 2014, pp. S.2, 25). Additionally, due to the lack of a budget, the Ministry of Hotels and Tourism of Myanmar is not actively engaged in external promotion activities: besides promoting Bagan's monuments, the Ministry fails to mention any other values of the site. The JICA study, for instance, states that, during rainy season (low-season), the "landscape transforms into [a] lush green paradise" (JICA, 2014, pp. S.2, 26); and, during the rainy season, other activities related to revitalising the local culture and festivals should be promoted (JICA, 2014, pp. S.2, 27).

Other weaknesses of the current situation in Bagan are the deficiencies of medical services and touristic police stations (JICA, 2014, pp. S.2, 31, 34), as well as insufficient resting areas, toilets and water points. In addition, the parking areas are not clearly demarcated. (JICA, 2014, pp. S.2, 49).

To address some of these problems, the following strategies have been proposed and divided into five main categories: (1) Visitor's monitoring, (2) Site interpretation, (3) Marketing strategies, (4) Capacity building and awareness raising, and (5) Environmental control.

1. VISITOR'S MONITORING

According the site's capacity during low and high season, visitors interested in sunrise and sunset experiences must be distributed among the assorted options currently available on site. This process should be controlled by the concerned authorities and related bodies.



Figure 78. Group of tourists praying at Swe-gu-gyi temple (Buentello 2017)

The official body in charge of Bagan's management is the DoA, but there are other entities or stakeholder groups that play a role in this, as described in section 2, which focuses on stakeholder analysis for the issue of temple climbing.

In order to be able to monitor and strategically distribute tourists, it is necessary for these bodies to be fully aware of the number of visitors in the area at the present time. For instance, Crabolu (2015) says that the entrance fee that international tourists must pay allows the DoA to monitor the number of international tourists who hold a tourist visa. But, as national tourists are exempted from paying, their figures are only based on estimations (Crabolu, 2015, p. 32). These statements make clear that, despite the significant amount of domestic tourism in the area, overall numbers are still unknown.

With this in mind, the first step in monitoring tourists, would be implementing a strategy to count the total numbers. Crabolu (2015) mentions that one solution would be providing unpaid visitor cards for domestic visitors and visitors with a business visa (Crabolu, 2015, p. 32). Moreover, she also mentions that checkpoint spots are not entirely under control, and that 19 % of her surveyed sample of international tourists did not pay the fee (Crabolu, 2015, p. 31). Therefore, a stricter control should be implemented.

These points should also work as first-contact information centres for new arrivals. Here, it would be possible to raise awareness of the local culture and limitations related to dress codes and appropriate behaviour in the monuments, as well as restrictions within the site and its related fines. All this information could be shared either by video clips, handouts, banners, virtual reality, or other illustrative media.

Furthermore, an official tourist map will facilitate guiding, directing, and controlling tourists' movement inside the Bagan area, for example, by creating routes. Currently, one map provided by the Tourist Information Centre proposes a number of routes of how to get to the key monuments,

but instead of being themed routes, these merely relate to the difference in time that is needed to get to the respective monument. What is proposed here is to develop themed routes that would allow visitors to better understand the various values of the site.

2.SITE INTERPRETATION (LONG-TERM CONSERVATION OF THE ATTRIBUTES)

One of Bagan's key issues is the lack of available interpretive material to raise awareness of its values. Consequently, visitors may not be fully aware of the codes of conduct that apply to enter sacred monuments, the local traditions, art crafts, or even the historical background of the site.

Thus, a brief summary emphasising the site's values should also be shared in the information centres, along with the site's regulations, code of conduct, and basic emergency contact information. The media and language needed to most effectively communicate with the site's audience would be determined by a visitors' profile study.

This, along with a clear, unified map to physically guide tourists, would create improved intellectual accessibility at the site. The routes mentioned previously would be themed and include visits to relevant spots for visitors interested in, for example, religion and theology, history and archaeology, architecture and art history, eco-tourism, arts and crafts, or photography.

In addition, the number of informational banners and enlarged site maps should be increased. Today, only few explanatory banners and signs are visible on the roads or in front/inside of main monuments. Most of them are written in the Myanmar language and only few provide an English translation (Crabolu, 2015, p. 37). So, the most relevant information about the site is practically unknown to people who travel individually, without a guided tour, unless they do independent research.

3.MARKETING STRATEGIES (TO HIGHLIGHT THE OUV)

The attributes described in the first section of this document make clear that Bagan is much more than just a beautiful landscape for sunset and sunrise experiences. Thus, the themes mentioned previously could be taken to implement marketing strategies focused on the Outstanding Universal Value, or OUV, of the site and diffuse the attention from the current temple-climbing propaganda. For this, it is important to convey strong messages shared through phrases (slogans) and appealing images and sounds (songs, music) that could attract a wider variety of tourists besides intrepid travellers looking to climb temples (AFP, 2016).

For the success of the campaign, a specialised marketing agency is needed to present a high-quality approach based on market segmentation, demand analysis, and other relevant analytical techniques. The use of social media and other online platforms should also be integrated with an official website, showing the highlights of the marketing campaign and daily activities of the community and DoA.

4.CAPACITY BUILDING AND AWARENESS RAISING

An increased number of visitors require an augmented group of people prepared to manage the situation. In this sense, capacity building workshops should be regularly prepared for the local community, particularly for those integrated in the tourism industry. Besides, without the support of residents, interpretation and marketing strategies would be pointless, and the monuments' integrity and visitors' security would still be at risk.

Tourist guides: the themed routes will require specialised workshops for the tourist guides. These courses can be added to their official 8-week training (JICA, 2014, pp. S.2, 72), and special recognition should be given to the ones licensed to provide information related to specific topics in the routes.

Touristic police: it is also important to integrate more elements with the tourist police and to make them aware of the regulations and fines demarked for the area. Crabolu (2015) also recommends encouraging English training courses for these new interpretive elements on-site to avoid language barriers (p.39). Beyond the police, these courses should be extended and mandatory for everyone related to the tourism industry, as well as to all interested volunteers and local residents.

Education: capacity building workshops should not exclude campaigns promoting the advantages of pursuing education in the local community, particularly for the youth and children (Crabolu, 2015, p. 52). This campaign should also integrate teachers and professors, so that the values of the site are introduced to students in every school level within the official curriculum, raising awareness of the values of the site within the community.

Others: the economic activity of selling goods and services in the viewing spots should also be monitored and controlled to avoid unnecessary conflicts, to regulate child labour, and to regulate waste disposal.

Community involvement is also essential at this stage, so that most of the spin-offs and benefits coming from touristic practices fall directly back to them.

5.ENVIRONMENTAL CONTROL

Each of the alternative options promoted to discourage and disperse temple-climbing should be accompanied by an Environmental Impact Assessment to study and regulate littering, erosion, pollution, and other damaging sources in the adjacent areas.

SCENARIO 1. COMPLETE TEMPLE CLIMBING BAN

In February of 2016, the Ministry of Culture made public a statement that prohibited temple-climbing in the archaeological area. However, the decision was later reversed after it was severely criticised by local tour operators. Nonetheless, the activity is considered a potential threat to the conservation of the monuments and a "culturally disgraceful act", just like wearing inappropriate clothing, dancing, and sleeping on the monuments. Additionally, the Ministry

also expressed major concerns regarding visitor safety after an American tourist died after falling from one of the pagodas while taking pictures (AFP, 2016; Reid, 2017).

The irreversible damage caused by the earthquake that struck Myanmar in 2016 provided grounds to once again ban temple climbing. This situation created an opportunity to create alternative options to accommodate visitors. For instance, as mentioned in section 3, Part I HIA, three man-made hills were built up to diffuse the impact of tourism on the monuments, and so far, they have been gradually promoted by tourist agencies and local guides, attracting large amounts of tourists.

Nevertheless, as Bagan has been nominated to be inscribed on UNESCO's World Heritage list, tourist figures are expected to exponentially increase. In such a case, it is necessary to consider banning temple-climbing for good and to introduce and promote other spaces for sunrise and sunset experiences as part of a visitor management strategy, which is also recommended by JICA's a Pilot Model (JICA, 2014, pp. S.4,15).

This strategy would envision the long-term preservation of the monuments and prioritise respecting the beliefs of local residents. In personal communication, most locals who adhere to Buddhism explained that temple-climbing goes against their beliefs, as no one is supposed to go above the Buddha, and while climbing, everyone does (Lin, 2017).

CHARACTERISTICS OF THE ALTERNATIVE VIEWING PLATFORMS

In addition to the artificial hills, it would be feasible to introduce temporary viewing platforms distributed across the property. This measure would undoubtedly compensate for the need of viewing spots, diminish the impact of visitors on the fabric of the monuments, respect the community's values and beliefs, while at the same time provide adequate, safe infrastructure for visitors.

The proposed platforms should be placed in strategic locations, bearing in mind the accessibility of the area, parking space, and their respective carrying capacity. Concurrently, they should only minimally interrupt the attributes of the site (described in section 3, Part 1 of this text HIA).

Moreover, by determining possible locations for newly-introduced infrastructure, it would be possible to evaluate their impact on the site more accurately. For instance, monuments have a grade of value in which they are classified in descending order as outstanding, exceptional, and important (Weise, 2017, p. 12). Thus, the proximity of the platforms and their visibility within the determined radius varies according to this category. In all cases, the location of new infrastructure should not interfere with any living heritage attributes, the landscape itself, the land-use of the agricultural fields (as they are a source of income for the owners), nor the natural features of the property.

In addition, the design of the platforms must abide by the rules set by the Department of Archaeology and National Museum in their Instruction Order-

No. 2 and 3 (2014), and the Regulations for Temporary Structures of the Building Bylaws for Landscape Areas (Weise, 2017, pp. 56-58).

VIEWING PLATFORMS WITHIN THE LANDSCAPE AREA

The latest document states that permanent structures or buildings are not allowed in the landscape area of Bagan (this includes farm land, pasture, and non-cultivated land (Government of the Republic of the Union of Myanmar Ministry of Culture Department of Archaeology and National Museum, 2014). Nonetheless, it is possible to have permission to build structures related to the cultural heritage of the community (Weise, 2017, p. 57), or, in this case, to protect them from direct impact. In such a case, additions must ascribe to the following conditions:

- Shall not exceed more than 16 x 24 feet, and 12 feet high at any location
- Shall be entirely removable
- Shall not risk physical damage to heritage
- Shall not have a negative impact on the environment
- Shall have a simple rectangular plan, and if necessary, a shed or babbled roof
- Shall not be inspired by ancient monuments or other cultures
- Shall be built using light, traditional, locally-available natural materials (masonry and concrete are excluded)
- If foundations are required, they must not go beyond 12 inches in depth to avoid damaging subsurface archaeology
- Where necessary, structures shall have external walls and partitions of traditional materials

VIEWING PLATFORMS WITHIN THE VILLAGES AND TOWNS

Some of the restrictions mentioned in these documents address relevant points to consider for designing a viewing platform within the villages, quarters and towns (Weise, 2017, pp. 58-62; Government of the Republic of the Union of Myanmar Ministry of Culture Department of Archaeology and National Museum, 2014). For instance:

- Any construction requires registered permit
- Its height must not exceed 30 feet (9.14 meters)
- Constructing underground buildings is not allowed
- There should be a distance of at least 130 feet (39.63 meters) between the monuments and the added platform
- Permission is needed to construct parking spaces
- If service lines are needed, they should only be placed along roads in a non-intrusive way
- Underground services require a special permit
- Building designs should conform to traditional building typologies according to each subzone
- They should be single storey (in villages), and two storeys (in towns)
- Shall be of simple rectangular plan, integrated into the setting, and not inspired by ancient monuments or other cultures
- Shall be preferably built with light materials, but can include masonry or reinforced concrete columns and beams

- If foundations are needed, they must not exceed 3 feet (0.91 meters) in depth (in villages) to avoid damaging subsurface archaeology, and 5 feet (1.52 meters) (in towns).

On the other hand, the SWOT analysis of section 3 demonstrated that to enhance the tourist experience, the alternative platforms should provide:

- An extensive overview of the landscape in multiple levels to avoid overcrowding
- Wide platforms where visitors can feel safe moving and taking in the essence of the site
- Security for its users while climbing up and down the stairs
- Its height should conform to the regulations specified above and should not compromise the integrity of the monuments or negatively affect the attributes of the site
- It should guarantee the safety of its users, may they be a large or limited number during sunrise and sunset hours according to carrying capacity studies

MANAGEMENT SPECIFICATIONS FOR SCENARIO 1

Visitor distribution: Information centres, along with the already-established Tourist Information Centre, should be in charge of controlling the distribution and entrance to alternative viewing spots located in the area, whether they are artificial mounds, viewing platforms, or river boats. For this purpose, a reservation or timed-ticketing system should be implemented using a shared data base to avoid over-crowding. Other “selling” spots can also be added and located in main hotels, restaurants, and related tourist attractions.

Location: All viewing spots should be clearly identified in Bagan’s official tourist map, indicating the capacity of the site, nearby services, accessibility, and parking information. This is important because vehicles over 3 tons are not allowed to drive in roads near ancient monuments (Government of the Republic of the Union of Myanmar Ministry of Culture Department of Archaeology and National Museum, 2014). Each option should also highlight its advantages to create diverse zones to view monuments, settlements, and natural features (such as the riverside and forest).

Interpretation and restrictions: It should be clear to all visitors that temple-climbing is prohibited, not only for its physical impact on the monuments, but also because it is disrespectful to the local culture, values, and beliefs. In the extreme case of visitors and local residents still not following the site’s regulations, a fine would be imposed.

Marketing and capacity building: To succeed in this task, is important to raise awareness of promoting alternative options to temple-climbing among relevant stakeholders related to the tourism industry. This marketing task would stress the benefits of no temple climbing in terms of the long-term conservation of the monuments and respect towards Buddhist beliefs.

Finally, the condition of the viewing platforms should be regularly monitored to ensure that they are safe to use.

SCENARIO 2. PARTIAL TEMPLE CLIMBING BAN

This scenario implies a moderate need for alternative viewing platforms. The focus would have to be on the selection of monuments that would be authorised for temple climbing, as well as their structural strengthening and continuous monitoring in terms of safety and conservation concerns.

This scenario is principally focused on balancing the public use of the site between local recreation and needs for tourism, with the drawback of its impact on the religious beliefs of the community.

It is a fact that climbing monuments is mainly a tourist activity closely related to social media activities (Reid, 2017). However, not all visitors share the same ideals. For instance, during field work, we encountered individuals and groups that climbed up Shwe-gu-gyi temple at sunset to pray facing the sun (see Fig. 78)

Despite this activity not being restricted to Burmese religious groups and beliefs, the monuments possess a spiritual significance shared by outsiders that make us reconsider banning temple-climbing for good. In such cases, a survey is needed to cautiously select monuments that could still be open for sunrise and sunset activities. Then, the physical stability of the monuments, their constitutive materials, use and function, safety, location and other limitations should be contemplated.

SELECTION OF MONUMENTS

Currently, Bagan's monuments are classified into three groups: active and inactive monuments and historic buildings. By active monuments, we refer to those with historic significance constructed before 1948 that maintain a large part of the original structure, are still in use for religious activities, and are safeguarded by a specific community group (Weise, 2017, p. 39). Conversely, the use and function of inactive monuments has ceased (Weise, 2017, p. 38). Historic buildings are those that were constructed with secular purposes within settlements in the first half of the twentieth century (Weise, 2017, p. 39).

These monuments have had several interventions and reconstructions throughout their lifespan. Additionally, historic fabric, rebuilt fabric, and material added for its rehabilitation exist simultaneously in variable proportions in individual monuments and historic buildings. These interventions, along with damage caused by natural disasters, have led to the need to assess their stability, materials, and functional issues and prioritise them in three categories: critically vulnerable, vulnerable, and minimally vulnerable (Weise, 2017, p. 47).

After the assessment phase is complete, it is possible to identify potential monuments within the minimally vulnerable list that could be used for sunrise and sunset experiences, along with other considerations that narrow down the options, according to:

- Constitutive materials (historic fabric, reconstructed fabric, or rehabilitated)
- Activity (current use and function)
- Safety
- Carrying capacity

- Location and accessibility to reach the place and allocate a certain number of tourists and their transportation media
- Monitoring

CONSTITUTIVE MATERIALS

It would be desirable to select monuments whose historic fabric would not be compromised by constant interaction with visitors. However, according to local and UNESCO experts, most of the monuments that suffered significant damage during the last earthquake had been partially reconstructed or rebuilt over the last 20 years, in contrast to monuments without or with minimal reconstruction or restoration interventions (UNESCO Bangkok, 2016). This means that, in general terms, monuments that contain the largest amount of historic fabric are the most stable.

ACTIVITY

In the next step, it would be necessary to detect which of the most stable monuments are active or inactive, to identify the degree of damage that visitors would have on their materiality, and to spot wide areas where visitors could move safely (i.e. via hallways, staircases, and terraces). For example, active monuments are more likely to have modern materials added for their rehabilitation and contemporary use (Weise, 2017, p. 39). Here, concrete mortars and tiles have been spotted covering the ground and staircases of some temples, making them safer to walk on, so the physical impact of visitors would be minimal compared to monuments with original floors. There, it might also be feasible to protect the historic fabric of the second ones for touristic purposes.

In this direction, is necessary to carefully consider the balance of tourism needs and local spiritual activities. For instance, some active monuments may be appealing for sunrise and sunset experiences, but their religious activities and spiritual associations with the community could become compromised.

SAFETY

Likewise, the architectural style of the monuments contains specific characteristics that must be considered for safety reasons or for carrying capacity studies.

For instance, both types of monuments may have multiple levels that tourists can use to avoid crowding; nonetheless, it would be necessary to conduct a carrying capacity study to evaluate the weight that the monuments can support without deteriorating their structure and to determine if it would be necessary to limit the number of people who can access them at a specific time.

Furthermore, temples provide (in most cases) a 360° view, with wider and safer spaces on the terraces in which to move around compared to stupas (see summary of viewing situations in SWOT analysis section). But, although both have staircases to access to the upper levels, their dimensions vary

considerably. For example, the staircases in the temples are narrow, but the steps are wider and easier to climb. On the other hand, in stupas it is usually the other way around, so users have to hold on to every available spot, causing even more damage to the fabric. Otherwise, it would be necessary to introduce additional infrastructure, such as handrails, to aid visitors on the way up and down, as they did in Shwesandaw Pagoda.

There are some exceptions in which partially-reconstructed monuments, such as Monument 1175/ Shwe nan yin taw complex, Hsin Byu Sin complex, and Monument 861 provide access to flat platforms through staircases. In addition, they have wide areas protected by borders in which visitor can move to enjoy a 360° view.

CARRYING CAPACITY

Carrying capacity studies are needed not only to determine the physical impacts that are acceptable at the destination, but also useful to understand how visitors perceive the quality of their experience, for example, in crowded areas, how tourism impacts the socio-cultural relations of the local community, and to what extent the management system can control the activities (Lundberg, 2011, p. 40).

LOCATION AND ACCESSIBILITY

Moreover, to make the list even tighter, the location of the monuments should provide an attractive panoramic view of the landscape, but they should also be accessible and have the necessary space to temporarily store diverse transportation means without severely impacting the environment.

MONITORING

It is highly important to regularly monitor the state of conservation of open monuments to note their state of conservation and safety needs to implement any necessary corrective measures.

Finally, the introduced viewing platforms should achieve the specifications mentioned in Scenario 1.

MANAGEMENT SPECIFICATIONS FOR SCENARIO 2

Visitor distribution: In order to effectively distribute visitors among various options, such as the selected monuments, the viewing platforms, and other types of sunrise and sunset experiences (viewing tower, artificial mounds and boat rides), it is necessary to strengthen the management system and to secure a capacity building strategy that engages with the local community.

Similar to Scenario 1, visitors should also be distributed across the selected monuments. In this case, it is important to emphasise the importance of strictly regulating and monitoring the number of visitors at the monuments and at the viewing platforms according to the results of the carrying capacity studies.

Location: Same as in Scenario 1.

Interpretation and restrictions: It is also relevant to note that climbing any temples other than the permitted ones is prohibited, and that sanctions are imposed upon those not following the rules. In addition, interpretation techniques would allow people to have a higher understanding of the values of the site and respect local beliefs.

The carrying capacity of the temples and viewing platforms should not be taken for granted, and strict monitoring systems should apply to restrict entry.

Marketing and capacity building: Marketing strategies should continue to try to disperse visitors around the site and encourage visitors to try the viewing tower and boat rides. Again, the involvement of community and capacity building courses are key actions for the success of these strategies.

SCENARIO 3. NO TEMPLE CLIMBING BAN

This scenario implies no or, at least, a very limited need for alternative viewing platforms, with which there would be an urgent need to strengthen structural conditions and safety measures of a large number of monuments.

Opening more monuments for temple-climbing is not a new strategy. Actually, such a measure was proposed by UNESCO experts before considering that the increasing number of tourists could not be accommodated by only a few opened monuments. This measure was thought to ease the pressure and to distribute visitors throughout the entire site (Crabolu, 2015, p. 43). However, as Crabolu (2015) reflects, as long as this activity is insufficiently monitored, the risk of physically impacting the monuments remains high (p.44).

To minimise this risk, larger numbers of stable monuments would need to be opened, and even more could join the list as they are being stabilised and restored. Nonetheless, this does not exempt them from going through rigorous assessments and fulfilling the requirements mentioned in Scenario 2. Additionally, they would have to be chosen among the several thousands of most suitable monuments and be periodically monitored for their state of conservation.

Unfortunately, the strategy of opening large numbers of monuments comes with distinct disadvantages. It risks not only the physical integrity of the monuments, but also compromises one of the main attributes of the site: the religious sentiments and practices for which the site was nominated for the World Heritage list in the first place.

MANAGEMENT SPECIFICATIONS FOR SCENARIO 3

Changes in visitor distribution and capacity building comes with new challenges. The most important issue for this case is challenging site management to cope with a changing situation. Here, a larger group of locals would be needed to manage and monitor each of the accessible monuments every day at various hours, primarily during sunrise and sunset. If management measures are sufficient to make a large number of monuments accessible, as

well as to monitor and control temple-climbing activities, then there would be no need to introduce alternative viewing platforms into the site. Overall, scenario 3 would require major capacity building in various fields, and undoubtedly, major resources would be required to pay for the personnel needed to constantly monitor the monuments. Required staff would include:

- Ticket reservation and checking managers
- Security guards
- Touristic police officers
- Conservation specialists and engineers (for monitoring purposes)
- Tourist guides
- Others

Location: Even if this scenario foresees no temple climbing ban, it does not mean that all monuments would be accessible. Any accessible monuments would have to be clearly indicated on all available tourist maps in Bagan.

Marketing and interpretation: making more monuments accessible does not mean in any way to weaken marketing and interpretation strategies. On the contrary, visitors should be made aware of the local culture as well as of a diversity of activities available in Bagan besides watching sunsets and sunrises.

It would have to be clearly indicated in various places (brochures, information centres, via the guides, etc.) that irrespective of “no temple climbing ban”, only authorised monuments can be climbed and that there is a penalty for climbing non-authorised monuments.

REFERENCES

- AFP, 2016. Myanmar makes U-turn on Bagan temple climbing ban. [Online]
Available at: <http://www.telegraph.co.uk/travel/destinations/asia/myanmar/articles/myanmar-u-turn-on-bagan-temple-climb-ban/>
[Accessed 13 January 2018].
- Crabolu, G., 2015. Visitor Management at the Bagan Heritage Site: An evaluation of the current status with related recommendations. Breda: NHTV Breda University of Applied Science TDM Tourism Destination Management Master Program.
- Fernquest, J., 2016. UPDATE: Five Bagan pagodas to allow climbing for sunset viewing. [Online]
Available at: <https://www.bangkokpost.com/learning/work/874988/update-five-bagan-pagodas-to-allow-climbing-for-sunset-viewing>
[Accessed 13 January 2018].
- Government of the Republic of the Union of Myanmar Ministry of Culture Department of Archaeology and National Museum, 2014. Instruction Order-No.2/2014, s.l.: s.n.
- ICOMOS Nepal, 2013. Heritage Impact Assessment of Tourism on Lumbini World Heritage Property. Kathmandu: UNESCO.
- Japan International Cooperation Agency (JICA) International Development Center of Japan Inc. Oriental Consultants Co., Ltd. H.I.S.Co., Ltd., 2014. The Detailed Planning Survey on Establishment of the Pilot Model for Regional Tourism Development in the Republic of the Union of Myanmar Final Report. s.l.:The Republic of the Union of Myanmar Ministry of Hotels and Tourism (MoHT).
- Lin, Z., 2017. Opinion about temple climbing [Interview] (25 November 2017).
- Lundberg, E., 2011. Evaluation of Tourism Impacts – a sustainable development perspective. Göteborg: University of Gothenburg. School of Business, Economics and Law.
- Reid, S., 2017. Why banning temple climbing is a good thing for Bagan in Burma. [Online]
Available at: <http://www.independent.co.uk/travel/asia/burma-pagoda-temple-climbing-bagan-ban-unesco-world-heritage-site-responsible-tourism-a7823271.html>
[Accessed 14 January 2018].
- UNESCO Bangkok, 2016. Reconstructed Monuments Most Impacted in Bagan Earthquake, Experts Find. [Online]
Available at: <http://www.unescobkk.org/news/article/reconstructed-monuments-most-impacted-in-bagan-earthquake-experts-find/>
[Accessed 14 January 2018].
- Weise, K., 2017. Bagan Cultural Heritage Site, Myanma: The Integrated Management Framework (Management Plan). s.l.:UNESCO.

04

THREE SCENARIOS



Figure 79. Tourists on
Nyaung Let Phat Kan
viewing mound for sunset
(Rellensmann 2017)

SUMMARY OF DESIGN TASK FOR STUDIO BAGAN

by Lena Sommer

BACKGROUND/CONTEXT

The ancient Buddhist site of Bagan comprises more than 3000 religious monuments that are spread over an area of about 25 square kilometres. Viewing the sunrise and sunset from atop a stupa or temple to grasp the majestic landscape is considered a must-do activity, particularly for international visitors, and is seen as a meaningful experience of this Buddhist site.

However, the constantly-increasing number of visitors have an impact on the physical fabric of some of the ancient structures, especially those that are currently frequented by tourists during sunrise and sunset times. An additional concern is tourist safety, as some monuments suffer from structural damage caused by the 2016 earthquake. Monuments may also lack general safety measures, such as balustrades or similar aids. While some structures may be stable enough to sustain a limited number of climbers in the future, there is an urgent need to develop alternatives to temple climbing in order to accommodate the growing numbers of tourists who would like to experience the panoramic beauty of Bagan. At the same time, heritage-sensitive, alternative viewing platforms would help ensure a sustainable conservation of the monuments and their setting

THE THREE SCENARIOS PROPOSED

The analysis provided in part I of this reader resulted in three scenarios imagined as potential responses to the issue of temple climbing in Bagan, which require different management measures, as well as slightly different design solutions as follows:

SCENARIO 1: COMPLETE TEMPLE CLIMBING BAN

All user groups should have the ability to access the alternative viewing platforms/situations, as currently none of the monuments is accessible. Therefore, the

size and capacity of the new construction must be particularly considered and carefully planned. In order to be able to handle the masses of visitors, aspects of accessibility, transportation, and parking facilities for buses, cars and e-bikes are of high priority.

SCENARIO 2: PARTIAL TEMPLE CLIMBING BAN

Many visitors will need to be able to access the alternative viewing platforms/situations, as only very few monuments are accessible to climb. Therefore, the focus is on the size and capacity of viewing platforms, as well as the infrastructure. Aspects of accessibility, transportation, and parking facilities for buses, cars, and e-bikes are still of high priority. Like scenario 1, scenario 2 also enables design solutions that directly involve historic monuments identified as suitable for temple climbing. This may involve structural strengthening and slight modifications for safety measures that are respectful of the monuments' historic fabric and in-line with conservation regulations.

SCENARIO 3: NO TEMPLE CLIMBING BAN

This scenario would mean that most efforts would focus on restoration and partial reconstruction of structurally damaged monuments, as well as the installation of safety measures and the continuous protection and monitoring of monuments that are made accessible for climbing.

The conception of viewing platforms should therefore focus on the existing fabric of the site. All kinds of modifications would have to be respectful of the monuments' historic fabric and adhere to conservation regulations.

Despite the accessibility of a larger number of monuments, alternative platforms could be developed in order to relieve the pressure on the historic fabric of the monuments. These alternative platforms should particularly focus on the individual user groups and incorporate their needs into the concept. Just as in the other scenarios, the infrastructure, sanitary, and safety aspects are to be integrated.

GENERAL CRITERIA

The platform should not violate the application criteria for the UNESCO World Heritage status, meaning that heritage values as well as their physical and intangible attributes must be respected (see info box on page 71 and attributes table on page 72). Any construction needs to comply with the DoA regulations (see Annex 1). Any construction would require a registered permit, and constructing underground buildings or buildings with deep foundations is not allowed. Permission is necessary to construct parking spaces, and if service lines are needed, they should only be placed along roads in a non-intrusive way. New constructions are allowed to be single-storey if in villages, and two storeys if in towns. They shall be of a simple rectangular plan, integrated into the setting and not inspired by ancient monuments or other cultures. Any construction shall preferably be built with light materials but can include masonry or reinforced concrete columns and beams. It is important to have an extensive overview of the landscape in multiple levels to

avoid overcrowding. The safety of its users must be guaranteed, may they be a large or limited number during sunrise and sunset hours. The carrying capacity must be assessed for each alternative design proposal and safety measures put into place.

SIZE

The viewing platforms must be designed with the ability to manage increasing tourist numbers. If platforms are small in size and therefore have a low carrying capacity, they should be easily multipliable to either be dispersed over the landscape or arranged in small groups.

USER GROUPS

Local and international tourists are predominant visitors of the temple city, along with many religious pilgrims and salesmen. Further information on user groups and stakeholders can be found in section 2 of this reader. It must be noted that a more detailed study of defining sub-groups among dominant user groups, such as international tourists, would be useful.

CONSTRUCTION METHOD

In order to strengthen the local market and support local craftsmen, local materials and techniques should be used for construction. The local regulations will be respected to conserve archaeological material underground and the heritage site above-ground. Considering sanitary and safety requirements when planning the infrastructure is an essential part of the platform's concept.

A maximum construction height of 30 ft. (approx. 9 meters) and a maximum foundation depth of 12 ft. (approx. 3.60 meters) must not be exceeded. The same rules apply to construction in the villages.

When building platforms, a given distance of 40 meters to the temples and stupas must be maintained.

LOCATION

For the location of the alternative platforms, the preceding location analysis must be respected. Infrastructure and parking facilities should be taken into consideration. The same must be considered for construction within the villages.

REGULATIONS

- Local Regulations (Bagan zoning regulations by DoA, see Annex 1)
- World Heritage Regulations (as set out in the Nomination Dossier for Bagan and respective Management Plan that were not yet accessible at the time of our study)
- Heritage Impact Assessment (HIA) (a methodology to ensure heritage values and respective attributes are not impacted by any new construction, explained in section 3 of this reader)

05

DESIGN IDEAS



Figure 80. View of
Dhammayangyi Temple
(Rellensmann 2014)

DESIGN IDEAS

INTRODUCTION AND OVERVIEW

by Maximilian Heimann, Anni Kauhanen, Lena Sommer

In this section, various typologies for possible viewing platforms are introduced, including the prototype that we built at the end of our field trip to Bagan.

The typologies are shown in this section are basic design ideas, most of which could be realised in several different locations within the archaeological zone. For this report, an example and location were selected for each of the ten typologies. Locations were often chosen according to the location analysis in section 3 of this report. For each design idea, an example is introduced and illustrated by a section drawing, site plan, and ground plan. The possible alternate locations are also shown on a location map, and each typology is further explained in a short descriptive text.

The typologies can be divided into categories in several ways. One way is to divide them into two groups: those that are completely new structures and ones that rely on an existing basis, like a building, a tree, a mound, or a monument. They can also be divided into categories based on size. Some typologies can sustain a lot of people in one place and others are meant for fewer visitors at a time, but they could be multiplied around the area and thus also host larger numbers of tourists. Not all typologies respond to all three scenarios explained in the summary of the design task (previous section); some typologies are more suitable for certain scenarios, indicated in their short descriptive text.

Planning regulations for Bagan were carefully considered while designing the typologies (Annex 1). However, in some cases, it was found that bending existing rules for certain designs would seemingly not have any significant impact on the heritage site. At the same time, these designs would serve the users much better and also relieve the pressure on the monuments caused by temple climbing. Our field investigations with drones also showed that, in most cases, a height restriction of 4 meters (12 feet) for an alternative viewing platform provided no better view than no platform at all, especially when placed among trees. On the other hand, if a 4 meter-high platform were placed out in the open, it would likely

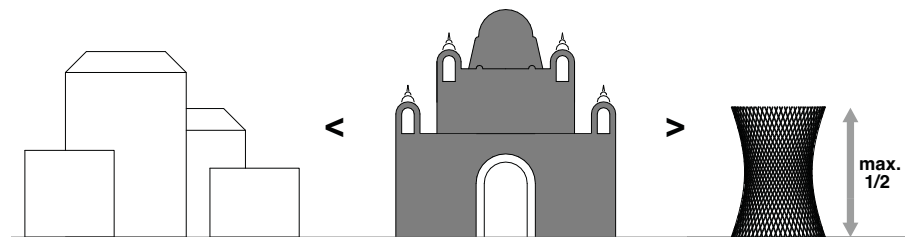
**Figure 81.to
Figure 85.**
Illustrated
comments on
zoning regulations

offer as good of a view as would a higher platform that is hidden by trees at the bottom and emerges at the top.

Drawing on such cases, we propose that making exceptions could be considered if the characteristics of a specific viewing platform justify doing so. In these cases, the benefits and the disadvantages would have to be carefully assessed by conducting a SWOT analysis and a HIA (explained in section 3) before making any decisions.

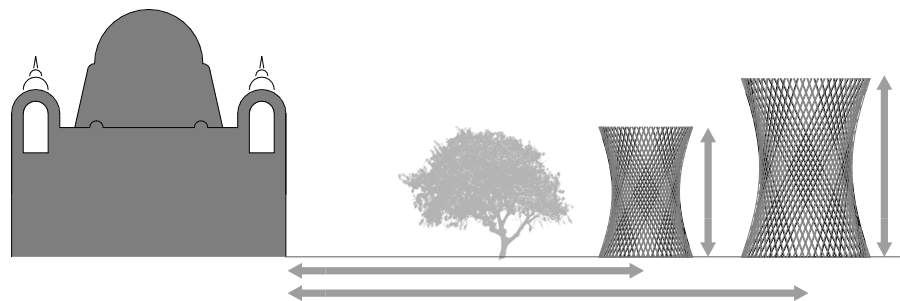
When developing the design ideas, we noted a few aspects in the Bagan Zoning Regulations (Annex 1) that we did not entirely agree with. Our thoughts on them are expressed in the illustrated comments below.

Fig 81.



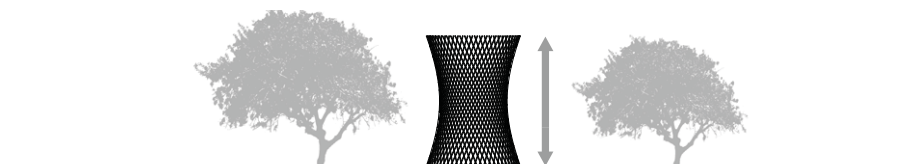
The height of a new structure should be restricted in relation to the height of the monuments, rather than rigidly restricted to 30 ft (9,14 m).

Fig 82.



If the proposed location of a new structure is at a large distance from the monument(s), building higher than 30 ft (9,14 m) could be allowed, given that no visual impact is caused.

Fig 83.



The same applies for surrounding trees: the height of a new structure should be relative to or in harmony with surrounding trees, rather than rigidly restricted to 30 ft (9,14 m).

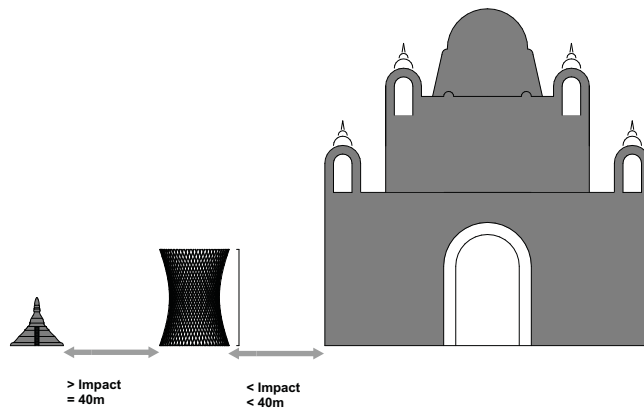


Fig 84.

New structures may affect the visual integrity of small monuments more than that of large monuments, especially if placed at a distance of only a 40 m radius. The protective radius around each monument may have to be determined individually according to the monument's height and context.

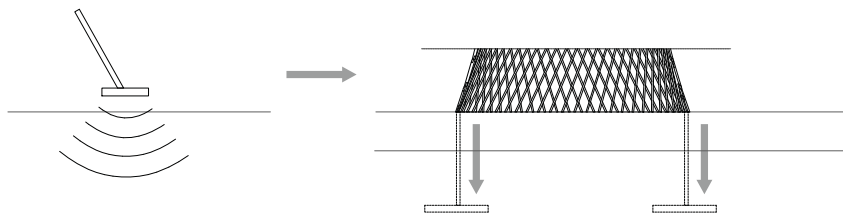


Fig 85.

If foundations are needed, they must not exceed a depth of 12 inches (0,30 m) within the protected zones, 3 feet (0,91 m) in villages, and 5 feet (1,52 m) in towns to avoid damaging subsurface archaeology. However, if the ground is screened prior to construction and no archaeological remains are found in the location where a new structure is to be built, then allowing deeper foundations could be considered.

The typology proposals presented in the following section are basic ideas that have not been researched thoroughly enough to realise them without further analysis or impact assessment. Heritage concerns are naturally primary focus when designing for Bagan. It should not only be the impact on the monuments, but also the impact on the ecology and natural environment that should be assessed in advance. To create a good viewing experience, it is also necessary to take factors such as view and accessibility into account. Prior to new construction in a heritage site, the necessity of the structure needs to be clear, as well as the guarantee that the new construction will fulfil its purpose.

The temporary nature and the relatively fast construction and demolition process of most of the typologies proposed here (particularly for the “disguiser”, “transformer”, “solitary structure”, and “treehouse” types) are ideal for experimentation in the landscape. If found to be unsuitable, the structures could be easily torn down without leaving traces in the landscape. In short: all

ideas for completely new structures as alternative viewing platforms are temporary and reversible interventions!

On the final day of our Studio Bagan field trip, we built a prototype to demonstrate the principle of reversibility and of applying local materials and techniques. The prototype was built as a parasite structure on top of an existing mound. Its construction process is documented at the end of this section.

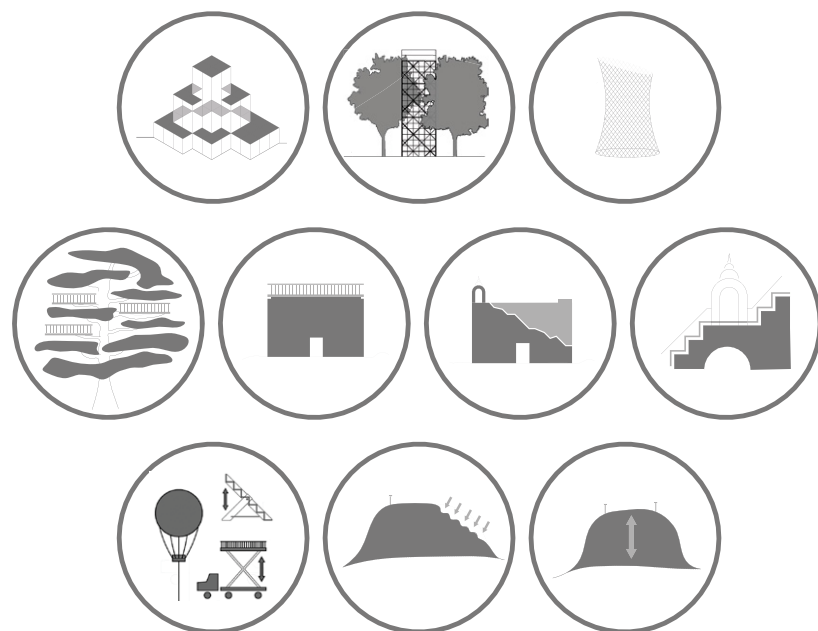
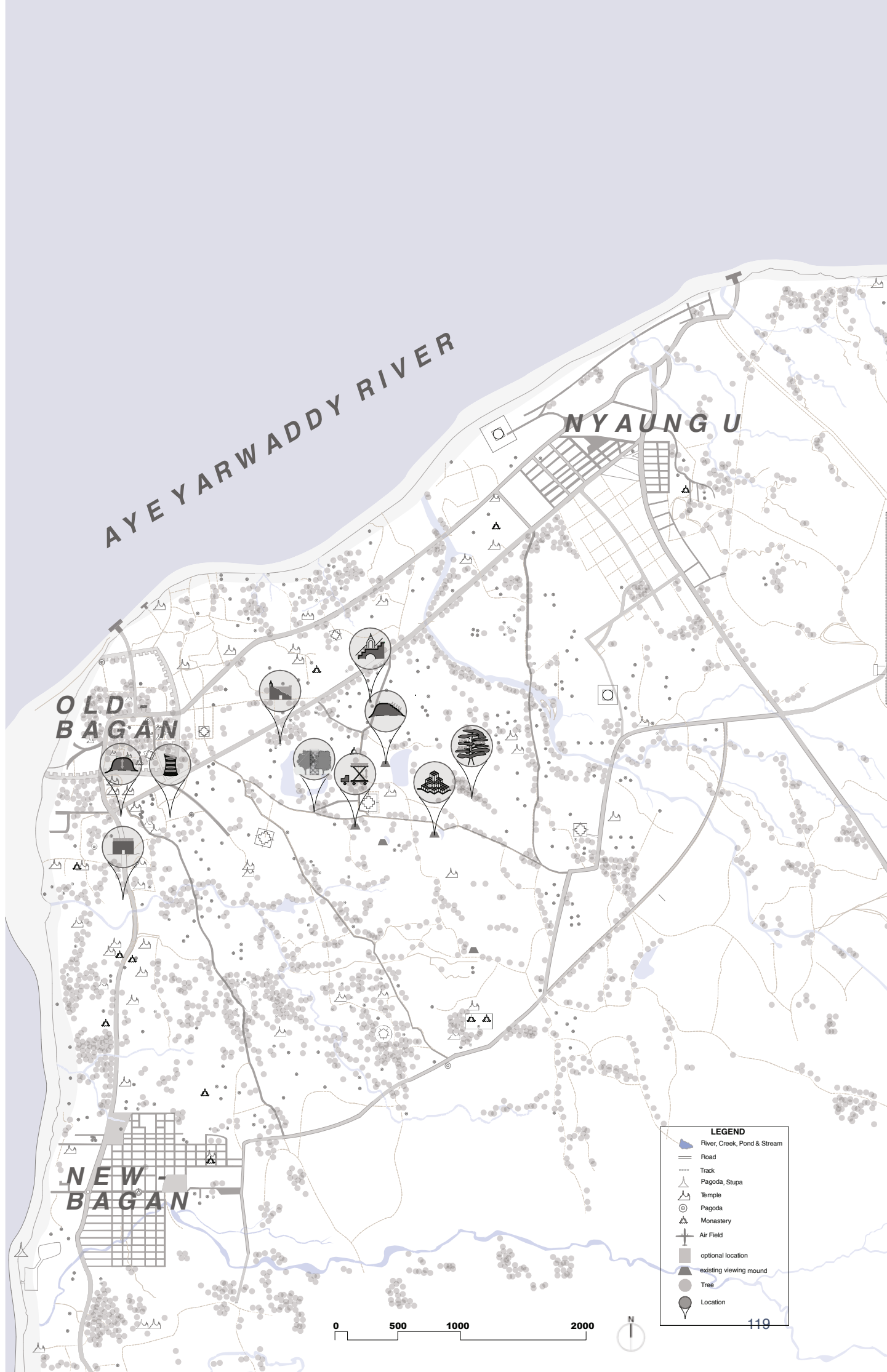


Figure 86.
Pictograms of ten
design ideas



AYE YAR WADDY RIVER

NYAUNG U

OLD BAGAN

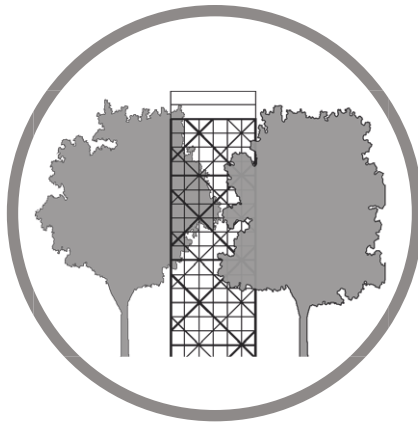
NEW BAGAN

LEGEND

- River, Creek, Pond & Stream
- Road
- Track
- Pagoda, Stupa
- Temple
- Pagoda
- Monastery
- Air Field
- optional location
- existing viewing mound
- Tree
- Location

0 500 1000 2000





DISGUISER

The Disguiser is a light, see-through structure hidden among trees, so it can hardly be seen from a distance. The temporary structure is based on traditional bamboo scaffoldings. For better consolidation, some bamboo parts can be replaced with hardwood. The idea is a module that can be multiplied around the archaeological zone to offer a variety of views. The form is based on units that hold up to 50 people each. Two units can be placed around the same staircase, as in the ground plan presented on this page. The Disguiser responds mainly to scenarios 1 and 2.

BENEFITS

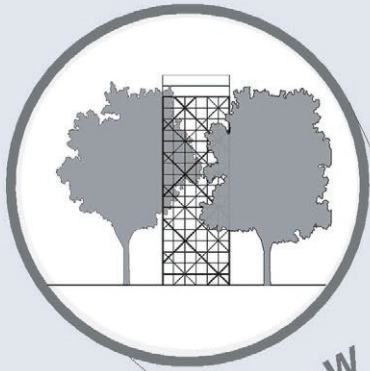
- Local, ecological and relatively economical material
- Easy and fast to build by local work force
- Light structure among trees does not stand out in the landscape and does not impact the ground
- The material already exists in the landscape wherever temples are being restored
- Offers a 360° view
- If the site allows it, parking can be totally hidden from view right in front of the structure

THREATS

- Bamboo is fragile - only usable for 6-10 months

Carrying Capacity: 50-100 people / platform - meant to be multiplied around the area

The central area of the zone isn't meant for buses, so parking is reserved for e-bikes, horse carriages, and just a few cars. Parking would be on north and south of the Disguiser to not be in the way of primary views. In suitable locations, the vehicles can also be placed right next to the structure, where they would not be visible from the top.



AYE YARWADDY RIVER

NYAUNG U

OLD -
BAGAN

NEW -
BAGAN

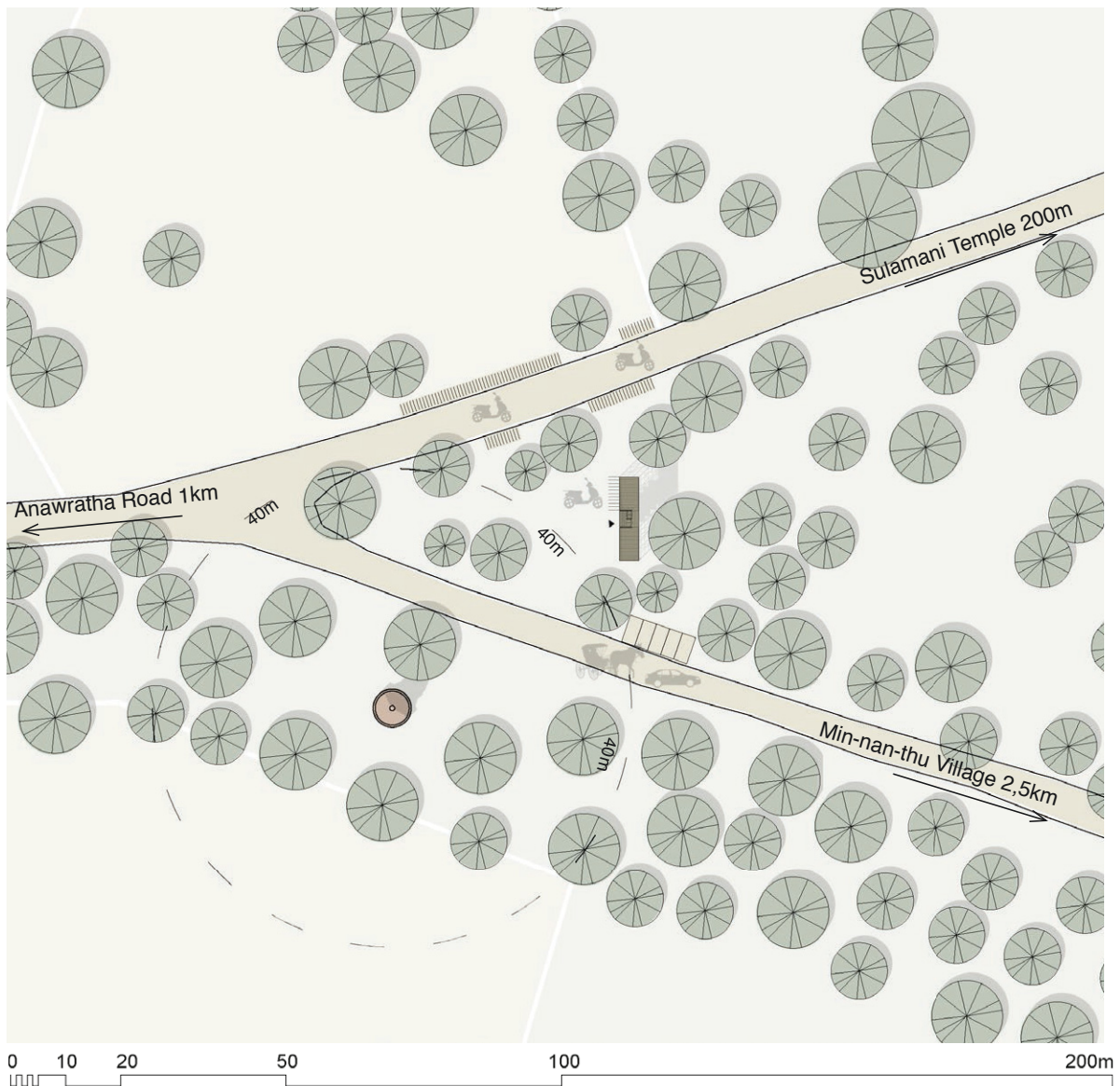
LEGEND	
	River, Creek, Pond & Stream
	Road
	Track
	Pagoda, Stupa
	Temple
	Pagoda
	Monastery
	Air Field
	optional location
	existing viewing mound
	Troo
	Location

0 500 1000 2000



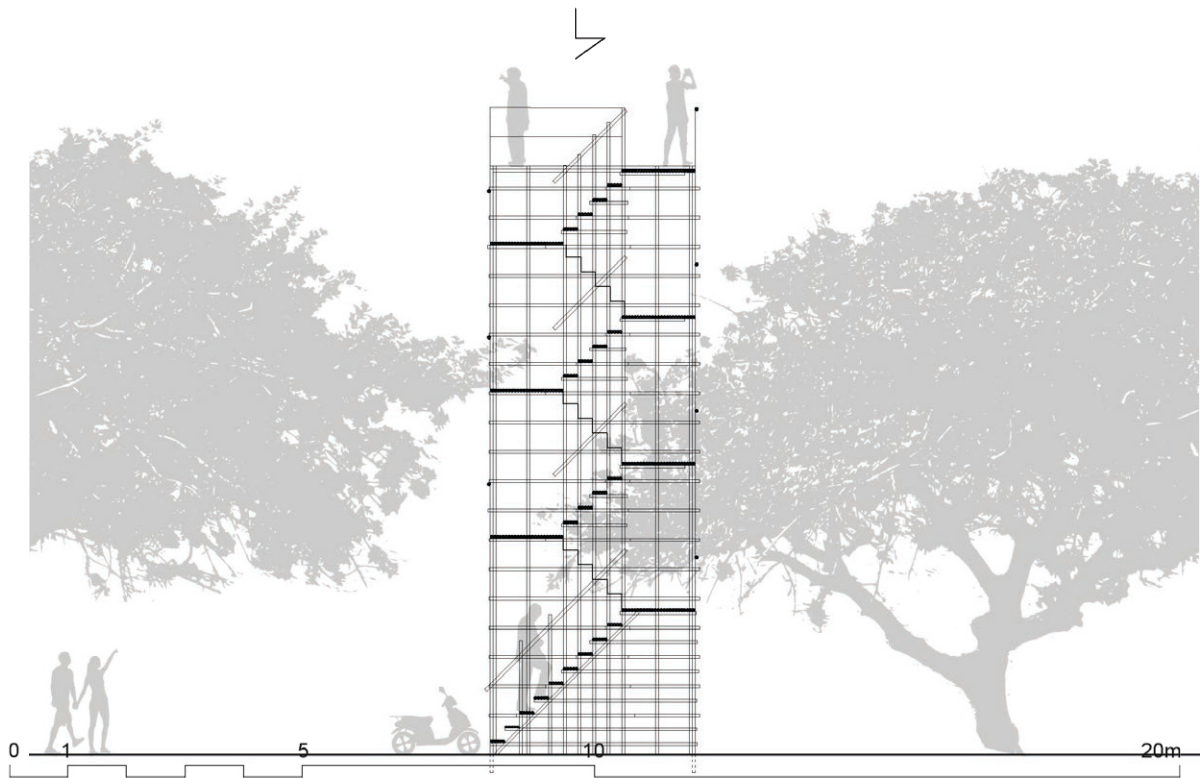
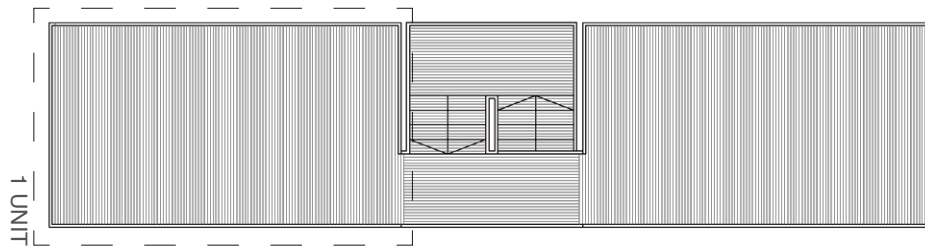
DISGUISER

A light, see-through structure hidden among trees





A bamboo scaffolding structure seen from a distance:



View to West



View to East





MOUND 2.0

A new viewing mound holds up to 700 people. Therefore, a good location for it would be near big roads to avoid heavy traffic inside the archaeological zone. This new mound is similar to existing ones, but it is made from imported earth instead of digging in the archaeological zone. The mound and its parking places occupy a large area of land, so it would be best to have some trees around the mound to conceal parking within the landscape. This new mound can host better facilities than smaller viewing points and mounds. Toilets and services can be built inside the mound, but their maintenance would have to be carefully considered, to not contaminate the soil. The mound can also provide shade and seating for its users. The Mound 2.0 proposal mainly responds to scenarios 1 and 2.

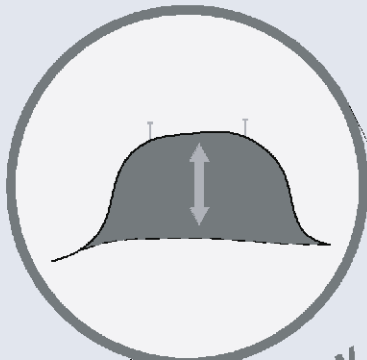
BENEFITS:

- Keeps the people near main roads and therefore avoids traffic inside the archaeological zone
- A land formation does not affect the landscape as much as actual buildings would
- A large viewing point could likely offer more services than a small one

THREATS:

- Erosion
- More permanent solution than some of the smaller viewing typologies
- A big formation and its parking places cannot be totally hidden within the landscape
- If the soil underneath contains archaeological findings, the weight of the mound might affect them

Carrying Capacity: 700 people / one location



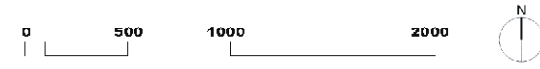
OLD BAGAN

NEW BAGAN

NYAUNG U

AYEYARWADDY RIVER

LEGEND	
	River, Creek, Pond & Stream
	Track
	Pagoda, Stupa
	Temple
	Pagoda
	Monastery
	Air Field
	optional location
	existing viewing points
	Tree
	Location

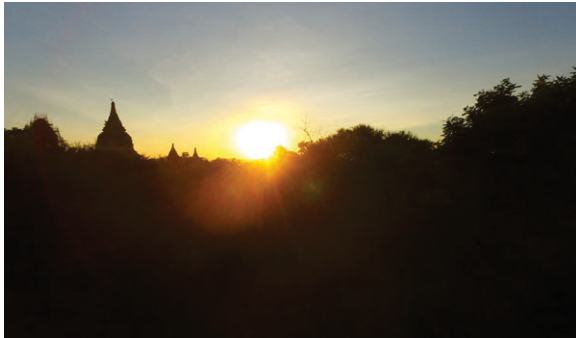
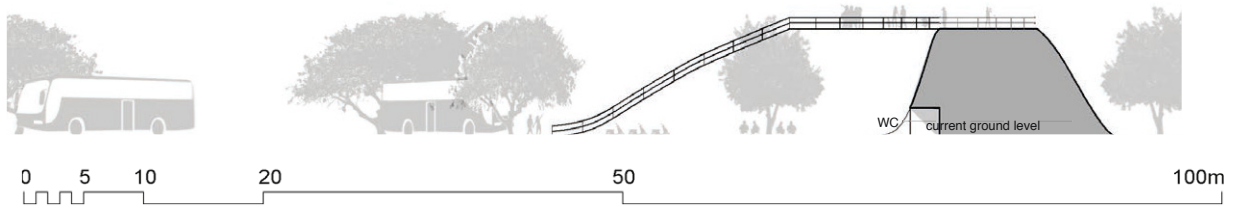


MOUND 2.0

A new viewing mound for masses of people



The best location for a platform that holds a lot of people is near the biggest paved roads. The form of the mound is based on the locations of trees and the 40m radius around the nearby monuments.



View to west



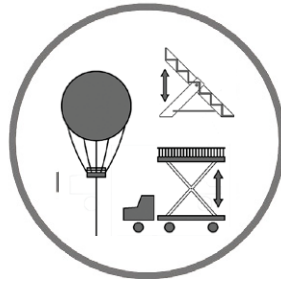
View to east



Bagan Chauk Road next to the site



The site



TRANSFORMERS

Transformers are viewing platforms that go up only for sunset and sunrise. They include completely moving platforms and ones tied to a certain place which can be moved up or down such as the Bender introduced on this page or a balloon.

All Transformers need a person to operate them, which makes them a paid service. For the price, the users could be offered something extra for their viewing experience that they wouldn't get on other viewing points, such as a breakfast/ dinner on the sky.

EXAMPLE CASE 1 - BENDER

This platform works best when placed on a viewing mound, because it is only 3 meters high. The structure sits underground, under a bamboo cover, during the day and night, and is raised to face east for sunrise and west for sunset. The ground level of the mound is raised so that the structure is on ground level when it is not used. The platform can be multiplied on a mound to host more people.

BENEFITS:

- Gives a better view from a viewing mound
- Ability to sit
- Completely out of sight most of the time

THREATS:

- Quite a low structure - only works on high ground
- Must be operated by someone

Carrying Capacity: 30-35 people/
platform - meant to be multiplied

EXAMPLE CASE 2 - MOVER

This platform is a scissor lift moved around with a pickup truck. It offers a private viewing experience with a wide variety of options.

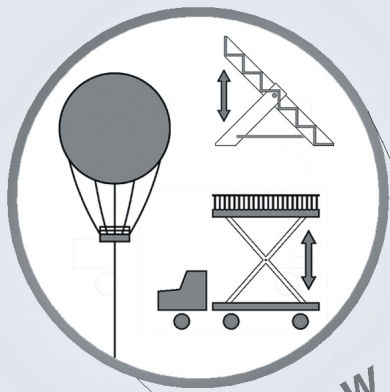
BENEFITS

- Many location possibilities
- Premanufactured
- Intimate sunrise/sunset experience

THREATS

- For a small number of people
- Causes vibration in the area
- Can affect the view temporarily if placed too centrally

Carrying Capacity: 3-4 people / unit



AYEYARWADDY RIVER

NYAUNG U

OLD BAGAN

NEW BAGAN

LEGEND

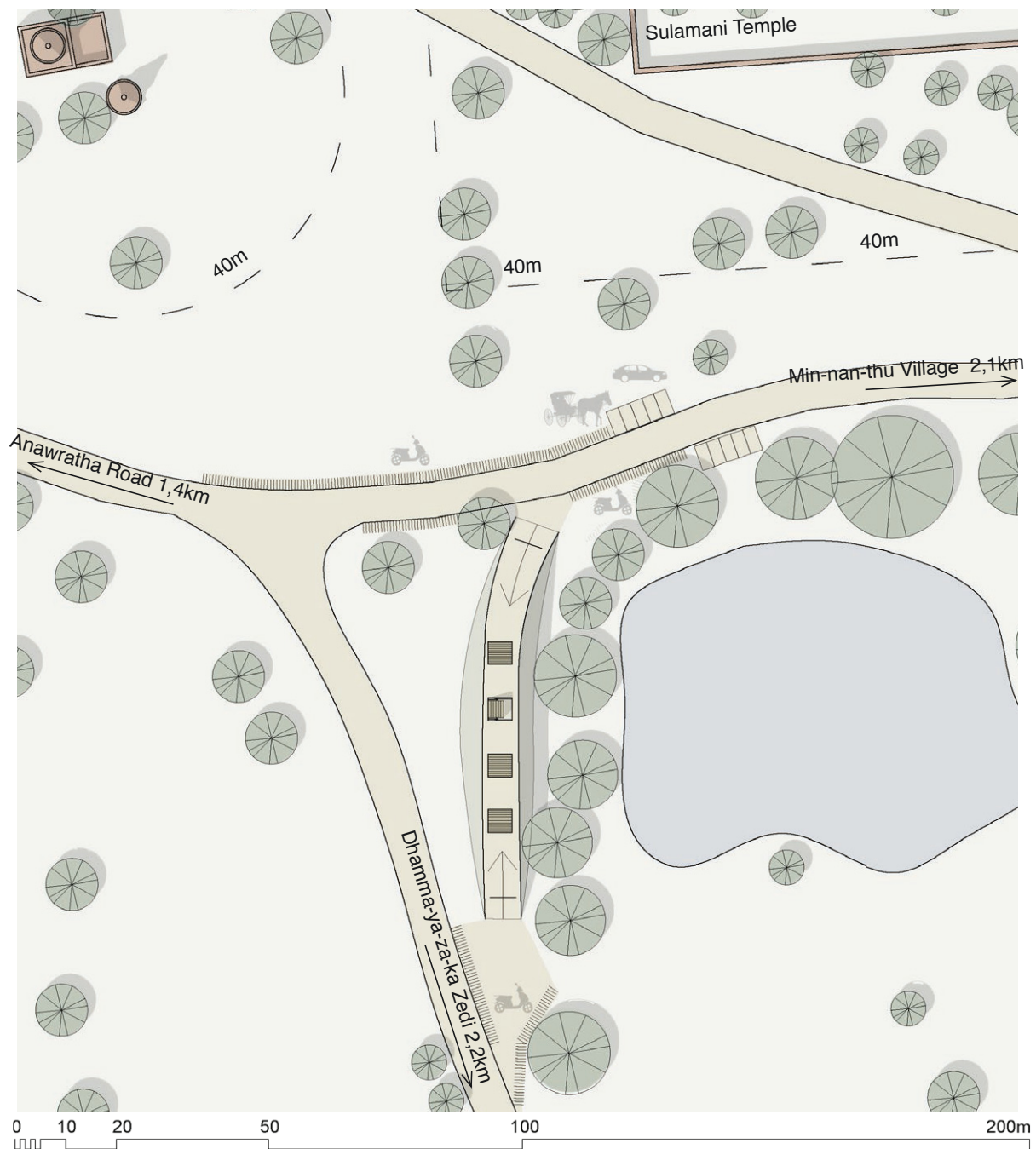
- River, Creek, Pond & Stream
- Road
- Track
- Pagoda, Stupa
- Temple
- Pagoda
- Monastery
- Air Field
- optional location
- existing viewing mound
- Tree
- Location

0 500 1000 2000

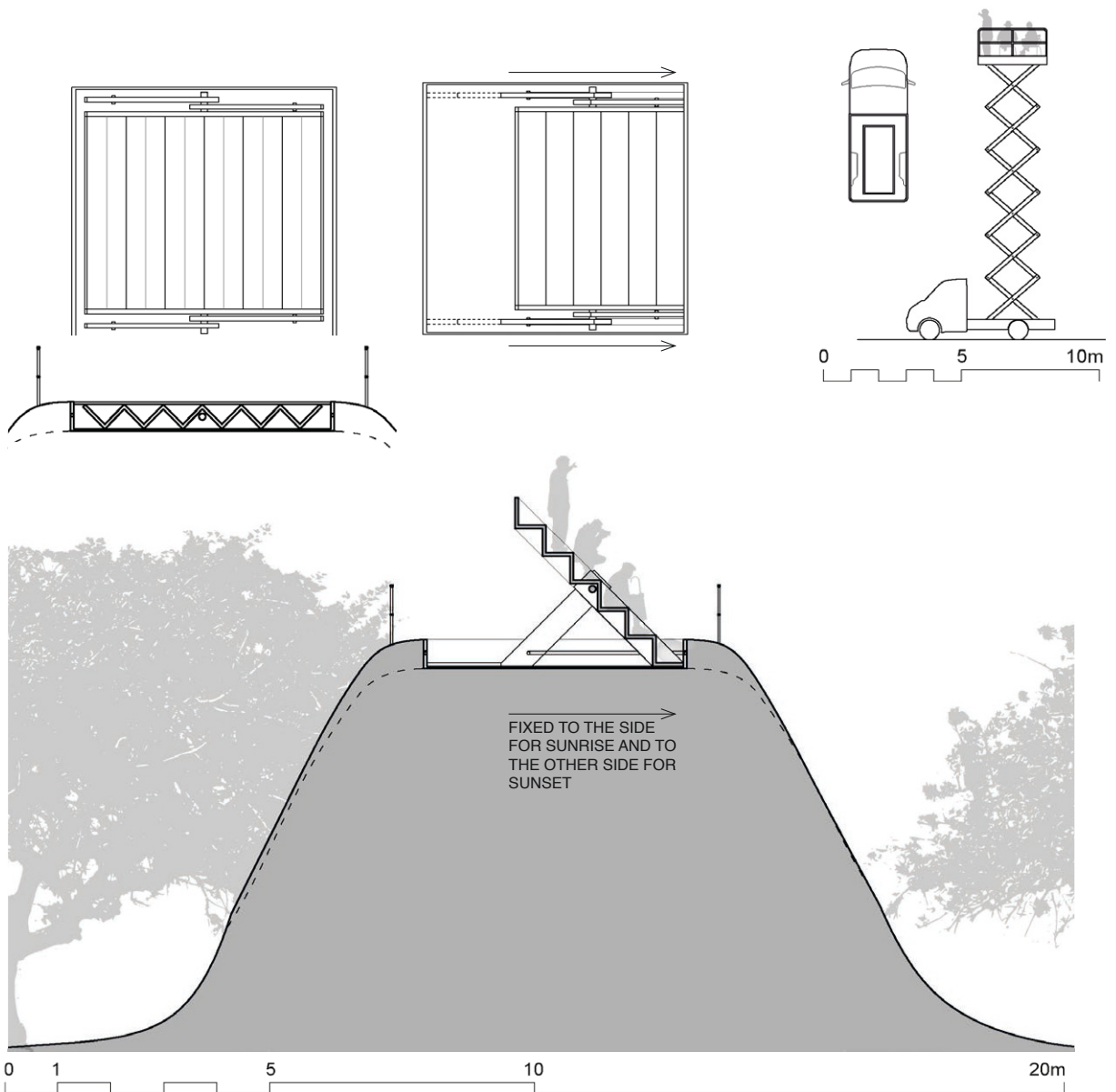


TRANSFORMERS

Transformable and/or movable viewing platforms



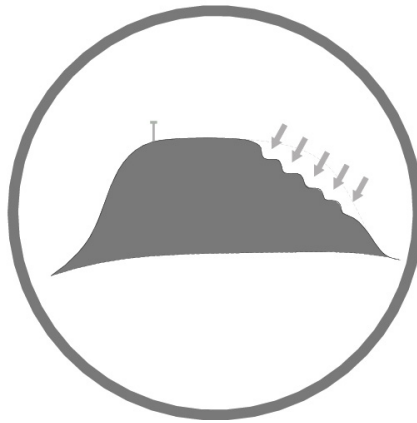
Buses aren't encouraged to come in the center of the archeological zone, so most parking is for e-bikes on the North and South side of the mound not to be in the main sunrise and sunset views.



Transformable Bender platforms on Nyaung Lat Phat Kan viewing mound



Views West and South from Nyaung Lat Phat Kan viewing mound



ADDITION

This idea is adaptable to all three scenarios, because the site already has three artificial mounds. If temple climbing were banned (scenario 1), this solution would become more important, and building additional mounds may be desirable. The mounds are around five to seven meters (15-20 feet) high, which is not that high compared to the huge agricultural fields nearby. Our suggestion is to extend the height of the existing mounds to the maximum height of ten meters (30 feet) in this zone. The new mound would provide a much better, 360-degree overview of the complete site and would not have a huge impact on the site because the mound is lower than tree level.

The surface of the new earth on the artificial mound would have a terrace shape to let even more people stand on this viewing point. These terraces would be on different levels.

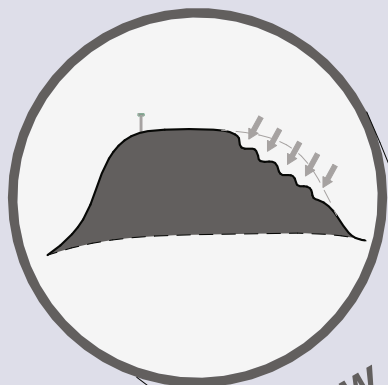
BENEFITS:

- Higher/ more space for people
- Easy access to the Platform
- Easy “Add-On” to extend the platform
- Locations are already found

THREATS:

- Additional ground increases weight of the mound and the surface underneath.
- Rain washes away the earth (erosion)
- Massive mound could impact the side surface
- Historical context

Carrying Capacity: up to 1000 people



AYE YARWADDY RIVER

NYAUNG U

OLD
BAGAN

NEW
BAGAN

LEGEND	
	River, Creek, Pond & Stream
	Road
	Track
	Pagoda, Stupa
	Temple
	Pagoda
	Monastery
	Air Field
	optional location
	existing viewing mound
	Tree
	Location

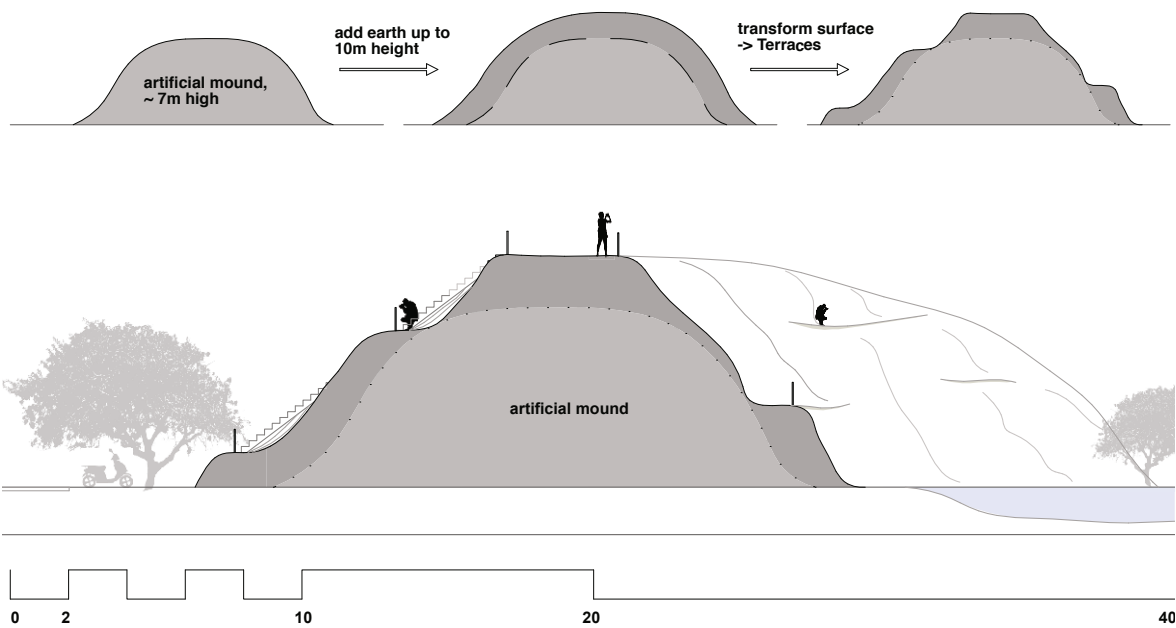
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ADDITION

Modification to an existing viewing mound





eastview: sunrise



westview: sunset





COMPLEMENT

Bagan has been deeply affected by earthquakes. This is the reason why there are so many temple ruins on the site. The idea of an abstract reconstruction is reasonable because a lot of reconstruction has taken place on-site over the past decades. On the contrary, this proposal offers the opportunity to turn ruins into viewing platforms. This should happen in a way that makes it obvious which part is old and which is new. The new part could be made of bricks that would have different dimensions than existing ones. Alternatively, the surface of the new part could be made of plaster.

This idea responds particularly to scenarios 2 and 3. If temple climbing is not banned (scenario 3), then selected ruins could be reconstructed like this prototype.

BENEFITS:

- Tourists perceive climbing a reconstructed ruin as an authentic experience
- The buildings are quite high and offer good views
- Impact to the site can be smaller than building an entirely new structure

THREATS:

- Design may resemble a religious building too much or stand out as different
- Changing the function of a building on the site can be a questionable decision
- The original fabric could be harmed

Carrying Capacity: The amount of people depends on the size of the ruin/ building.
Capacity: Up to 100 people.



AYEYARWADDY RIVER

NYAUNG U

OLD -
BAGAN

NEW -
BAGAN

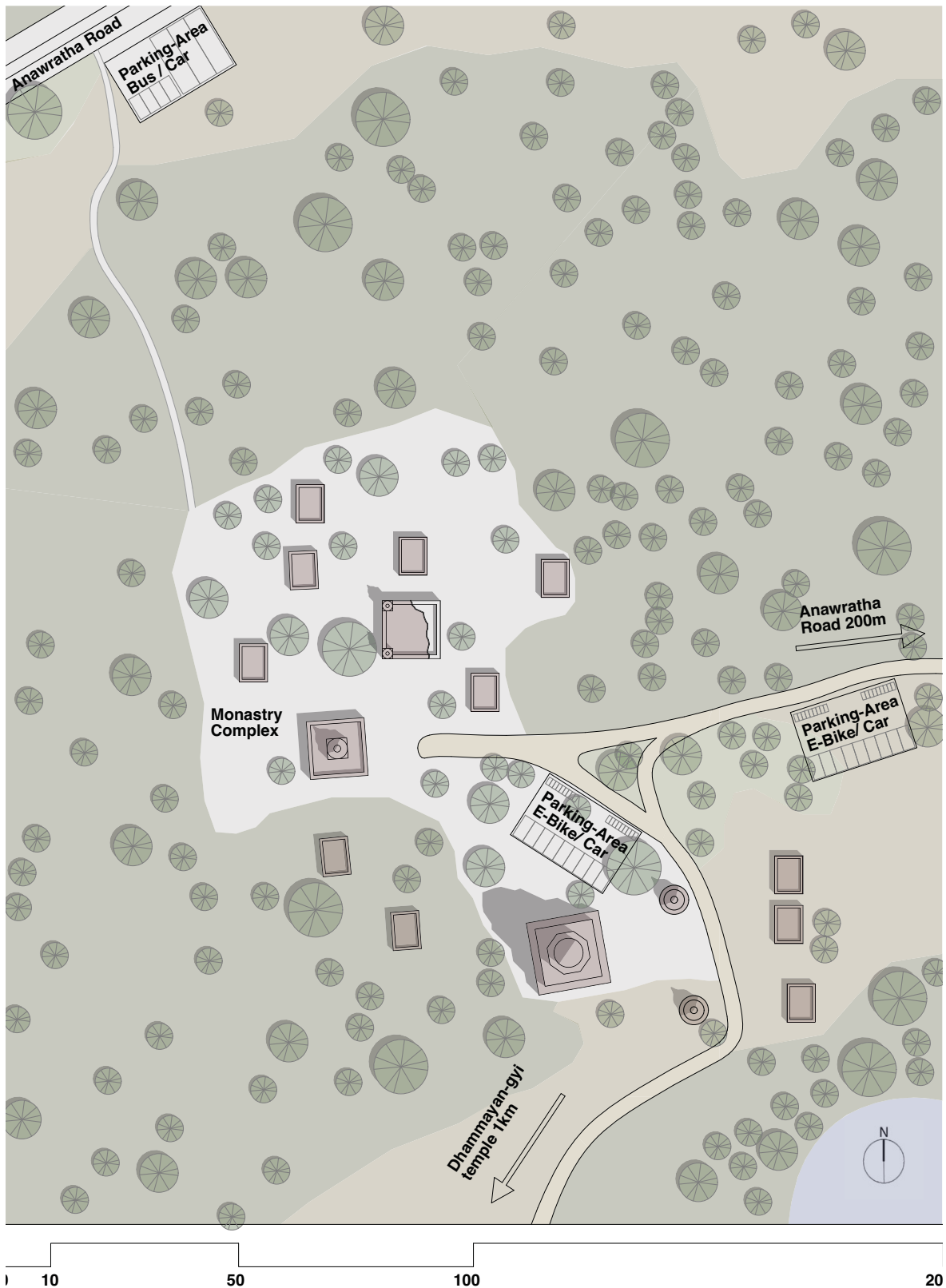
LEGEND	
	River, Creek, Pond & Stream
	Road
	Track
	Pagoda, Stupa
	Temple
	Pagoda
	Monastery
	Air Field
	Optional location
	Existing viewing mound
	Tree
	Location

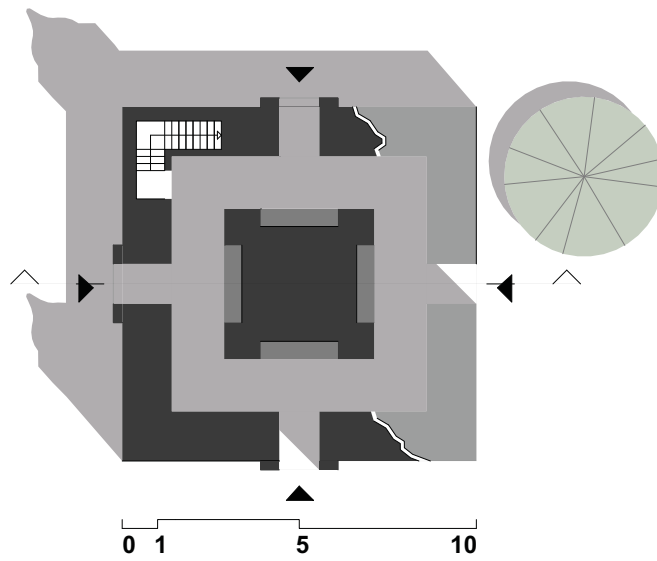
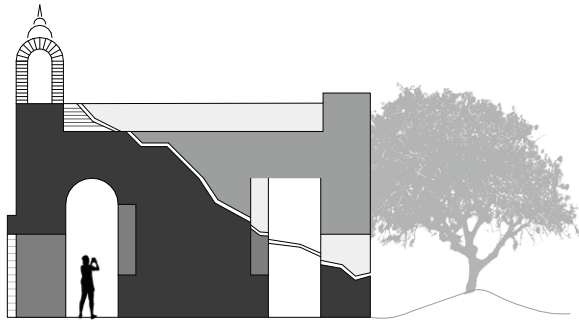
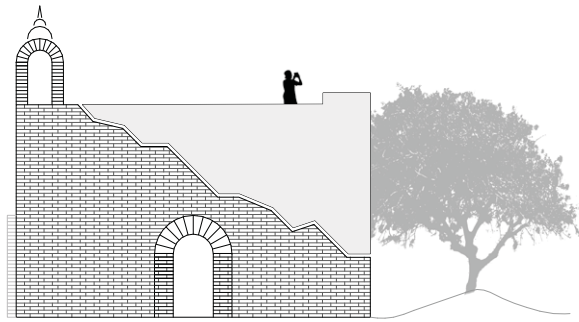
0 500 1000 2000



COMPLEMENT

Abstract reconstruction of an existing monument





eastview: sunrise

westview: sunset





SOLITARY STRUCTURE

The Solitary Structure is an individually-designed module that can be multiplied around the archaeological zone to offer different views. The form is based on units that hold up to 50 people each.

This temporary structure is based on traditional bamboo scaffoldings. For consolidation, some bamboo parts can be replaced with hard wood (e.g. the stairs). The solitary structure is a light, see-through structure hidden among trees, so it can hardly be seen from a distance. This idea is mostly related to scenario 1 (temple climbing ban) and 2.

Student Competition / Seasonally changing design: a platform made of bamboo could be developed on an annual basis as part of student competition. The best three platforms designs would be built one-to-one in Bagan. On the one hand, this would be a perfect opportunity for students to learn about bamboo construction while developing an outstanding structure for their portfolios. The DoA and other officials could annually choose the best Solitary Structures out of a pool of student ideas.

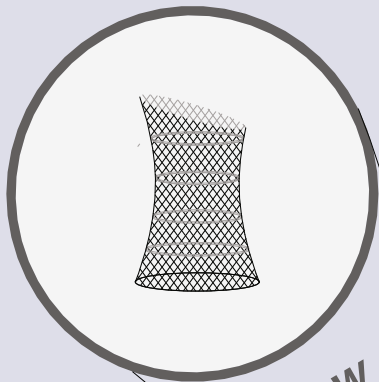
BENEFITS:

- Seasonally-changing design
- Local, ecological, and economical material
- Easy and fast to build by local work force
- Light structure among trees does not stand out in the landscape and does not affect the ground
- The material already exists in the landscape wherever temples are being restored
- Offers a 360° view

THREATS:

- Bamboo is not very durable - only usable for 6-10 months
- Could catch too much attention in the landscape

Carrying Capacity: The capacity depends on the size of the structure (up to 50 people).



AYEYARWADDY RIVER

NYAUNG U

OLD -
BAGAN

NEW -
BAGAN

LEGEND

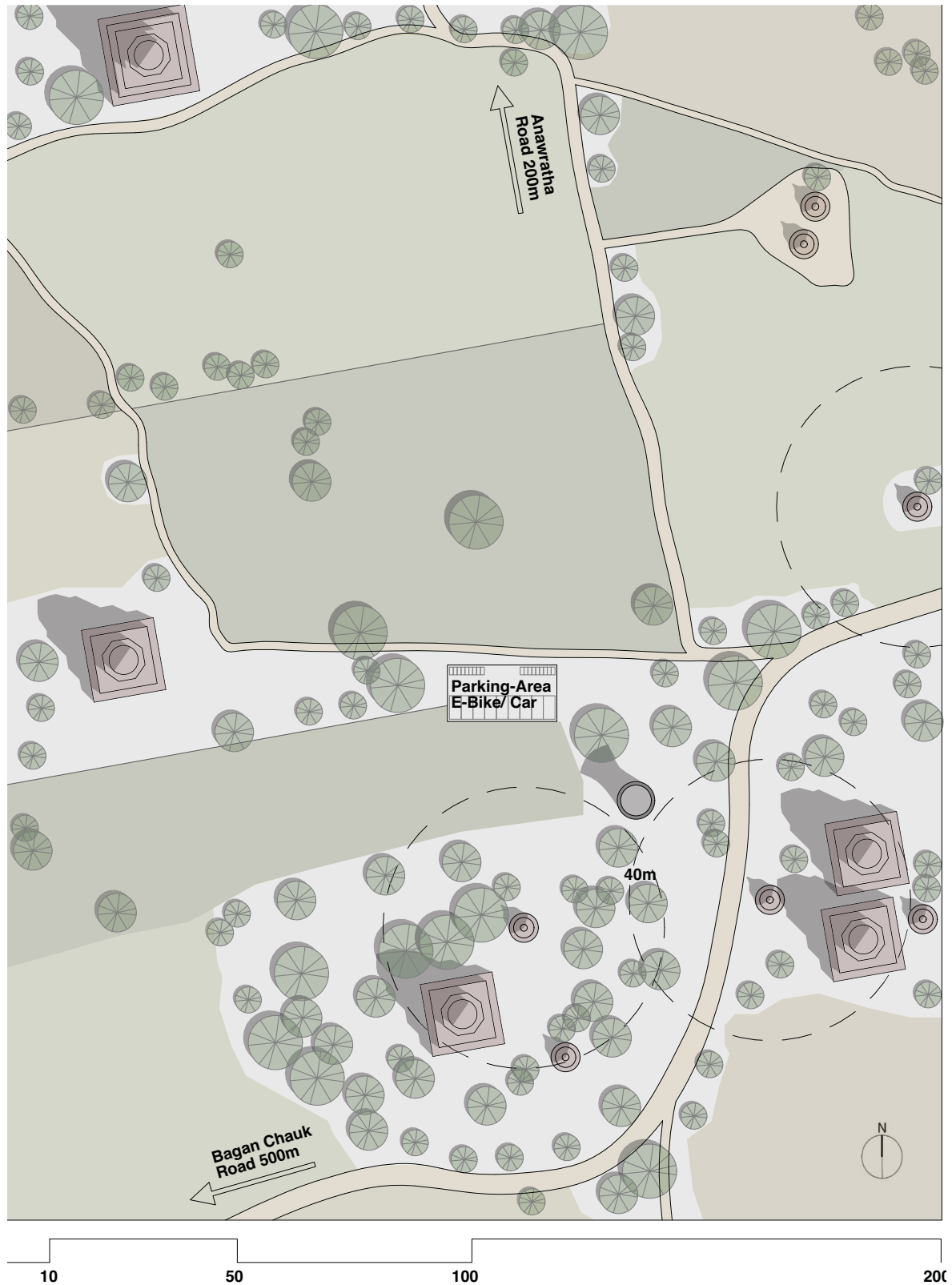
- River, Creek, Pond & Stream
- Road
- Track
- Pagoda, Stupa
- Temple
- Pagoda
- Monastery
- Air Field
- optional location
- existing viewing mound
- Tree
- Location

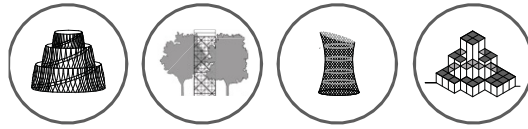
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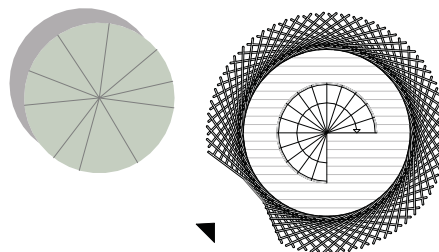
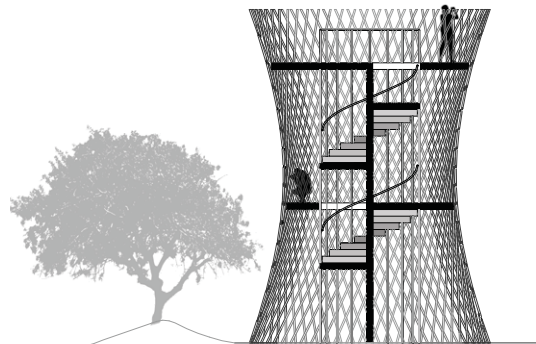
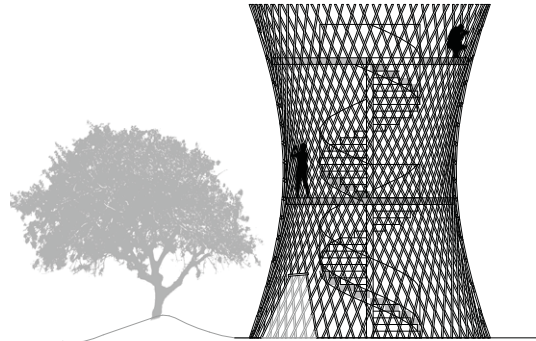
SOLITARY STRUCTURE

A seasonally changing bamboo design





Other solitary bamboo structure design ideas.



0 1 5 10

eastview: sunrise

westview: sunset





SECOND SKIN

The Second Skin idea relates mainly to scenario 3. It is an idea for a protective layer, i.e. a carpet or wooden cover put on as a surface of an existing, solid monument. The monuments chosen for this design would be open for temporary climbing. Only Stupas, which have a solid structure, should be used for this purpose.

BENEFITS:

- Stupas are high and central, so they offer good views
- Viewers can get the experience of climbing a monument
- 360 degree view

THREATS:

- If the protective layer is not fastened well enough, it could be dangerous for tourists
- The protective layer could disturb the structure underneath
- Monument climbing has an impact on spiritual significance of the site

Carrying Capacity: The amount of people depends on the size of the stupa. The capacity is between 10 and 100 people.



AYE YARWADDY RIVER

NYAUNG U

OLD
BAGAN

NEW
BAGAN

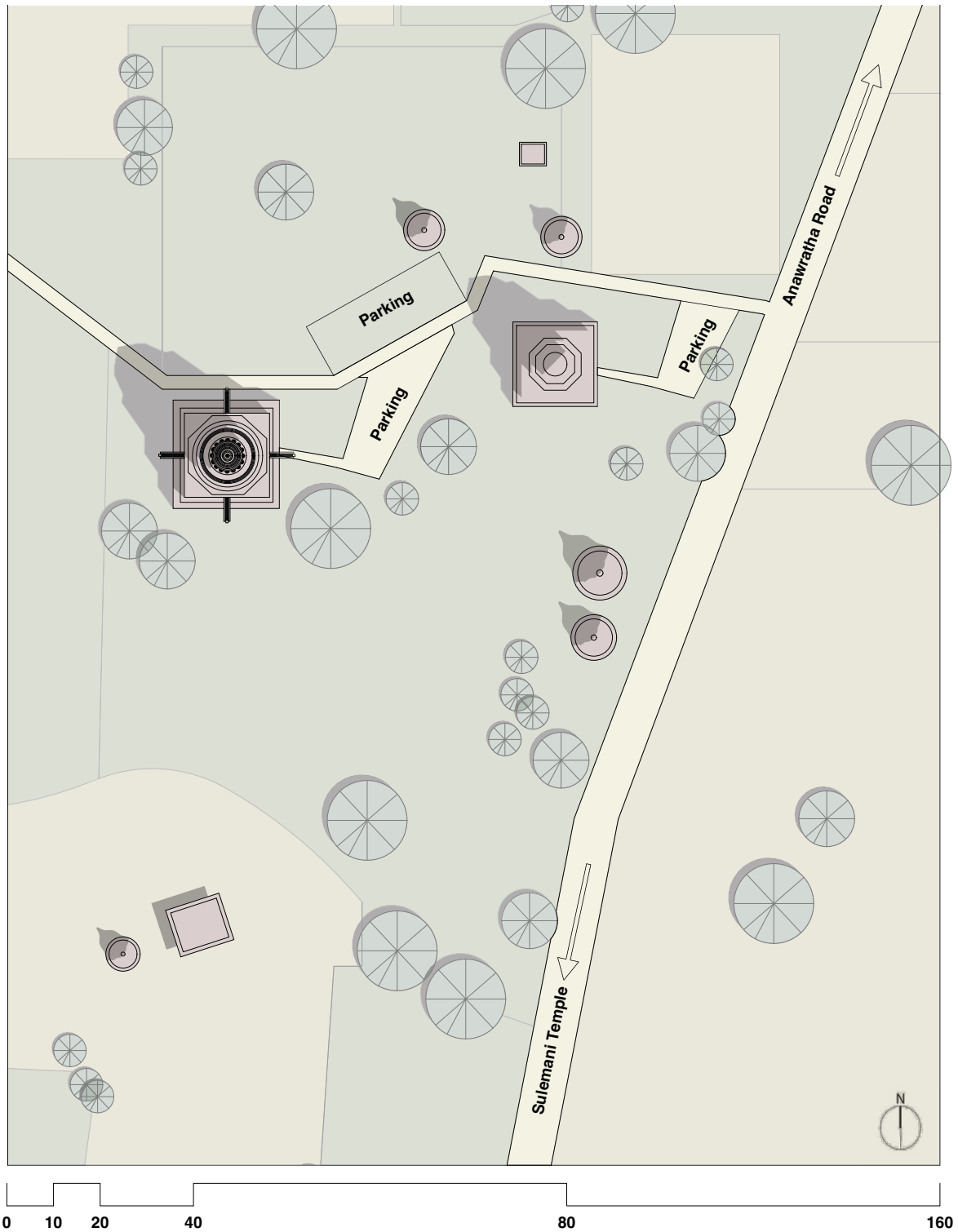
LEGEND	
	River, Creek, Pond & Stream
	Road
	Track
	Pagoda, Stupa
	Temple
	Pagoda
	Monastery
	Air Field
	optional location
	existing viewing mound
	Tree
	Location

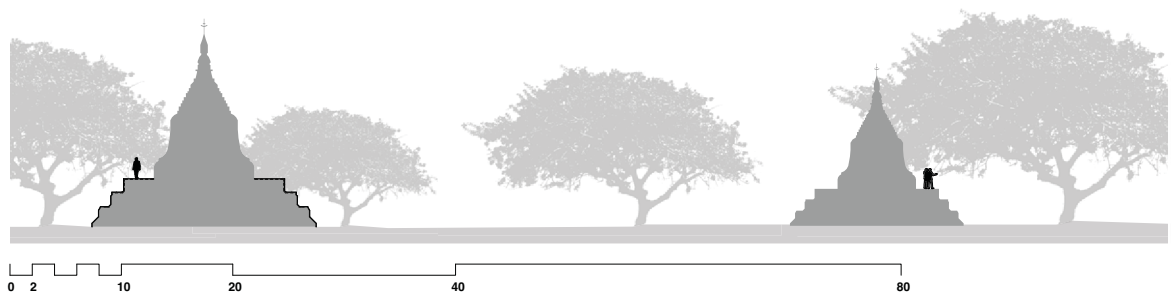
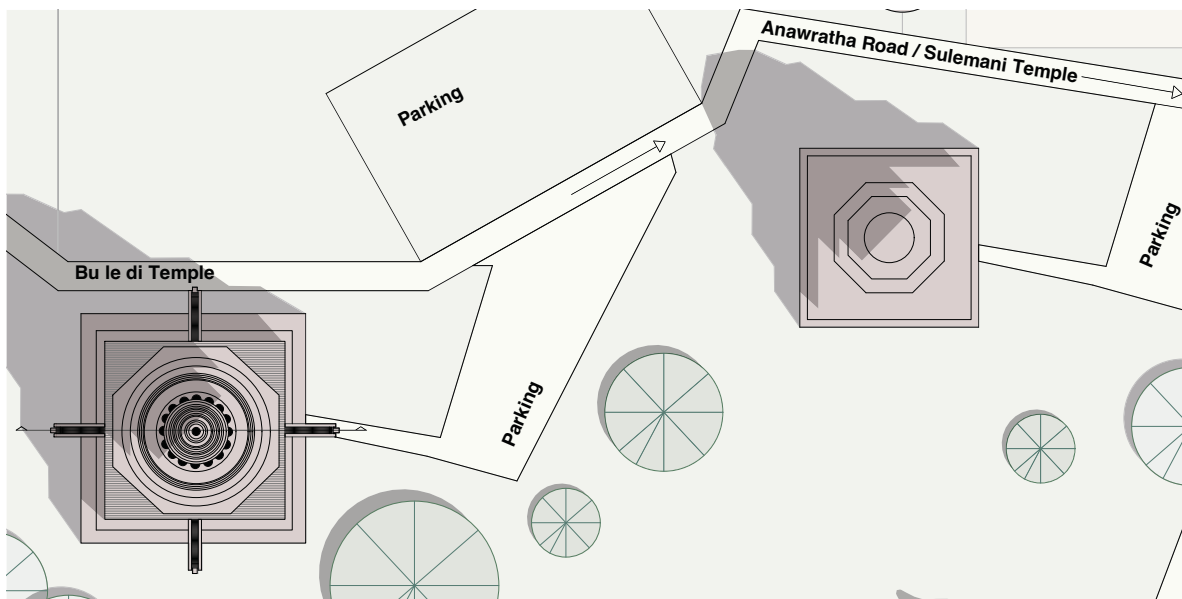
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SECOND SKIN

Protective layer on an existing temple







TREEHOUSE

This structure is a platform inspired by the form of a treehouse lying in-between the branches of a tall tree. The site area has plenty of options for potential treehouse locations. The platform can be built out of wood or bamboo and has different levels of height to offer different viewing axes. The Treehouse is perfectly hidden in the trees therefore does not have any impact on the character of the traditional landscape. The treehouse offers an additional adventure experience for the tourist to climb up and onto the different platforms. This design idea mainly responds to scenario 2 and to scenario 1, though it can only accommodate small numbers of people.

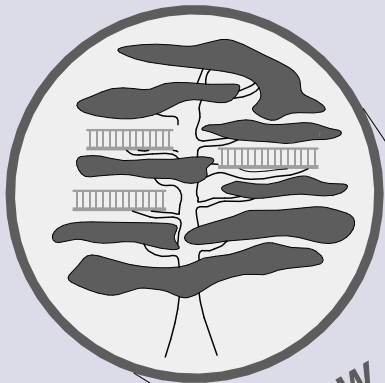
BENEFITS:

- No physical impact to the site, as structure does not touch the archaeological grounds
- No visual impact because structure is hidden in the trees
- Tree houses offers an adventurous activity and tree provides shade
- Use of local materials and knowledge

THREATS:

- Trees in Bagan may not be strong enough to host treehouses
- An extra structure encompassing a foundation and something to mitigate any impact to the ground may be needed
- As a living support to a viewing platform, a tree could of course die after a time

Carrying Capacity: 20 – 50 people / treehouse



AYE YARWADDY RIVER

NYAUNG U

OLD -
BAGAN

NEW -
BAGAN

LEGEND

- River, Creek, Pond & Stream
- Road
- Track
- Pagoda, Stupa
- Temple
- Pagoda
- Monastery
- Air Field
- optional location
- existing viewing mound
- Tree
- Location

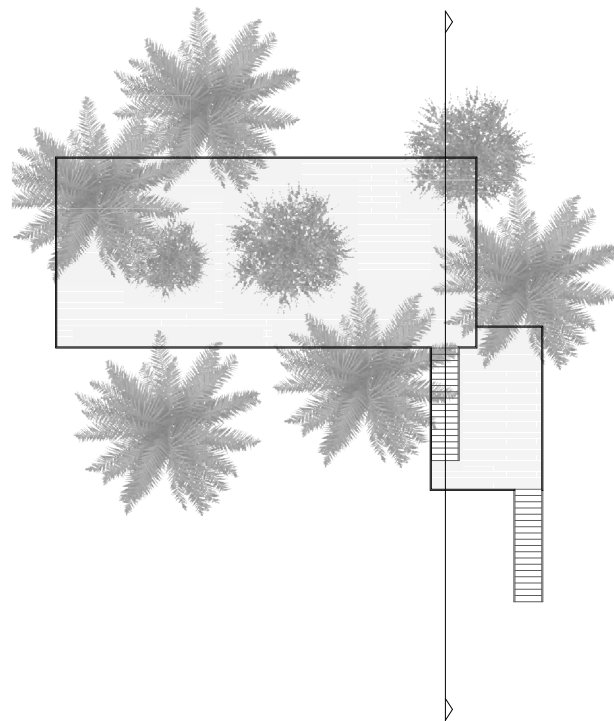
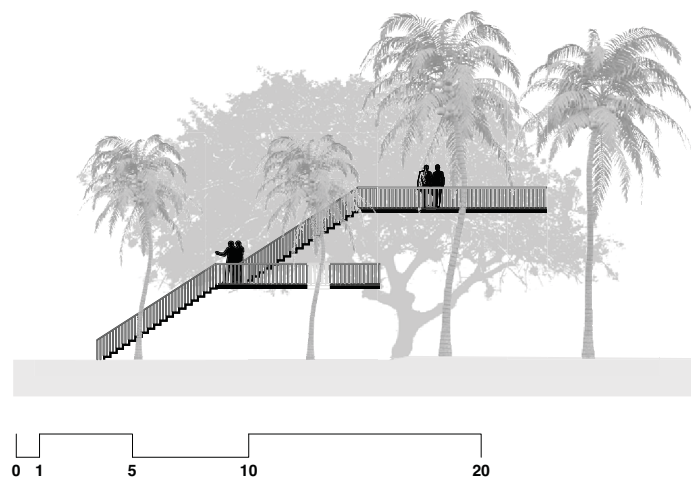
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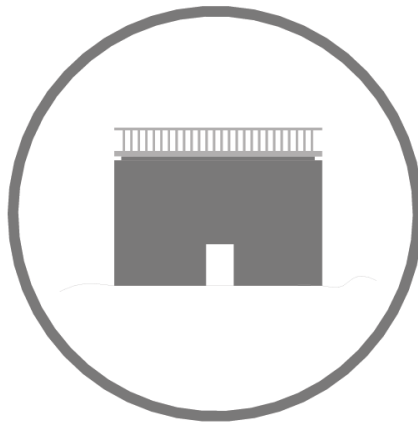


TREEHOUSE

Structure in the trees







PARASITE STRUCTURE

The idea of the Parasite Structure is to use an existing building as a base and add a terrace on top of it. A school in Myinkaba Village was chosen as a potential suitable building. An external staircase, plus the specific peak hours for sunrise (early morning) and sunset (late afternoon) watching would ensure that daily school life would not be disturbed. Associated infrastructure, such as restrooms could be used on the basis of a management scheme for maintenance sustained by income from touristic activities, such as selling of souvenirs.

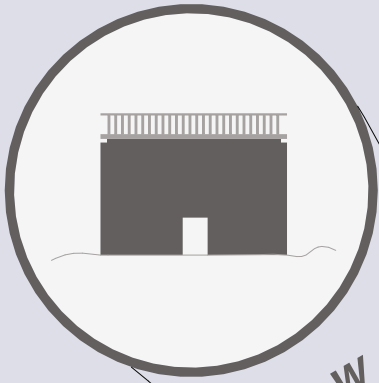
The parasite structure would respond to scenarios 1 and 2 (complete and partial temple climbing ban).

BENEFITS:

- Village building already exists
- Different facilities could be used, or, if building is not in use any longer, integrated into the building (such as shops, restrooms, restaurants, site interpretation)

THREATS:

- The tourists could impact village life and in this case also the school routine
- View over the village may impact the villagers' privacy
- There is no space for parking Carrying Capacity: 20 – 50 people



AYEYARWADDY RIVER

NYAUNG U

OLD -
BAGAN

NEW -
BAGAN

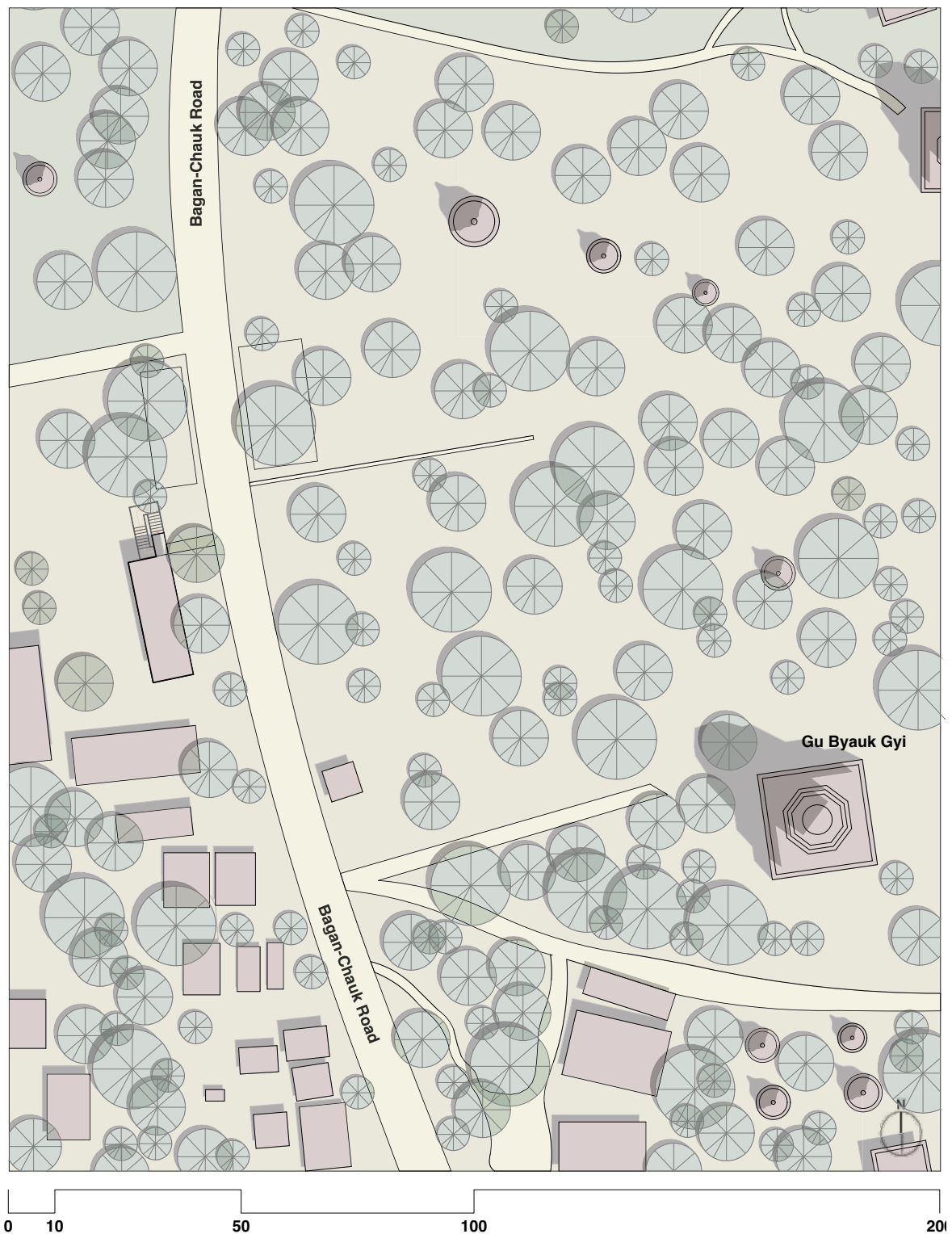
LEGEND	
	River, Creek, Pond & Stream
	Road
	Track
	Pagoda, Stupa
	Temple
	Pagoda
	Monastery
	Air Field
	optional location
	existing viewing mound
	Tree
	Location

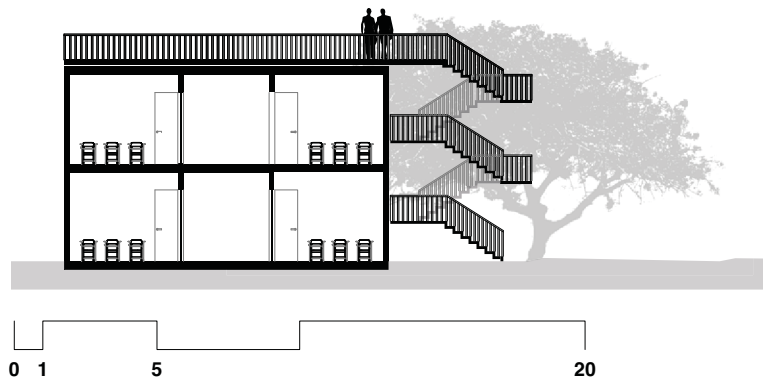
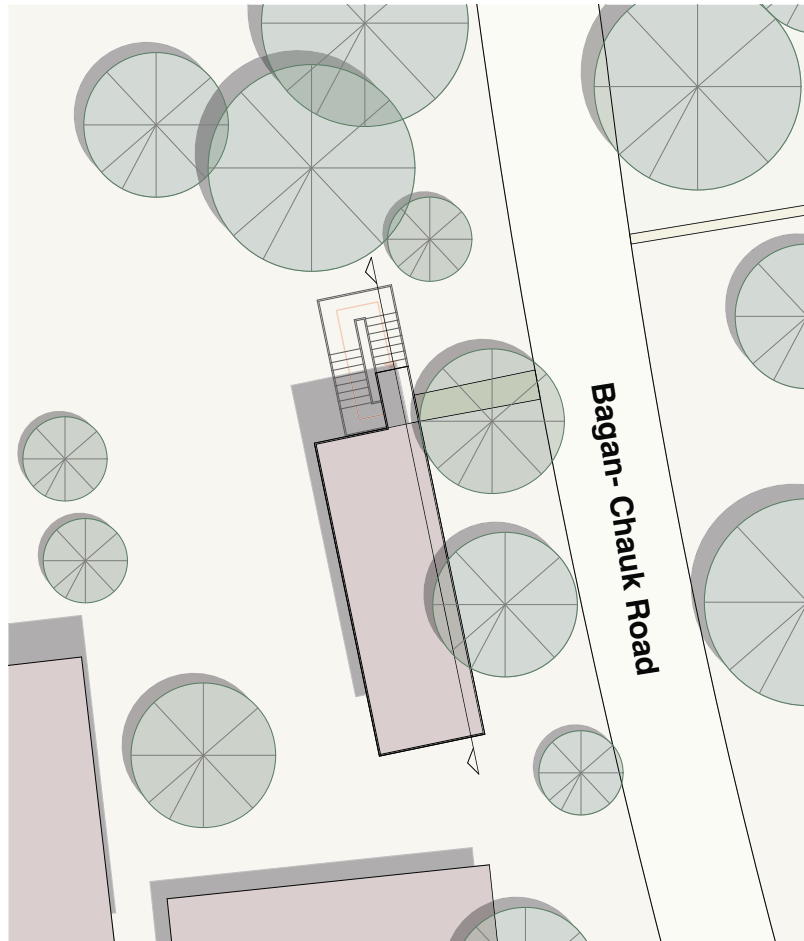
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PARASITE STRUCTURE

Structure on top of an existing village building





05

DESIGN IDEAS

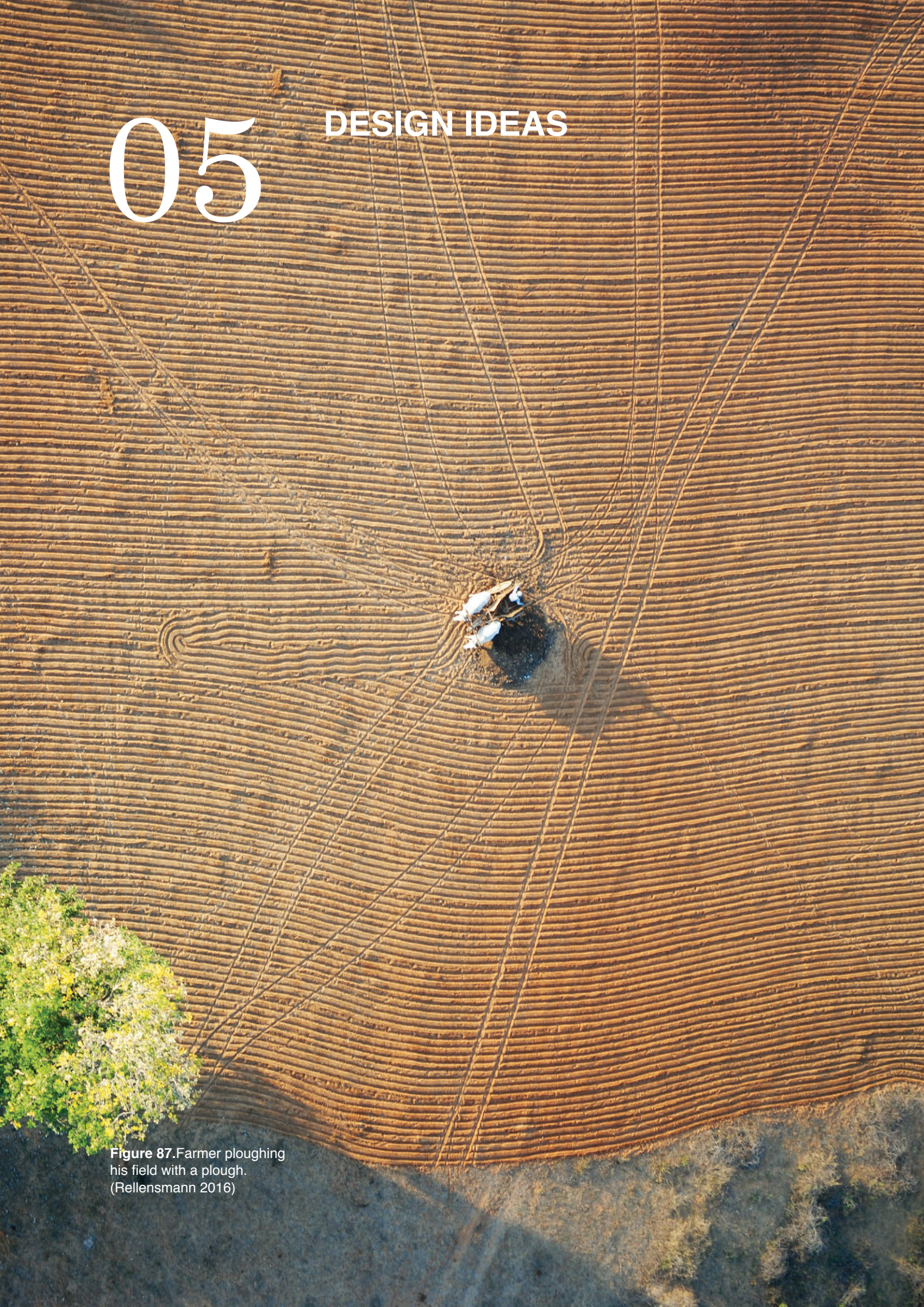


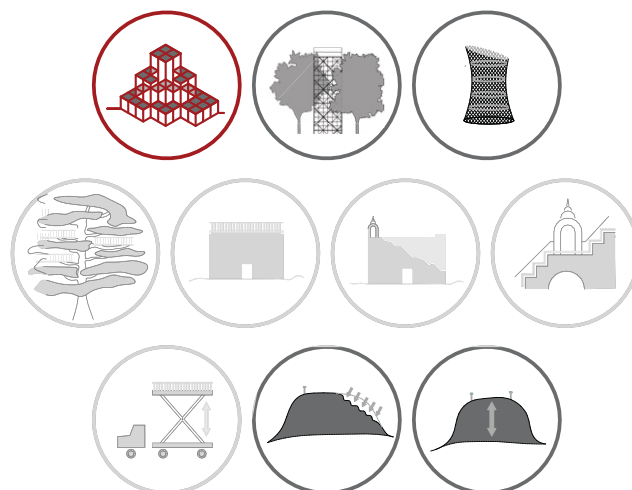
Figure 87. Farmer ploughing his field with a plough. (Rellensmann 2016)

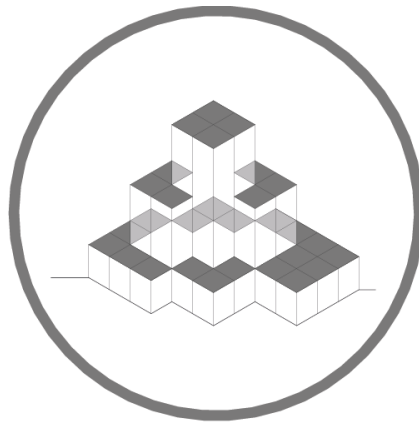
ON-SITE PROTOTYPE

by all, illustrated by Thaddäus Patschke

As a preliminary result of our field research in Bagan, we built a prototype at the end of our stay. The prototype resembled a parasite structure on top of an already existing mound. At the same time, it combined characteristics of four different design ideas presented previously: the Disguiser, Solitary Structure, Mound 2.0, and Addition.

The prototype viewing platform was developed with great respect toward existing regulations, heritage values, and the physical characteristics of the site; however, it also responded to our preliminary assessments of stakeholder needs and location characteristics presented in earlier sections of this report. SWOT analysis and Heritage Impact Assessments presented further below in the form of summarising tables helped us ensure that the prototype was sensitive to the heritage context in which it was built.



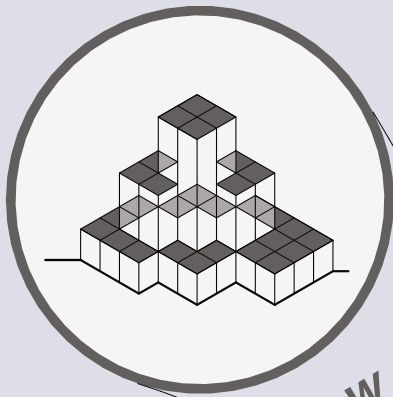


ON-SITE PROTOTYPE

The On-Site Prototype has similar properties to the solitary structure. It is an individually-designed structure that can be multiplied around the archaeological zone to offer different views. The design is based on modules that can be vertically, horizontally and punctually extended and can therefore host varying numbers of people. Our On-Site Prototype had three seating levels. The highest seating platform is 180 cm high at its core, and its lower levels stretch out to both sides at 60 cm intervals. The elongated structure was built on top of a pottery hill, or “natural” mound, alongside a north-south axis, so that its orientation to east and west would make the structure useable for sunrise as well as sunset viewings.

The On-Site Prototype is based on the traditional bamboo scaffolding technique. The prototype idea particularly responds to scenarios 1 (temple climbing ban) and to 2 (partial temple climbing ban). It can host 15-25 people, but the idea of the modular design is that it could be easily extended to host larger numbers of people

A detailed overview of benefits and potential threats concerning the On-Site Prototype is presented in a SWOT analysis in tables 17-20. Tables 21 to 24 present the summary of a HIA conducted for the On-Site Prototype.



AYE YAR WADDY RIVER

NYAUNG U

OLD -
BAGAN

NEW -
BAGAN

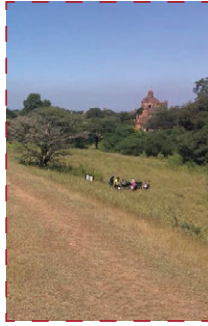
LEGEND	
	River, Creek, Pond & Stream
	Road
	Track
	Pagoda, Stupa
	Temple
	Pagoda
	Monastery
	Air Field
	optional location
	existing viewing mound
	Tree
	Location

0 500 1000 2000





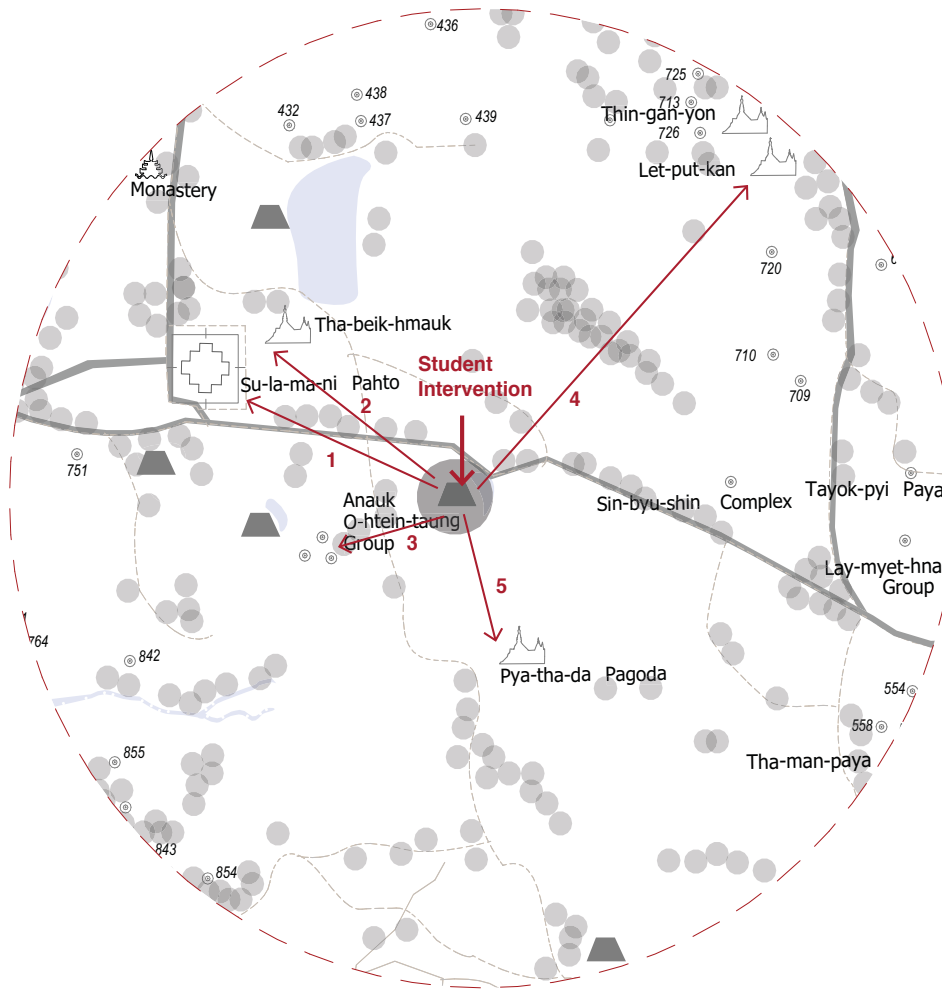
VIEW 1



VIEW 2



VIEW 3

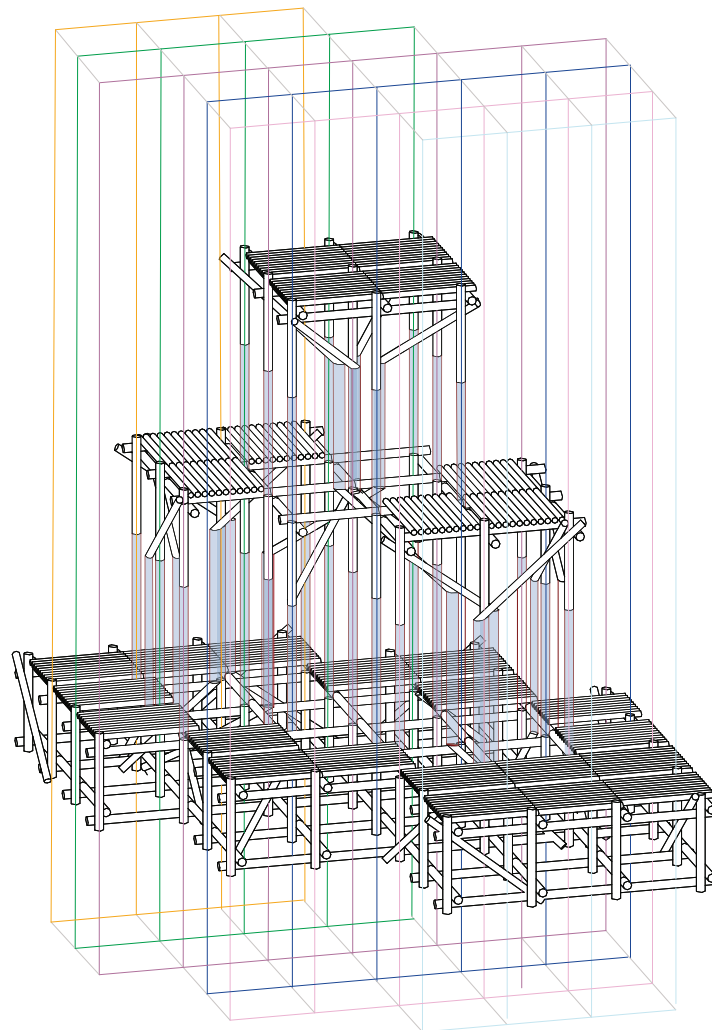


VIEW 5

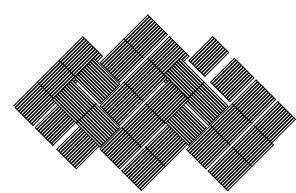
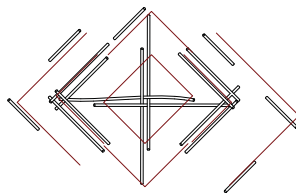
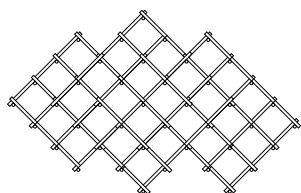
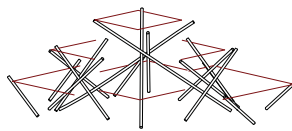
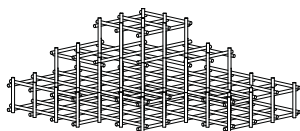


VIEW 4





Exploded isometry



basic square scaffolding

+

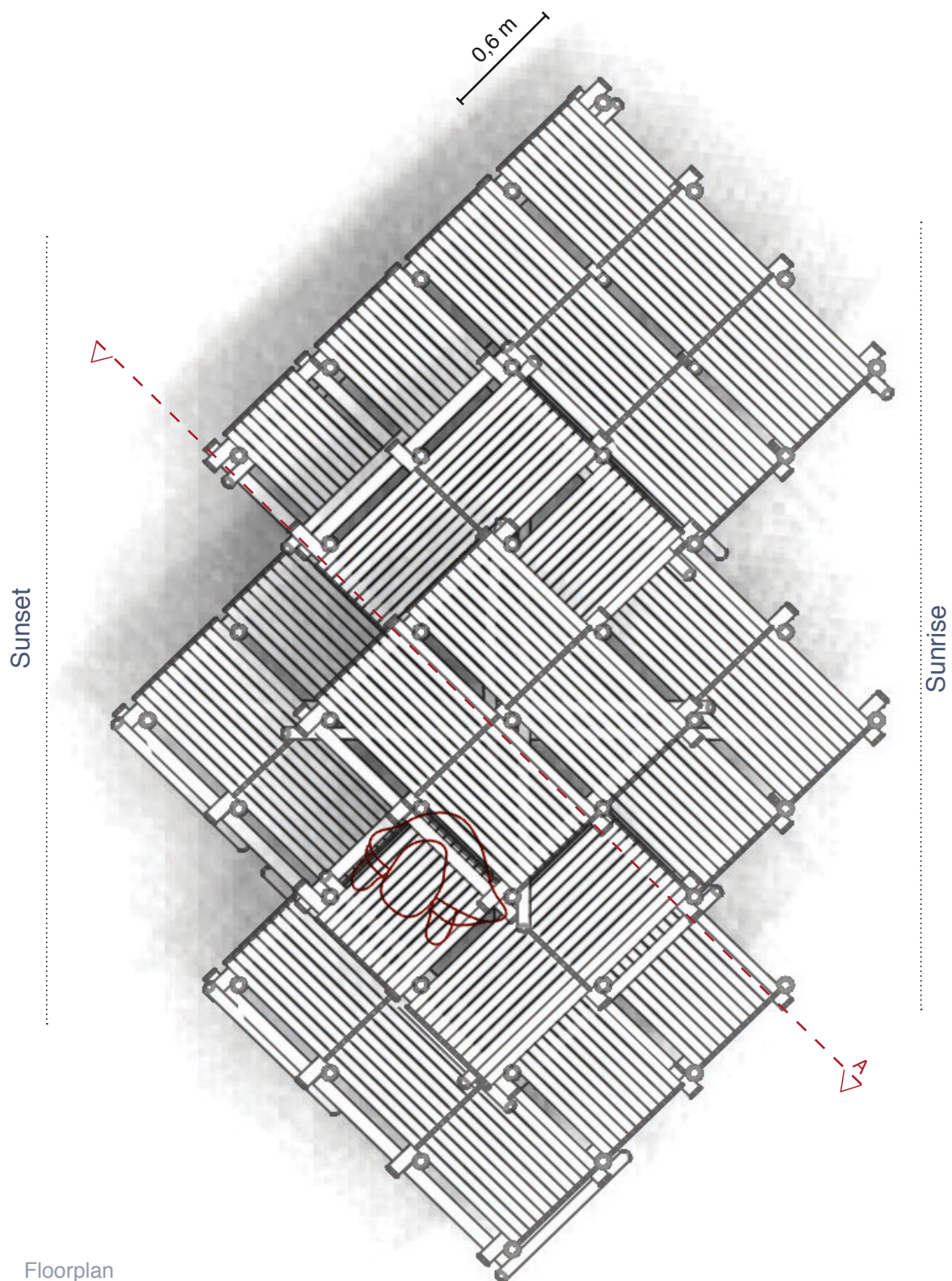
vertical bracing

+

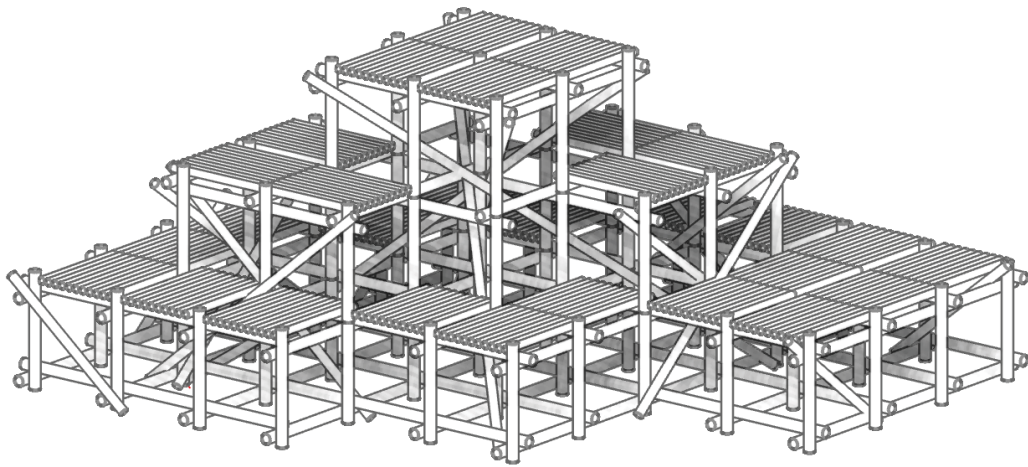
horizontal bracing

THE PROTOTYPE

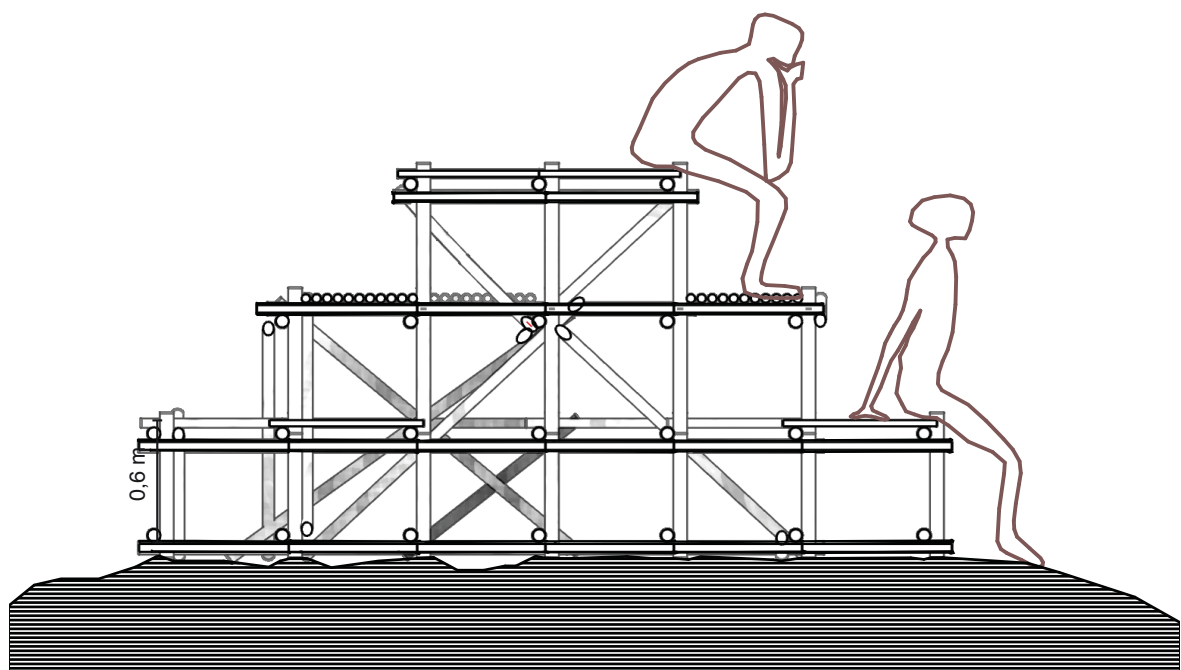
Spatial composition



Floorplan



Isometry

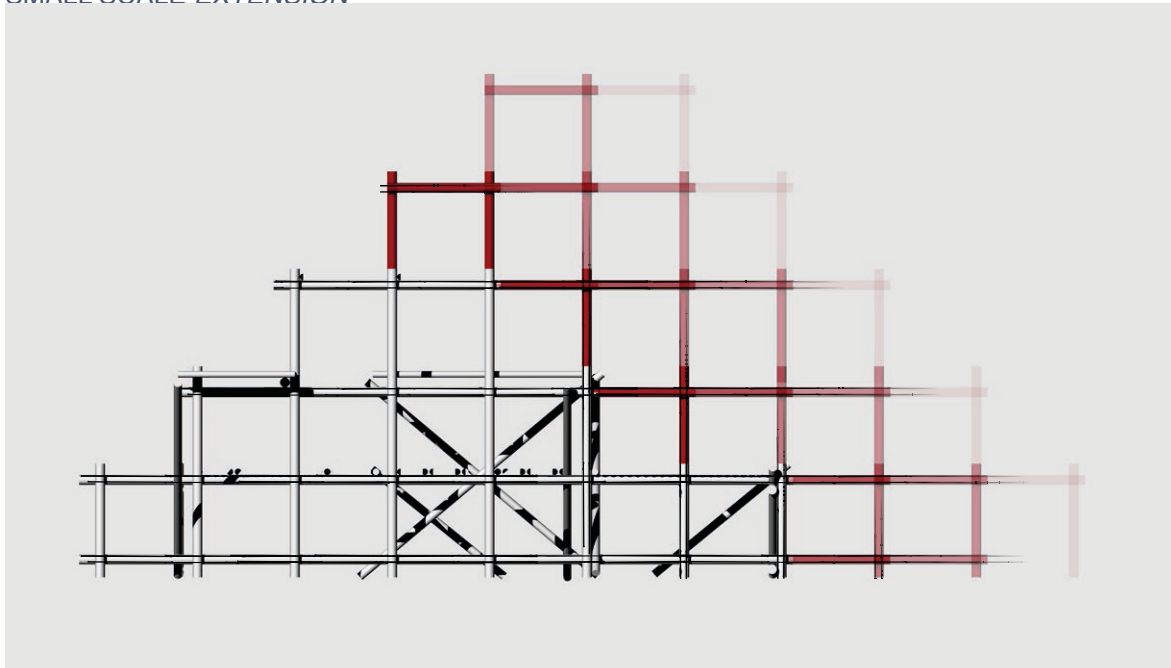


Section A

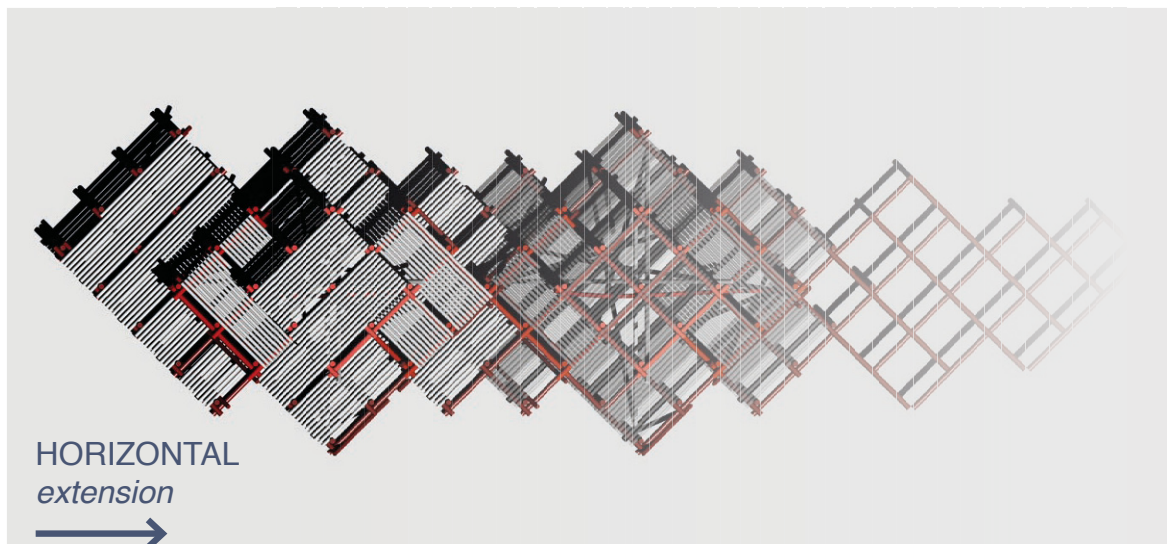
POTENTIAL DEVELOPEMENT

structure

SMALL SCALE *EXTENSION*



↑
VERTICAL
extension

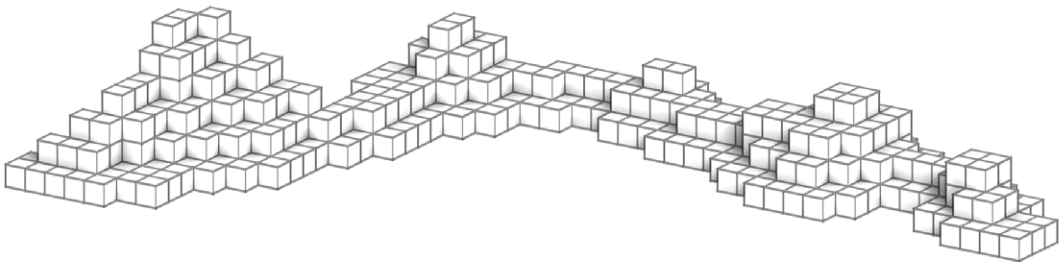


HORIZONTAL
extension
→

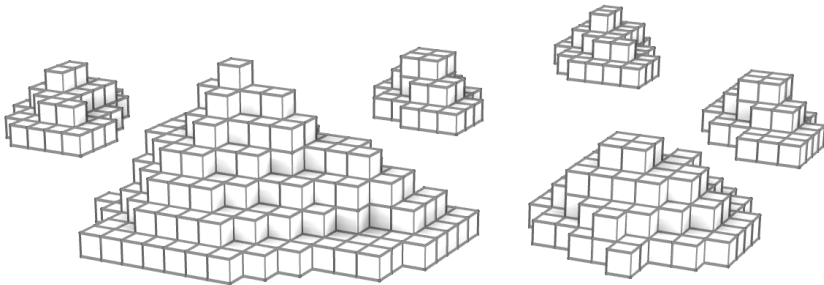
BIG SCALE *EXTENSION*



↑
VERTICAL
extension



HORIZONTAL
extension →



PUNCTUAL
extension

Figure 88.
Learning from
the masters:
bamboo scaffolding
workshop
(Heimann 2017)



BAMBOO AND COCONUT ROPE

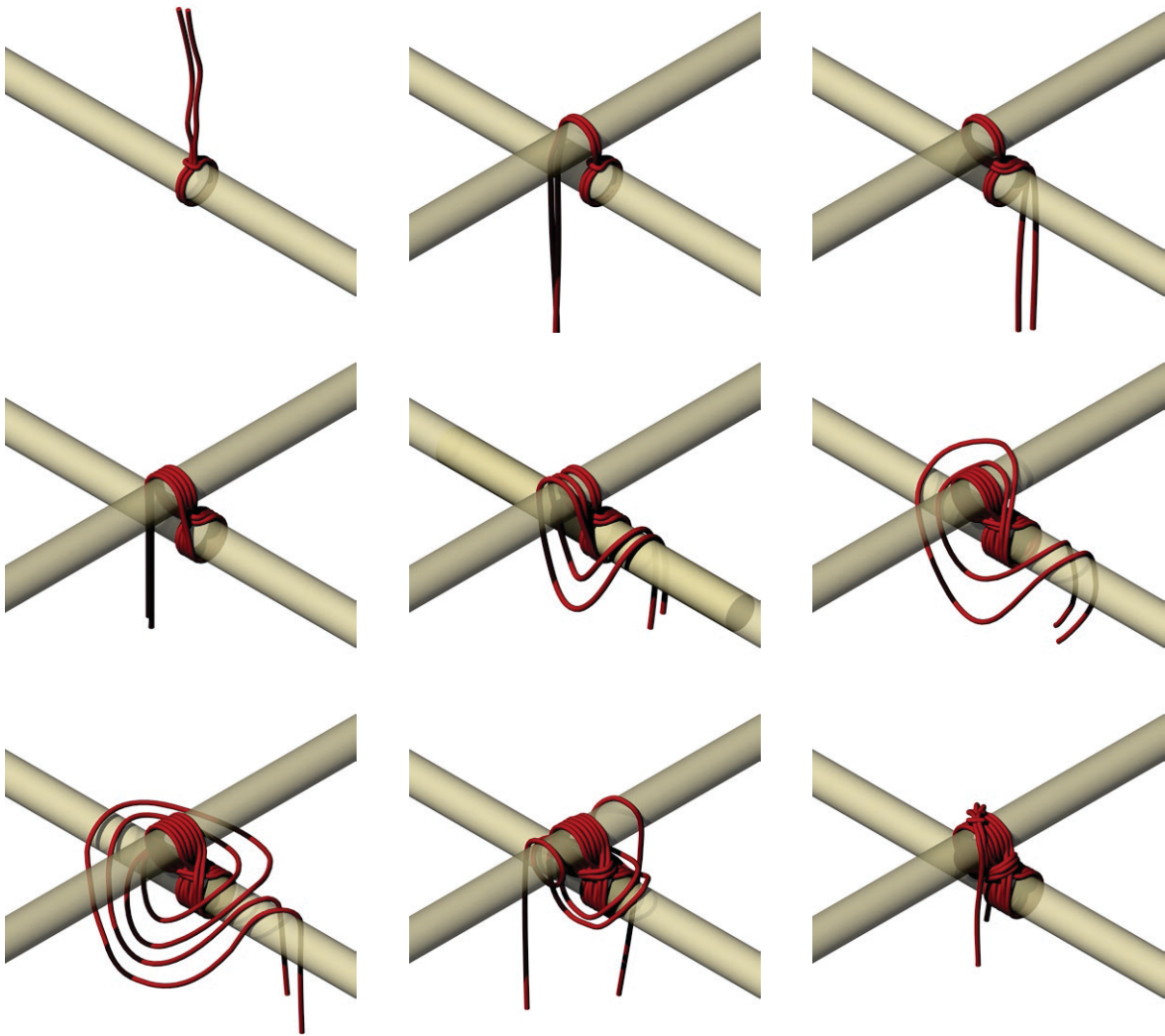
A WORKSHOP IN TRADITIONAL SCAFFOLDING TECHNIQUES

During our visit to Myanmar, bamboo quickly caught our attention. It is used in nearly all areas of life: for making kitchen tools or furniture, such as the “easy chair”, for constructing traditional houses, or as scaffolding for large-scale modern construction. In Bagan, many of the religious monuments were wrapped in bamboo scaffolding for restoration purposes. The economy of nearly an entire village, Myinkaba village in the Bagan area, is based on providing bamboo for construction around Bagan. The traditional and continuous use of this construction material in Bagan, its wide availability, and its sustainable character made us chose bamboo for the temporary prototype.

For this, we had to learn about traditional bamboo scaffolding techniques from local craftsmen. We therefore organised a workshop with a theoretical and a practical portion. For the theoretical part, we visited impressive bamboo scaffolding installations at large-scale monuments. We were guided by officers of the Department of Archaeology and by the construction manager, who gave us detailed insights on how bamboo scaffolding systems work. We also visited local villages, where we observed how bamboo is used in everyday life. Here, the clever roofing systems of vernacular homes particularly caught our attention.

For the practical part, we went to a site where specialised craftsmen were installing bamboo scaffolding for temple restoration. The craftsmen showed us with great patience how to join two bamboo sticks with a knot out of coconut rope and explained how to eventually create strong and more complex structures with this technique.

BAMBOO-ROPE CONSTRUCTION - STEP BY STEP INSTRUCTION



ON-SITE - REALISATION

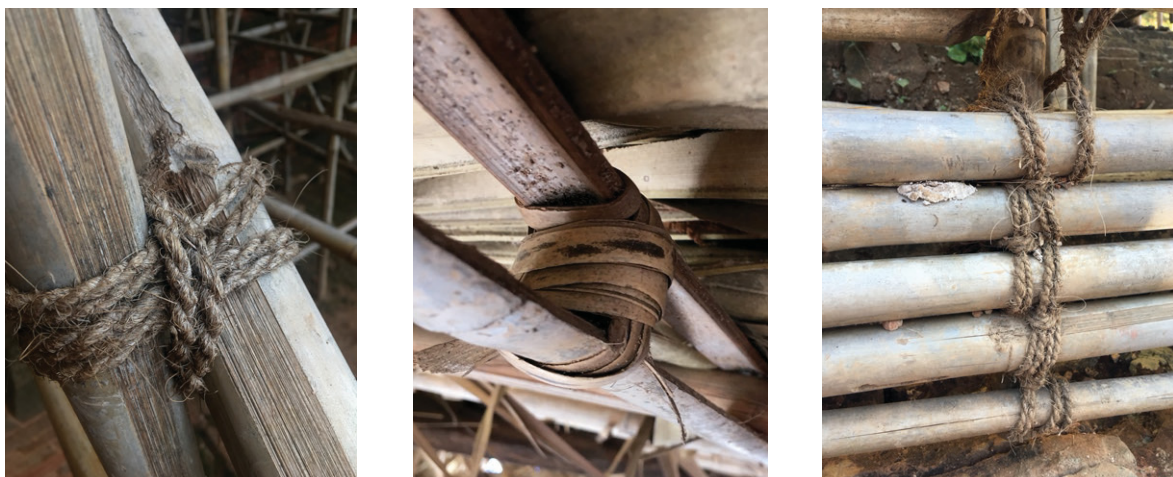


Figure 89. The team celebrating the completion of the prototype with fresh coconut (Römer 2017)



UNDER CONSTRUCTION. A 1:1 PROTOTYPE

Based on the knowledge we gained from our field research, the preliminary analysis, and the practical experience of the bamboo workshop, we designed an easy-to-build and temporary prototype viewing platform.

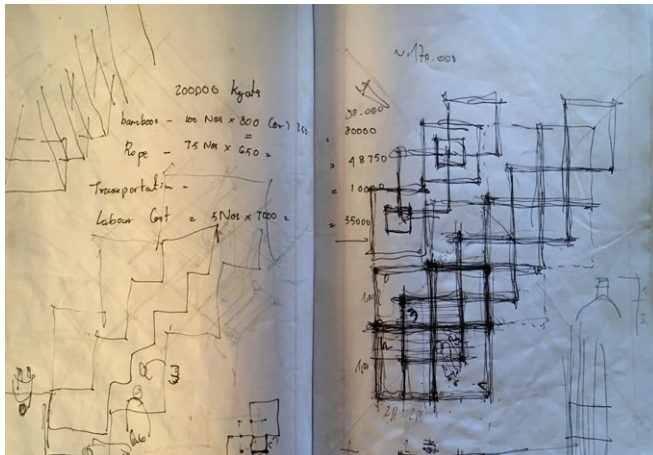
The modular design foresees that the bamboo structure could be freely extended vertically and horizontally, depending the designated context (visualised below). The structure is easy to build and could be reproduced in various locations within the Bagan area (visualised as “the big spread”). Our prototype, as the very basic version of this idea, encompassed three seating levels. The highest seating platform is 180 cm at its core, and its lower levels stretch out to both sides at 60 cm intervals.

The elongated structure was placed on top of a pottery hill, or “natural” mound, along a north-south axis, so that its orientation to east and west would make the structure useable for sunrise as well as sunset viewings.

On our last day in Bagan, we built our prototype. For its construction, we were assisted by three specialised bamboo craftsmen and by our colleagues from the DoA. We started building the prototype early in the morning, just after sunrise, and finished the construction just before sunset. As we tied the very last coconut ropes and finished our prototype, a group of international tourists and locals approached us and enjoyed the sunset together with us from our newly built platform.

HERITAGE IMPACT ASSESSEMENT (HIA) FOR ON-SITE PROTOTYPE

The Heritage Impact Assessment (HIA) methodology is specifically geared towards evaluating negative and positive impacts of new construction on heritage attributes. It is therefore more specific than a regular SWOT analysis.



FROM IDEA TO REALISATION - THE DESIGN PROCESS

Figure 93 First sketches (Heinmann 2017)



Figure 92 Laying out the floor plan in the sand (Heinmann 2017)



Figure 91 The construction process (Heinmann 2017)



Figure 90 The finished 1:1 prototype (Heinmann 2017)

SWOT ANALYSIS FOR ON-SITE PROTOTYPE

SWOT Analysis - Location and setting

Strength	Weakness	Opportunity	Threat
Profits from the natural height of the mound	Small amount of nearby monuments	Provides diverse perspective over the landscape	Located in archaeological zone
Central, within the archaeological zone		360 views	

Table 20.
SWOT Analysis

SWOT Analysis - Function

Strength	Weakness	Opportunity	Threat
Mitigates impact of tourist climbing on the temples	Added construction in the landscape	Alternative to experience sunrise/ sunset	People might not use it

Table 18.
SWOT Analysis

SWOT Analysis - Material and substance

Strength	Weakness	Opportunity	Threat
Light structure and material, Local materials, temporary/ reversible	Climatic pressure on material	Simple and local material allows to be easily copied	Limited stability

Table 17.
SWOT Analysis

SWOT Analysis - Form and design

Strength	Weakness	Opportunity	Threat
Based on local scaffolding tradition Does not imitate any historic architectural shape of Bagan	Not sufficient space for massive numbers of people Limited accesibility	Offers tourist good overview over the landscape Height and surface are limited	Due to its dimension it partially interrupts the overview over the landscape Visual impact for closeby monuments

Table 19.
SWOT Analysis

The HIA tables provide an overview of the heritage attributes that were taken into consideration for the assessment and their significance within the overall “outstanding universal value” of Bagan as a prospective World Heritage Site. Our assessment showed that the reversible and temporary viewing platform made of bamboo had a negligible impact on two of the attributes, as well as a beneficial impact on the conservation of various attributes.

In contrast to the existing Nan Myint viewing tower, a bamboo structure such as our prototype is temporary, reversible, and of low scale. Nevertheless, the prototype viewing platform, with its relatively moderate height of 1.80 m could slightly impact the visual of the overall landscape. However, this is the case only when one is standing right next to it, and any visual impact decreases as one steps away. Thus, from further away, the prototype is not visible at all. This effect is compounded by its material, which functions as camouflage in the landscape.

The prototype also provides a new perspective and comfortable position to appreciate Bagan’s ensemble of monuments. Another benefit is that it does not directly impact the fabric of the monuments, the agricultural fields, or the ecosystem.

However, since it was located on top of the “natural” mound, which has archaeological value (the pottery mound), it could have a direct and negligible adverse impact on the area. Therefore, it would be necessary to conduct a survey to identify possible archaeological remains in the mound before adding any new elements.

Again, in summary, the impact of the bamboo scaffolding is mainly beneficial for the conservation of the monuments, but it risks a slight impact on the appreciation of the landscape for those in the direct vicinity

Identified values potentially affected by viewing platform

Attribute	Contribution to significance	Contribution to OUV
Monuments	Very High	Criterion IV
Living traditions	Very High	Criterion VI
Archaeological assets	High	Criterion III/IV
Landscape	High	Integrity
Land-use	Medium	Intangible cultural heritage
Nature "ecosystem"	Low	Regional value

Table 21.
Identified values affected by viewing platform

OUV attributes- Scale of severity of change Bamboo scaffolding

Attribute	Contribution to significance	Change	Impact	Significance of change
Monuments	Very high	No change	Neutral	Minor (beneficial)
Living traditions	Very high	No change	Neutral	Neutral

Table 22.
OUV attributes- Scale of severity of change

Non OUV attributes- Scale of severity of change Bamboo scaffolding - Viewing platform

Attributes	Contribution to significance	Change	Impact	Significance of change
Archaeological assets	High	No change	Slight Neutral	Neutral Adverse
Landscape	High	No change	Slight Neutral	Neutral Adverse
Land-use	Medium	No change	Neutral	Neutral
Nature "ecosystem"	Low	No change	Neutral	Neutral

Table 23.
Non OUV attributes- Scale of severity of change



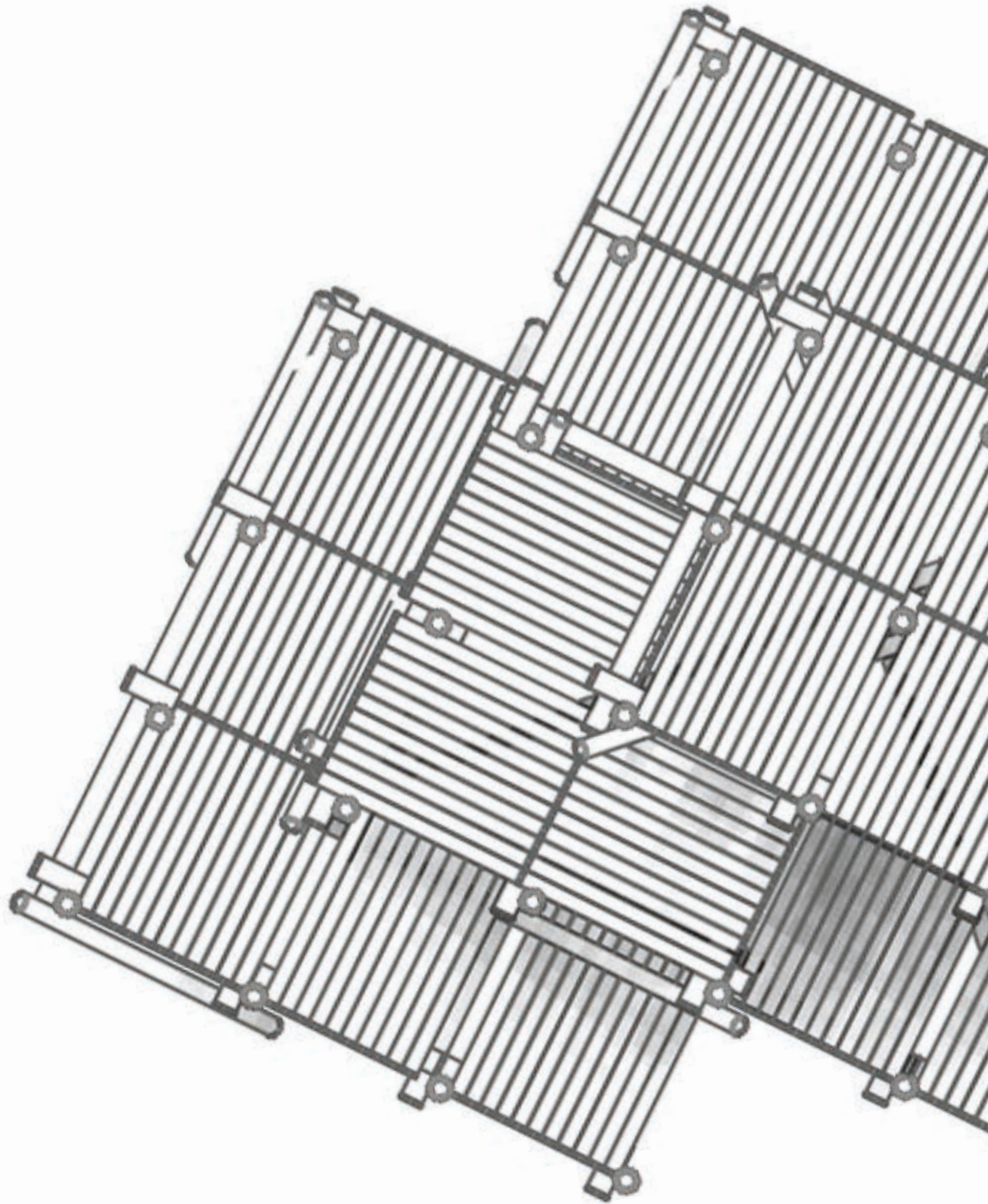
Table 24. Attributes

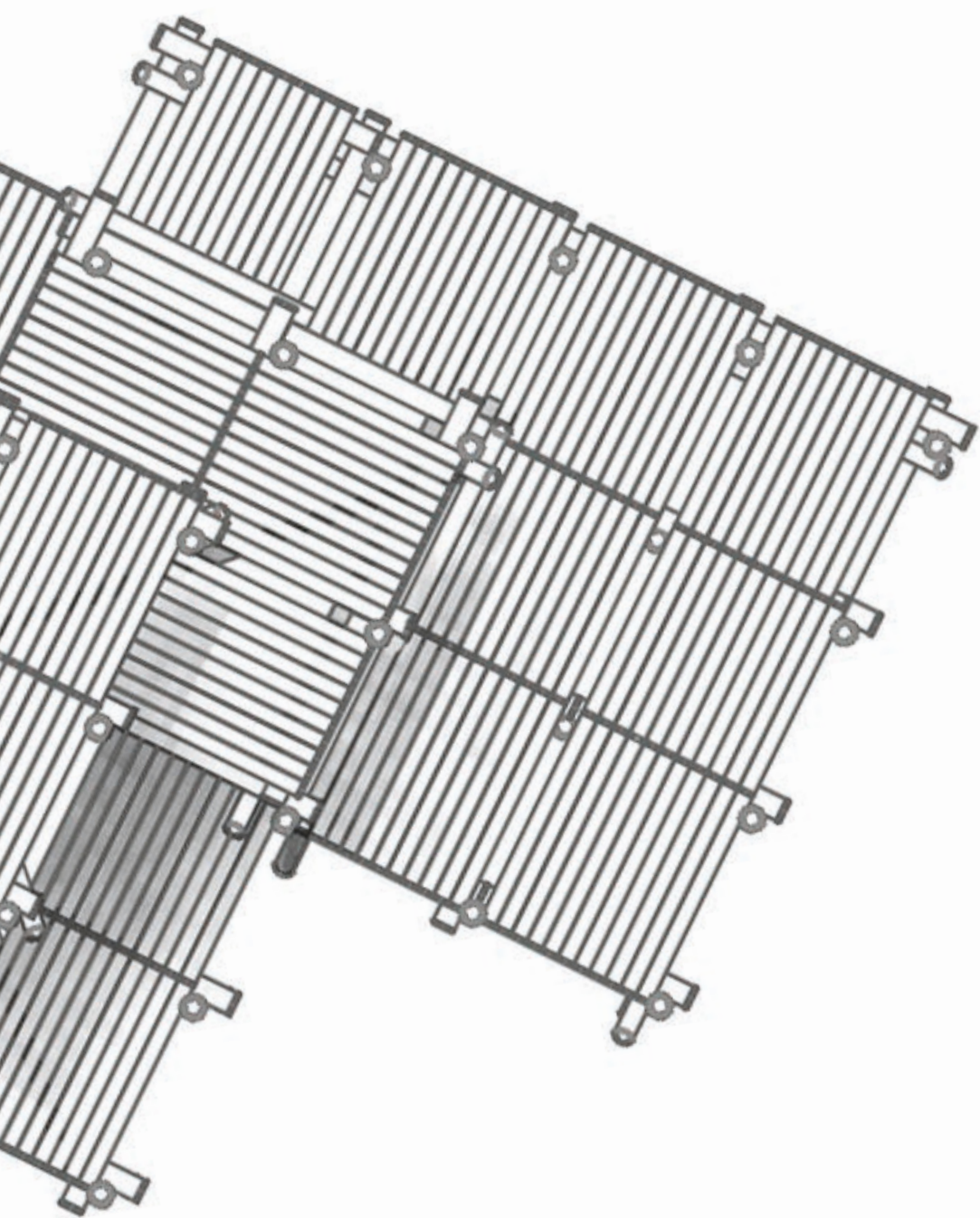
Table of attributes

Attribute	Detail	Type	Duration	Extent	Change	Impact	Sig of change
Monuments	Visual integrity & aural noise	Direct reversible	Temporary reversible	Limited	Negligible change	Slight	Negligible/ adverse/ Minor beneficial
	Fabric	Indirect reversible	Temporary reversible	Limited	No change	Neutral	Beneficial
Living traditions	Festivals, beliefs, merit-making	Indirect-direct?	-		No change	-	-
Archaeological assets	Underground fabric	Direct reversible	Temporary	Limited	Undetermined	Slight	
Landscape	Visual integrity	Direct	Temporary reversible	Limited	Negligible change	Slight	Neutral to beneficial
Land-use	Agricultural practices/ fields	Indirect	Temporary	Limited	No change	Neutral	Neutral
Nature “ecosystem”	Ecosystem	Indirect	Temporary reversible	Limited	No change	Neutral	Neutral

THE PROTOTYPE

from sketch to reality









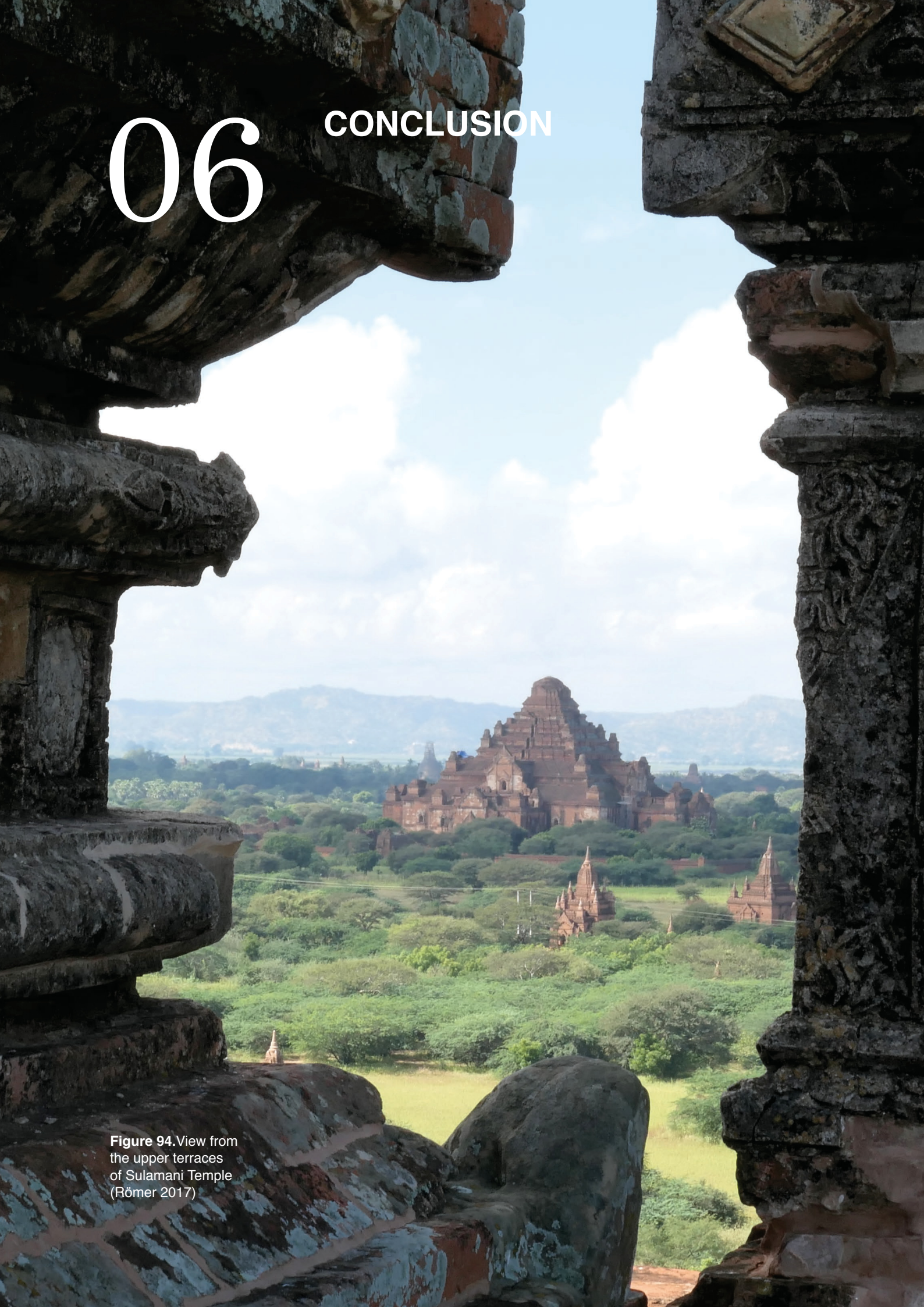




06

CONCLUSION

Figure 94. View from the upper terraces of Sulamani Temple (Römer 2017)



TOWARDS CULTURAL EXCHANGE AND DIDACTIC RITUALS

by Clara Rellensmann and Alexander Römer

With our study project and field trip “Studio Bagan: Building in Heritage Context”, we aimed to shed light on the issue of temple climbing and to develop responses. We therefore gathered data in the field, analysed it, and developed ideas for potential management and design solutions. The ideas presented in this report can be seen as a starting point to further develop them and possibly implement them in collaboration with Myanmar partners.

We would like to note here that having had limited time and resources for the study, there is room for elaborating on some of the aspects of our analyses, such as the parameters for the SWOT analysis or location analysis, for example. Despite such shortcomings, the report provides many insights into the issue of temple climbing and presents ideas that could be realised in the future.

We found that many aspects of the issue we dealt with were related to the broader “problem” of tourism itself, the consumption behaviour of tourists, and associated phenomena. In our report, we therefore highlighted the importance of taking management actions to address these aspects. Further work could, for example, include gathering additional data from stakeholders to define sub-groups among dominant user groups, such as international tourists, in order to find out about their particular backgrounds and interests. This information could help in developing adequate interpretation and management strategies, as well as functional design solutions for the temple climbing issue.

Interpretation strategies should be directed at dispersing visitor flow while also stimulating a conscious involvement with the site. The need for raising awareness among visitors of adequate behaviour could additionally be addressed by developing a code of conduct for visiting this living religious site. Visitors would have to read and sign a code of conduct declaration when purchasing an entrance ticket upon arrival in Bagan. Such code of conduct declaration should include information on local cultural traditions and easy-to-understand rules of behaviour, including rules concerning the climbing of monuments. A central objective should

be how to eventually steer the often purely experiential consumption by tourists towards something more meaningful, along the lines of cultural exchange.

Our vision is that management measures integrated with physical solutions such as alternative viewing platforms could in the long-run solve the issue of temple climbing and contribute to a more sustainable tourism at Bagan, particularly in terms of tourist behaviour.

Potential physical solutions presented in this report as schematic design ideas followed a catalogue of criteria. These were developed on the basis of existing regulations and the results of our field analyses (see section 4, Summary of design task).

The initial ideas on location analysis presented in this report are yet to be further professionalised. Since our assessment was partially done in the office, as a follow-up of our field trip, we would propose that parameters should be verified and re-assessed on-site. Additional datasets may have to be gathered and integrated in order to perform a location analysis with the help of GIS technology. This could, for example, be done in collaboration with the DoA GIS team.

For the on-site prototype that we built at the end of our field trip, a “natural mound”, favourable for its elevation, was chosen as our building ground. For the construction, local materials and techniques were used. The prototype also adhered to the principle of reversibility, which was demonstrated shortly after its construction. As such, the durability of the structure unfortunately could not be tested.

As opposed to permanent and irreversible solutions, the introduction of temporary structures foresees a continuous involvement with the site and its changing condition. The temporary, easy-to-build/deconstruct nature of most viewing platform typologies schematically proposed in chapter 5 of this report presents an opportunity to further develop such ideas and test them in the field. We would therefore propose that various temporary designs eventually be tested to gather feedback from stakeholders and user groups and to monitor the material's soundness.

This could possibly be organised through an annual student competition with local partners, such as the Association of Myanmar Architects, the Department of Archaeology, and the architecture departments of various universities. In a one-week building workshop, the winning design could be chosen each year at the beginning of peak season (around October) and be removed from site by the same student group shortly before the rainy season (March/April). Participating students would be coached on themes such as designing in heritage contexts, design-build processes, and traditional construction techniques and materials, while at the same time contributing to the conservation of Bagan.

Making Bagan the host of such student workshops would also follow the didactic traditions of the site. Bagan, with formerly more than 500 monasteries,

has been a centre of teaching and learning throughout the centuries. An annual student competition and associated field workshop would give new generations of students the opportunity to enter into a dialogue with the site. Such a didactic ritual would provide for a continuous and open-ended dialogue with Bagan, aimed at leaving positive traces at the site every year.

We are grateful for the experience we had in Bagan in November and December 2017 and look forward to future collaboration.

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ANNEXES

**Government of the Republic of the Union
of Myanmar
Ministry of Culture
Department of Archaeology and National Museum
No-35, Nay Pyi Taw
Instruction Order-No.3/2014
Dated 1st August 2014**

1. At present Pyu Ancient Cities Halin , Beikthano and Sri-Ksetra have been inscribed on the World Cultural Heritage list and Bagan will soon be nominated for inscription in World Cultural Heritage list. Therefore in order to protect and preserve the invaluable Myanmar Cultural Heritage sites including Bagan, Ministry of Culture and Department of Archaeology and National Museum issue the following rules to be abided by in the Protected and Preserved Zone (or) Buffer Zone referring to Article 30(b) of “The Protection and Preservation of Cultural Heritage Regions Law”

- (A) The area of villages, quarters and towns must not extend beyond the existing area.
- (B) In the urban area of Bagan new town and Naung-U town, the new construction of restaurants, hotels, motels, guest houses and industrial buildings are not allowed.
- (C) Hotel, motels, guest houses and industrial buildings already in existence before the enforcement of the rules are not **allowed to** extend the buildings or extend the fencing area of the buildings.
- (D) The owner of hotels, motels, guest houses and industrial buildings must apply prior permission from Department of Archaeology and National Museum before any renovation and renovation work must be carried out only after getting the permission.
- (E) The owners of the houses must apply prior permission from Department of Archaeology and National Museum in order to renovate or extend the

building or to construct the fencing or to extend the fencing. Any such activities must be carried out only after getting the permission.

- (F) The reconstruction of existing buildings, construction of new buildings in the villages, quarters and towns must abide by the following restrictions.

- (1) The height of the building must not exceed more than 30 feet.
- (2) Construction of under-ground buildings is not allowed.
- (3) Any building must be away at least 130 feet from any ancient monument.

- (G) Except in the villages, quarters and towns within the demarcated zones, no new building is allowed to build in the farm land, pasture, land and non-cultivated land within the zones.

- (H) Any activity such as cultivation, domestication of animals, constructing fencing, and erecting fencing posts must apply for prior permission and carry out such activities only after getting permission.

- (I) The architectural decorations which are usually decorated in the temples, Stupas and arch-way(for example, kanote (floral) design which is associated with religious monuments) must not use in decorating hotels motels, guest houses , industrial buildings and residential buildings.

- (J) Any activity such as maintaining old roads, constructing new roads must follow the fallowing rules-

1. Constructing high way are not (never) allowed.
2. The tar road, earth road, laterite road and gravel or granite road can be constructed which must be matched with the environment.
3. The roads must also be matched with the color of the ancient monuments located in the area.

4. The shoulder of the road must be at least (90) feet away from the ancient monument.
 5. The Width of the road must not exceed than (16) feet.
 6. If necessary to dig for construction of the road, the depth must not be more than (12) inches from the ground level.
 7. If it is in need to make pavement, it is necessary to submit the design to the Department of Archaeology and National Museum and the pavement must be made according to the design approved by the Department of Archaeology and National Museum.
 8. In order not to drive in high speed, the road should be built with bends and slow-downs road obstructions.
- (K) Below are the rules for the roads which are already constructed very close to the ancient monuments.
- (1) No vehicles over 3 tons and above are allowed to drive on that road.
 - (2) Must drive not more (20) mile per hour
- (L) It is necessary to apply for permission to construct 'Parking place'. The applicant must follow the rules laid down by Department of Archaeology and National Museum.
- (M) The cultivators must follow the rules for cultivation where the ancient monument is located in the field.
- (1) Ploughing and cultivation must be at least (15) feet away from the ancient monument.
 - (2) Must not dig more than (15) inches

- (N) In the farm land or agricultural Land which are located inside the demarcated zones, no taller plants more than 6 feet high are allowed to grow.
 - (O) The following activities which can damage the ground soil are prohibited
 - (1) Gold sieving, brick making, baking bricks in kilns; digging for sand, digging for gravels, dumping garbage.
 - (2) Digging and leveling natural mounds; blocking the drainage or any canal.
 - (3) Earth filling to the ponds, channels, irrigation tanks and depression on the ground.
 - (P) Cutting the existing big trees as well as rows of small trees is not allowed.
 - (Q) Grazing cattle inside the compound of the ancient monuments is not allowed.
 - (R) Regarding the development projects in the region , Department of Archaeology and National Museum will inspect the proposed sites and give necessary decision in accordance with the law [e.g. Issue of vibration, Issue of gas emitting, Issue which can deteriorate the value of ancient monument, gas pipe lines and electricity cable pylons, Issue of telecom-tower, Issue of digging for irrigation, Issue of scientific farming, Issue of infrastructure buildings for health, education , religious and social affairs.]
- (2) Whoever violates the rules shall be punished according to provisions of chapter (8) of the Protection and Preservation of Cultural Heritage Regions law and other existing laws.
- (3) These rules shall prevail upon the previous orders and rules to be abided by in the Ancient Monument Zone (MZ), Ancient site zone or Archaeological Zone (AZ) issued by the Department of Archaeology and National Museum.

(Kyaw Oo Lwin)
Director General

Questionnaire

for tourists in Bagan

General questions

1 Nationality

2 Are You

☐ Male ☐ Female

3 What is your age?

_____ years

4 What is your profession?

5 How long do you stay in Bagan?

_____ day(s)

6 Why did you choose this time of the year to come here?

7 Why did you come to Bagan?

☐ Pilgrimage
☐ Temple architecture
☐ To see local traditions
☐ Religious practices
☐ Adventure
☐ Nature
☐ Other: _____

8 How is your visit organized?

☐ Independent
☐ Tourist group

Site questions

9 Is Bagan one of the main reason for coming to Myanmar

☐ Yes ☐ No

10 How do you explore Bagan?

☐ Horse carriage
☐ Car/ taxi
☐ Walking
☐ E-bike
☐ Bicycles
☐ Balloon ride
☐ Tourbus

11 Do you plan to watch the sunrise/sunset in Bagan?
If yes: from which tempel/ viewing point?

☐ Yes ☐ No



Clara Rellensmann is a cultural scientist working at the Department of Architectural Conservation at Brandenburg University of Technology in Cottbus. Since 2015 Clara has been conducting research on Bagan, in specific on architectural transformations that the site experienced in the 1990s. From 2011 to 2016 Clara worked for the UNESCO Offices in Bangkok (Thailand) and Yangon (Myanmar). Since December 2017 she has been a member of the international board of ICOMOS.

Alexander Römer is a carpenter and architect. He is the founder of ConstructLab a network of architects, designers, photographers, gardeners, cooks and others for participatory design-build practice. From 2005 to 2013 he was a member of the French collective EXYZT. With EXYZT and ConstructLab Alexander has realized numerous projects worldwide. He has also held a number of teaching assignments and guest professorships in Germany, France and Canada.