Capacity Building for Heritage Management in an Urban Context for the World Heritage Listed Hue City

FINAL REPORT

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Capacity Building for Heritage Management in an Urban Context for the World Heritage Listed Hue City

1. Introduction

Since the inscription of the Complex of Hue Monuments by UNESCO on the World Heritage List in 1993, international resources and expertise have been made available for the conservation and protection of Hue’s heritage sites. These efforts not only elevated the aesthetic appeals of the monuments but also re-engaged the city’s interest in its tangible and intangible cultural heritages. In turn, the presentation of these aspects to tourists became a driver for Hue’s tourism development.

The protection of Hue’s heritage sites therefore became a focus of work for the HMCC since UNESCO appealed for their protection. Concerning the management of the heritage sites, it became clear that the authenticity and integrity of Hue’s heritages now face challenges not encountered in the previous century. Contemporary threats include pressures of urbanization and development of infrastructure in the landscape setting; encroachment from inhabitants living in the areas surrounding the heritage site; environmental pollution; natural disasters and the adverse effects of climate change. A comprehensive approach to protect Hue’s heritage sites is necessary and requires the development of a Management Plan that can be integrated into a larger regulatory framework (Urban Master Plan; Socio-Economic Development Masterplan of the Thua Thien Hue Province) developed for the city of Hue.

To date, the HMCC is drafting the Management Plan with the goal to manage and mitigate the contemporary threats as mentioned1. Furthermore, the HMCC is progressively pursuing a broader concept of site management as recommended by UNESCO: to consider the extension of monuments’ original protection areas in order to protect the property as a cultural landscape. To accomplish this objective, a discourse must be generated that attempts to qualify the heritage assets that constitute Hue’s cultural landscape and the threats that they face; and the need for the accurate articulation of those concepts spatially on a map.

Therefore, the use of a Geographic Information System (GIS) as a tool to aid the HMCC in managing the heritage sites is explored in the current Tailor-Made-Training Program funded by The Netherlands Universities Foundation for International Cooperation (NUFFIC). The HMCC has been requested by UNESCO in the past to complete an inventory of all heritage-listed and traditional buildings that documents their characteristic, significance and state of conservation. UNESCO provided technical training to the HMCC in 1999 to create a detailed spatial inventory of information concerning the monumental sites, architectural structures as well as for land use, planning and infrastructure. However, it was difficult to sustain the initial GIS implementation effort due to lack of funding and the ability to sustain deep technical knowledge within the HMCC to manage a complex GIS system.

The current capacity building program for the HMCC acknowledges these issues and has taken a different approach to the GIS training. Primarily, the goal is not solely to provide a technical GIS software training for all of the participants, but also to enhance their understanding on the expanded concept of cultural landscape such that the historic, architectural and environmental

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1 In 2008, Urban Solutions collaborated with the HMCC in a NUFFIC funded project “Heritage Conservation Management Plan and Capacity Building Program for the City of Hue”. This training engaged HMCC staff to set out directions for managing the heritage sites in the context of a fast changing urban environment.
(landscape setting such as feng shui) elements can be defined. The goal is also to allow these aspects to inspire the development of heritage tourism for Hue in terms of the historical and cultural significance of existing tourist sites, potential tourist sites, intangible heritage and tourist services.

Hence, the training combines the collection and analyses of information for landscape conservation and tourism development, as well as the collection of attribute data for GIS. Drawing from trainees who came from a wide range of backgrounds including information technology, history, architecture, language and fine arts, the training dedicates technical GIS training to those with high computer and GIS competencies while harnesses the skills of the researchers to explore the concepts of conservation and heritage tourism. Overall the training builds the capacity of the HMCC to produce GIS maps and articulate recommendations to inform HMCC’s Management Plan.

1.1 Training objectives

Urban Solutions has developed a training course that aims to improve the capacity of the HMCC to use GIS as a tool to manage and monitor heritage conservation and heritage tourism in Hue. In order to achieve greater focus on conservation management and tourism development under the new concept of cultural landscape, the training focused on one Pilot site – the Tu Duc Tomb. This heritage site sits within a natural landscape and adjacent to local villages. The landscape setting is similar to many other monument groups in Hue, which faces urban development pressures, encroachment by local residents and tourists, and environmental degradation.

Twenty-one participants from various departments of the HMCC (see Annex 13) participated in the training. They were divided into three groups with different responsibilities: the GIS group focused on technical GIS training; the Conservation group focused on defining and identifying cultural assets within the surrounding areas of the Tu Duc Tomb; and the Tourism group focused on creating an inventory of existing and potential tourist sites, services and facilities. Field surveys were conducted on the pilot sites by the Conservation and Tourism group to generate data, parts of which were presented as attribute data for the GIS. The GIS group then generated relevant geodatabase and GIS maps based on the given data. The results of the training included GIS maps and recommendations to inform part of HMCC’s Management Plan for conservation, tourism and GIS implementation. The training was structured with the following activities:

a. The development of concepts and attribute data for GIS on selected cultural landscape elements and tourism assets through literature research, field survey and SWOT analyses as follows:

For conservation management:
- Articulate cultural landscape values at the Tu Duc Tomb and surrounding areas based on their historical significance, building concept and landscape elements;
- Interpret the Hue City Master Plan and analyse urban development pressures around the Tu Duc Tomb;
- Perform SWOTS for the surrounding areas for the Tu Duc Tomb;
- Develop attribute data for GIS.
For **heritage tourism**:
- Develop data for an inventory of existing tourist sites at the Tu Duc Tomb;
- Develop an inventory of existing and potential tourist facilities or services at the Tu Duc Tomb and surrounding areas;
- Collect information reflecting the architectural conditions and the restoration record for the buildings at the Tu Duc Tomb site;
- Perform SWOTS analyses for selected tourism asset;
- Develop attribute data for GIS.

b. The development of technical skills to generate defined thematic GIS maps with the QGIS software;

c. The analysis of results and development of recommendations to inform HMCC’s Management Plan:
   - Conservation management and the extension of protection boundary;
   - Strategies to promote tourist sites and services;
   - Future GIS implementation for the HMCC.

Overall, the training enhanced HMCC’s intellectual and management capacity and empowered the Centre to embrace GIS as a tool to effectively monitor heritage conservation as well as integrating the results into the Management Plan. The GIS results generated at the Tu Duc Tomb pilot site will be relevant to the other sites in similar contexts and therefore the methodologies can be readily disseminated. Successful GIS implementation as a result of this training will position HMCC to function in a more strategic and proactive manner regarding the monitoring of heritage assets in the future to come.

Capacity building activities: workshop, fieldwork and on-the-job training.

**1.2 The Cultural Heritage of the Tu Duc Tomb**

The burial complex of Emperor Tu Duc (1847-1883) is one of the most popular tourist destinations amongst the Complex of Hue Monuments. Construction works began in 1864 at a time when Emperor Tu Duc faced considerable external threats from France and unrest from within when a mutiny broke out in 1866. However, Emperor Tu Duc went on to become the longest reigning emperor of the Nguyen dynasty.
The characteristics of the Tu Duc Tomb reveal the historical circumstances of the time and the Emperor’s aesthetic sensibilities of a poet. The complex is enclosed within a lush garden marked by meandering paths, a curvaceous lake, a lone islet and organically positioned built works. In the final sixteen years of the Emperor’s life, the Tu Duc complex also served as his second place of residence, where he would use the ground to discuss matters of the state and compose poetry. The Tu Duc Tomb is therefore not just a space for the afterlife. Its ‘double function’ emanates a philosophy steeped in the Vietnamese tradition – the concept that the world of the present coexists with the world of ancestral spirits. After the emperor died his wives and concubines continued to care for his soul till the end of their lives within the walls of the Tu Duc Tomb complex.
2 GIS Implementation at the Tu Duc Tomb

2.1 Introduction
Over the past few years, GIS (Geographical Information System) became widely used as a system to effectively manage databases and process different layers of maps and spatial information. GIS allows for the storage of quantitative map data and their attributes, and is a powerful tool for performing analyses for specific GIS applications.

2.2 Data sources

2.2.1 Base maps and geodatabase
The sources of data used for the training workshop included the geodatabase that GISHue received from the Electronic and Digital Information Center (EDIC). Specifically:
- GISHue’s topographic geodatabase (ThuaThienHue_Adh108.gdb) at a 1:10,000 scale, and comprising 7 datasets including: Geographical boundaries, measurements, infrastructure and population, terrain, transport, land cover and hydrology.
- Cadastral base-map of Hue City (BanDo_DiaChinh.gdb) at 1:2000 and including 4 datasets: geographical boundaries, land use, transport and hydrology.

In addition to the above, the workshop also used other data sources available at HMCC including the Tu Duc Tomb protected area delineation map at 1:1000 in Autocad format.

2.2.2 Attribute data
The GIS trainees received attribute data from trainees of the Conservation and Tourism groups in relation to the construction, restoration record, historical and building concepts of selected heritage sites, as well as tourist facilities and services.

2.2.3 Software
Currently, there is a great variety of GIS software available. Among the multitude of software, ArcGIS is arguably the most used. However, the procurement of ArcGIS requires substantial financial resources. Due to budget constraints, we chose to use QGIS, a free open-source software which offers the following advantages:
- Free of charge and open sourced.
- Allows users to open and read a great variety of GIS data, which was recommended by the Thua Thien Hue Provincial People’s Committee in Decision 988/ QD-UBND on the solutions framework for building application software for government agencies in Thua Thien Hue.
- Can acquire additional functions through plug-ins.
- Has a large number of users worldwide.
- Has the potential for localization (local languages options).
- Can meet most of the basic user needs in GIS.
2.3 GIS application process during the training workshop

Figure 1: GIS application map used during the training workshop

Figure 1 represents the process of GIS application for heritage conservation and tourism development at the Tu Duc Tomb complex. This process includes four main steps:

**Step 1 – Rationale**
The trainees and trainers discussed, analyzed and reviewed the materials and set specific objectives for the application of GIS in heritage management and tourism development. Research tasks are specified according to the type of data to be collected and maps to be established.

- 9 maps intended for heritage conservation were separated in 2 categories:
  - The first category included maps that represent the historical meaning of structures within the Tu Duc Tomb and its surrounding area (6)
  - The second category included maps that represent structures and objects whose construction and structure reflects the Tomb’s original concept (3)

- 2 maps used for tourism development purposes:
  - The map of tourist sites within the Tu Duc Tomb complex
  - The map of tourism facilities and services available at Tu Duc Tomb complex

- 1 map to show the restoration records of buildings within Tu Duc Tomb complex

On the basis of the above-mentioned materials, the GIS group was established to focus on creating a GIS database and analyzing GIS data.

**Step 2 – Data collection and processing**
Step 2 was the most complex and important step within the GIS application process. As most of the trainees had no prior exposure to GIS, the training provided them with an introduction to GIS
and mapping for beginners. The trainees were introduced to the makeup of GIS data, which included spatial data (raster and vector) and attribute data (figures and table describing the geographical objects). Once everybody had a firm grasp of the basics of GIS, they proceeded to practical training on the QGIS software and GIS base maps made available by GISHue. The trainees created map layers on GISHue according to their assigned research areas. Two map scales were identified:

- For maps intended for conservation based on the original construction concept, because the area covered extend beyond Hue city, the basemap taken from GIS Hue geodatabase was on a 1:10,000 scale
- For the remaining maps: basemaps taken from Hue City’s geodatabase at 1:2000.

The trainees were supported by trainers and EDIC to convert the original data format to standard ERSI shapefile GIS data, which included such formats as gdb (ESRI’s copyrighted format that can be opened only in ArcGIS) and CAD (AutoCad).

The trainees practiced entering spatial data (scanning and converting image pixels to geo-coordinates, digitalizing points and lines features) in order to add new map objects as required. The trainees also practiced entering attribute data, which were sourced from the Conservation and Tourism groups. The trainee edited and converted the received data into formats that can be integrated into GIS.

**Step 3 – Data organization**
The trainees re-organized GIS data into the following layers:

**Conservation management maps:**
The base-map layer included 5 datasets, i.e. administrative boundaries, rivers, land cover (land use), elevation lines (or Digital Elevation Model), transport.

The specialized map layer included datasets representing buildings with an important historical value, or a construction significance reflecting the original concept of the Tomb. The attribute table was integrated into this layer, and included the following attributes:

**Historical value (scale 1:2000)**
- General map showing buildings with a historical value in areas surrounding Tu Duc Tomb
- Map showing the buildings’ years of construction
- Map showing tombs according to their social hierarchy, including kings’ tombs and other royal burial sites.
- Map showing the architectural characteristics of the buildings
- Map showing the buildings’ management levels (HMCC, Department of Culture, local authorities, families)
- Map showing the buildings’ current condition (well-preserved, partially preserved, heavily damaged, no longer existent, has been converted into agricultural land or residential areas, etc)

**Significance related to the original construction concept (scale: 1:10000)**
- Map showing the four buildings that impacted on King Tu Duc’s decision on the location of his burial site according to Khiem Cung Ky (these four buildings being the Altar of Nam Giao, the Temple of Literature, Linh Mu Pagoda, and Thieu Tri’s Tomb)
- Map showing the four feng shui mountains
- Hydrology map for the Tu Duc’s Tomb and its surrounding area

Maps for Tourism assets:
The base-map layer showing the protected zone’s boundaries and land use boundaries
The specialized map layer includes 1) a layer showing buildings considered tourist attractions within the Tomb’s complex and its surrounding area and a corresponding attribute table, and 2) A layer showing digitized tourist services spots and a corresponding attribute table. The following attributes are shown on the map at a 1:2000 scale:
- General map showing the location of buildings within the Tu Duc’s Tomb complex
- Map showing buildings within the Tu Duc’s Tomb complex and their levels of restoration
- Map showing the current and potential tourist services spots (shops, resting areas, entries, garbage cans, photo studios, new entrance, and car park for the Tu Duc’s Tomb complex)

Step 4 Result retrieval
Once the GIS database for conservation and tourism development was organized, the trainees presented the map products in different formats upon request, including PDF or image files, or print outs on hard copies. See Annex 1-12.
3. Heritage Conservation

3.1 Introduction
As recommended by UNESCO, HMCC is progressively pursuing a broader concept of heritage conservation that is beyond the protection of the physical conditions of the monuments. By considering what constitute cultural values in the landscape around the monument sites, the HMCC can consider extending the protection boundary to ensure better management of the heritage sites as a cultural landscape. The aim of this training component was to give the trainees an understanding of the meaning of cultural landscape. The training also explored the use of GIS to identify heritage assets spatially, and provided attribute data that described the cultural significance of the selected sites in the landscape area around the Tu Duc Tomb. The trainees were also encouraged to provide recommendations for the protection and development of selected elements within the cultural landscape. These recommendations were proposed to inform HMCC’s Management Plan.

3.2 The Concept for Cultural Landscape
In 1992 the World Heritage Convention became the first international legal instrument to recognize and protect cultural landscapes. The Committee at its 16th session adopted guidelines concerning their inclusion in the World Heritage List:

“The Committee acknowledged that cultural landscapes represent the "combined works of nature and of man" designated in Article 1 of the Convention. They are illustrative of the evolution of human society and settlement over time, under the influence of the physical constraints and/or opportunities presented by their natural environment and of successive social, economic and cultural forces, both external and internal.

The term “cultural landscape” embraces a diversity of manifestations of the interaction between humankind and its natural environment. Cultural landscapes often reflect specific techniques of sustainable land-use, considering the characteristics and limits of the natural environment they are established in, and a specific spiritual relation to nature. Protection of cultural landscapes can contribute to modern techniques of sustainable land-use and can maintain or enhance natural values in the landscape. The continued existence of traditional forms of land-use supports biological diversity in many regions of the world. The protection of traditional cultural landscapes is therefore helpful in maintaining biological diversity.”

This concept of cultural landscape has been recommended by ICOMOS to be adopted for Hue during the nomination as a world heritage site in 1993. However, the protected zones for the heritage protected zones since the nomination remained limited to the direct surroundings of the buildings. Since 2007, UNESCO has urged in their recommendations the city of Hue to develop a Management Plan that includes:

“… wider core and buffer zones, with aiming towards re-nominating of the property as a cultural landscape based on a revised statement of its Outstanding Universal Values.

To be able to re-nominate the heritage properties in Hue as a cultural landscape, the HMCC needs to understand what constitutes a cultural landscape and then be able to precisely identify

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2 http://www.icomos.org/landscapes/index2engl.htm, consulted on 20/11/13
3 Hue Conservation Report, UNESCO 2007
appropriate protection boundaries. To achieve this we conducted detailed research on the cultural landscape values of the Tu Duc Tomb and surrounding areas:

- Through field surveys, heritage assets of historical and cultural significance in the surrounding areas of the Tu Duc Tomb were identified. Values classifying their cultural significance were defined, which included physical and non-physical aspects;
- Designed excel forms to define attribute datasets for each site for QGIS;
- Carried detailed analysis of the cultural landscape according to five sub-zones using SWOT;
- Provided conservation recommendations for each sub-zone and the whole area to inform HMCC’s Management Plan.

3.3 Site Analyses of Tu Duc Tomb and the Surrounding Areas

Tu Duc Tomb is an architectural complex and a landscape area built and developed from the 16th century. With a comprehensive overview, our predecessors were able to select a very beautiful terrain to construct a poetic and harmonious architectural complex (Fig 1).

Tu Duc Tomb currently includes two protected zones: zone 1 the core zone, and zone 2, the buffer zone (Fig 2). Zone 1 includes the area within La Thanh and 30 meters from La Than. Zone 2 covers an area of 70 meters from La Thanh. This identification of zones is evaluated as subjective and not considering the historical and cultural values, the construction status, and population of the adjacent area.

In order to identify valuable factors in the buffer zone, the research group analyzed 3 values:

- Historical values
- Original Construction values
- Natural Landscape values

3.3.1 Historical Values

Thuy Xuan area was first known when Tu Duc Emperor selected the northern part of the village as "ngoi sinh phan" (i.e the tomb area constructed for royal members since they are alive). Since then, this area was chosen to construct tombs for royal members. For instance, Tu Duc Tomb was constructed in 1864-1867, Dong Khanh tomb from 1888-1923, Kien Thai Vuong in
1888, Thanh Cung tomb in 1935, Tu Cung tomb in 1980, Liep 15 tomb in 1894. In addition, there were pagodas constructed in early 20th century.

Based on the formation history of the area, historical materials and surveys, 16 sites (Fig 3 & 4) with historical and cultural values were selected:

Fig 3. Location of the 16 identified places of historical and cultural value.
- Binh An Duong and Quan Xa House are two buildings belonging to the Tu Duc tomb complex, which were totally damaged. We identified them as archaeological sites. It is very important to include the archaeological sites in the GIS map because it has significant values for researching and recommending solutions for appropriate use and exploitation to avoid affecting the traces of the old building.
- 2 emperor tombs (Tu Duc and Dong Khanh tombs) and 7 royal bloods’ tombs (Fig 4) (Vinh Thoi, Vinh Co, Kien Thai Vuong, Tu Cung, Thanh Cung, Hoc Phi, and 15 liep tombs). These tombs possess different features, showing the artistic diversity of the Nguyen Dynasty.
- 3 pagodas: This area does not have famous pagodas in Hue, but the small pagodas located in the neighboring residential area of Tu Duc tomb reflect the spiritual life of the indigenous people. These pagodas have typical features of village’s pagodas or family pagodas (khuon hoi, tinh that), which are typical spiritual places in Hue.
- Boat station and the main road (Fig 5): this part connects between the Perfume river and Tu Duc Tomb. When the tomb was constructed, most of the materials were transported through this road. Also through this road was where the body of Tu Duc emperor was taken to the tomb.

3.3.2 Original Construction Values

Tu Duc Tomb, or Khiem Tomb, used to be considered as the royal step-over place of the fourth emperor of the Nguyen Dynasty, still possess the main features of a tomb. Therefore, during the construction of this “sacred land of thousand years”, feng shui elements were taken as top priority.

Feng shui principles in burial service are described in the “Burial work”: “Air contacting with wind shall disperse, contacting with water shall stop. We need to ensure the air to converge and not to disperse, the water to flow with a stop.” Based on this principle, Khiem tomb has Dan Khiem mountain in the front, Ly Khiem mountain on the back, Dao Khiem Mountain on the left side and Lao Khiem Mountain on the right side (Fig 6). These mountains around the tomb shall protect the tomb from external negative effects and harmonize the atmosphere of the tomb.
“Wind without water shall disperse. The translation of Khiem Cung Chronicle by Phan Hua Thuy cites “Wind without water accumulation shall disperse. The translation of Khiem Cung Chronicle by Phan Hua Thuy cites “Luu Khiem lake is deep and clear, sinuously undulates from the rights side to the left side. It does not go dry in summer or overflows in autumn because it origins from deep rice fields. A drain was constructed to connect the lake to the rice fields outside for water conditioning.” Therefore, Luu Khiem lake is the “symbol of Happiness” of Hoa Khiem palace, where the emperor used to work during his visits here. Now it is the althar devoted to the Emperor and his Queen. Furthermore, there is a large stream flowing in front of the tomb as the “symbol of Happiness” (Minh Duong) for the whole Khiem tomb. No matter this stream existed before or after the tomb’s construction, it has an important role to “accumulate water for the fields” and condition the underground water in and out of the tomb (because it is located in the rice field area). This stream also play the role of the “symbol of happiness” for a series of neighboring tombs, such as Thanh Cung and Tu Cung tombs.

In addition to feng shui elements, the relation between Khiem tomb and the surrounding buildings is very important (Fig 7). The relationship was already described in the Khiem Cung Chronicle “Looking from the top of the tomb, in front is the alter of Nam Giao, on the back is Linh Mu pagoda, which express my will. If I could not prove my sincere enough when living, I shall serve forever after death. Xuong tomb (30) is on the right side and the Temple of Literature is on the left side, which comfort my true love and admiration, where my soul shall stay faithfully for good.” In this citation of the Khiem Cung Chronicle, Tu Duc emperor clearly indicated the physical relations of the tomb with the surrounding buildings, such as the alter of Nam Giao, Linh Mu pagoda, Xuong tomb and the Temple of Literature. This also indicates the connection between his outlook on life and the tomb. The althar of Nam Giao is where the Nguyen emperors worshipped to God to seek for prosperity, safe and secure for the people, and for harmonious weather. Linh Mu pagoda marked the journey to open the territory of Nguyen Hoang Lord, who established the foundation for the Nguyen dynasty in Dang Trong. Xuong tomb is the burial place of the emperor’s father Thieu Tri. The Temple of Literature admires knowledge of talented and righteous people, who are the key to the country’s prosperity. This shows that Tu Duc emperor has great patriotism, loyalty and gratitude to the ancestors. He also continuously develops his knowledge and encourages learning. All of these meanings are clearly implied in the way that he chose this land.

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4 Khiem Cung Chronicle, written by Tu Duc 1871, carved in stone stele in 1873
3.3.3 Natural Landscape Values

The views from the adjacent area to Tu Duc tomb and from the tomb and its border to important mountains (with feng shui meanings, the host mountain) and green trees around Tu Duc tomb need to be maintained to preserve the integrity of the tomb complex (Fig 8-10).
3.4 GIS Maps

3.4.1 Attribute Data

Two excel forms were designed to collect attribute data for QGIS. The data were entered as textual information and classified as follows:

Five key characteristics to define historical values:
- Type of building (emperor tomb/tomb of royal bloods/archaeological sites/pagoda)
- Year of construction
- Management (local administrative agencies/ expertise agency)
- Situation (Preservation in good condition/ Preservation partly/Degradation/Completely destruction, now using as agriculture land/Completely destruction, now using as residential land)
- Architect features of the tomb (Is the house of stele/rampart available/ What are the main buildings/ How are the green spaces/ art)

Five key characteristics to define the original construction value:
- Type of building (building/water system/mountain/stele)
- Historical name
- Folk name\(^5\)
- Original functions
- Current condition

Furthermore, mountain locations that frame the feng shui concept of the cultural landscape were identified.

Findings:
Refer to Annex 1-10 for GIS maps organized as follows:

Maps indicating Historical significance:
- Annex 1 Historically significant built works around the Tu Duc Tomb.
- Annex 2 Construction years of built works.
- Annex 3 Tomb map which clearly demonstrates the Tomb classification by social functions.
- Annex 4 Tomb map which clearly demonstrates the Tomb’s architectural character.

\(^5\) For the name of fengshui mountain as well as other important natural physical elements, there always exist 2 names, named by local people (in the document, they translated as folk name) and named by Royal families, scholar (in the document: historical name)
Annex 5 Management map which demonstrates the institutions in charge of the building.
Annex 6 Current conditions of the Tomb complexes surrounding the Tu Duc Tomb.

Maps indicating original building concept:
Annex 7 Built works around the Tu Duc Tomb which impacted on Emperor Tu Duc’s decision for the site of the Tu Duc Tomb
Annex 8 Mountains with feng shui implications for the Tu Duc Tomb.
Annex 9 Water system around the Tu Duc Tomb.

Potentials for GIS application: The current research established an inventory of culturally significant sites in the area of the Tu Duc Tomb, as well as proposed a way to classify the data relating to the historical and original building concept. The attribute data should be further refined such they can be used to score the significant values for each site. This will provide a scientific basis for heritage protection that is grounded in a systematic process of valuation. With a sound rationale, new boundaries can be proposed and their relevance be discussed with planning authorities and decision makers.

3.5 SWOTS Analyses and Recommendations for the Surrounding Areas of the Tu Duc Tomb
In order to provide greater insights into the heritage values of the cultural landscape around the Tu Duc Tomb area, we systematically divided the surrounding landscape area into 5 sub-zones and conducted SWOTS analyses for sub-zones 2-5. Namely, the 5 sub-zones are:
- Zone 1: Core Zone
- Zone 2: Agricultural landscape
- Zone 3: Tomb Complex in the surrounding area
- Zone 4: The area in front of the tomb
- Zone 5: Remaining landscape in the surrounding of Tu Duc Tomb

These areas are outlined in Figure 21
3.5.1 Zone 1: Core Zone
The core zone is the burial place of the emperor and his queen (Fig 11 & 12).
3.5.2 Zone 2: Agricultural landscape

Zone 2 (Fig 13) is the paddy area, where local people cultivate the land for rice. In relation to the Tu Duc Tomb, this area has feng shui implications and serves as a buffer area between the monuments and the residential area. This area also plays an important role regulating the water system in ponds and lakes inside Tu Duc Tomb.

![Fig 13. Paddy area in the surrounding of Tu Duc Tomb](image)

**Strengths:** Possesses scenic and cultural values and feng shui implications; acts as a buffer area to prevent urbanization.

**Weaknesses:** water pollution; encroachment from local residents narrow the water bodies; cultivating activities of the paddy fields are not maintained.

**Opportunities:** Increase the landscape value of the whole complex; combine with surrounding parks to be developed as green areas.

**Threats:** Will be narrowed and lost due to urbanization and decreasing agricultural activities.

3.5.3 Zone 3: Tomb Complex in the surrounding areas

Zone 3 includes the Dong Khanh Tomb and other royal tombs (Fig 14 & 15). Besides architectural and cultural values, this zone has a harmonious combination with nature and green trees. The significant value is indicated by the typical plants. This zone is directly related to the scenery of the neighboring heritage area.

**Strengths:** Possesses the Dong Khanh Tomb and other royal tombs. The landscape area has significant architectural and cultural values.

**Weaknesses:** Transportation is not developed; the natural landscape is not taken care of.

**Opportunities:** With investment on infrastructure and promotion, this will be an attractive destination

**Threats:** Spontaneous development of households in the area affects the beauty of the scenery. Unplanned urbanization damages the eco-system.
3.5.4 Zone 4: The area in front of the tomb

Zone 4 (Fig 16 & 17) is at the opposite site of the Vu Khiem Gate, the entrance to the Tu Duc Tomb. This zone is located in the buffer area between the Tu Duc Tomb and the Dong Khanh Tomb. Most of the residents here live on farming and selling tourism commodities. This is an important area because the residents are living in the protected area of the Tu Duc Tomb and other monuments, such as Binh An Duong, Quan Xa house, Hoc Phi tomb, Doa Khe Tomb.

**Strengths:** Many buildings here have close relation with the Tu Duc Tomb. This is also the place where spontaneous small business activities take place. The construction density in the area is low.

**Weaknesses:** The natural environment has been affected and changed (for instance, the calophyllum tree line in front of the tomb); Binh An Duong and Quan Xa house were virtually destroyed.
**Opportunities:** If the monuments are recovered and renewed, they can become cultural tourism attractions. The planting of calophyllus trees can also create a beautiful environment in front of the Tu Duc Tomb.

**Threats:** Increasing population gives rise to unregulated residential constructions that do not respect the heritage value of the landscape; environmental degradation from urbanization also negatively impacts the environment of the tomb complex.

### 3.5.5 Zone 5: Remaining landscape in the surrounding areas of the Tu Duc Tomb

Zone 5 includes the remaining hilly areas surrounding the Tu Duc Tomb (Fig 18 & 19), we divided this area in Zone 5A and zone 5B:

**Zone 5A:** Residential area with typical features of the traditional garden house. Lying between houses are pagodas and worshipping places which were constructed long time ago.

**Strengths:** Many pagodas possess spiritual cultural values. The construction density is low. Handicraft villages and traditional garden houses are preserved.

**Weaknesses:** Many households gradually trespass the land, narrowing the distance to La Thanh. Garbage generated from the households was degrading the surrounding environment.

**Opportunities:** Good policies to protect the tomb’s surroundings. Good orientation for development will preserve the typical features of traditional garden house in the area.

**Threats:** Increase in population density demands for increasing building heights and construction density. The green spaces are being narrowed as more concrete areas are put in place. These encroachment activities often block waterways, create stagnant and pollute water bodies. Therefore, due to the lack of awareness, local residents are contributing to the environmental degradation of the landscape.

**Zone 5B:** This is a long-standing residential area which includes the feng shui mountain of Dan Khiem, and the Tu Cung Tomb. There is a good view from the Tu Duc Tomb area through the
paddy fields and towards the mountains (Fig 20). The green border that outlines the surrounding green area of the Tu Duc Tomb is still intact.

![Map of Bàn Đô Khu vực Lăng Tu Đức, Phương Thủy Xuân](image)

Fig 20. View from Tu Duc Tomb to paddy fields and mountains

**Strengths:** High scenic value between the Tu Duc Tomb and the surrounding feng shui mountains.

**Weaknesses:** Unplanned construction of houses in the area affects the view; accessibility to the residential areas in the sub-zone is limited.

**Opportunities:** Together with the adjacent paddy fields, the area is of a beautiful landscape with high scenic values. For future development of streets and roads in the area, design concepts sensitive to the landscape values of the region should be respected.

**Threats:** Urbanization causes the division of large land lots into smaller ones in order to accommodate more houses. This disrupts the built form of the garden house typical of the area. Uncontrolled construction heights and densities also aggravate the problem of encroachment into the open green area around the Tu Duc Tomb. The development of new streets also negatively imparts on the structure of the village.

Urbanization pressure threatens the buffer area between the Tu Duc Tomb and the Dan Khiem mountain. It is necessary to preserve the views to the mountains around and paddy fields and water system in front of the Tu Duc Tomb.
3.5.6 Recommendations per Identified Zone

Zone 1: Core Zone - Tu Duc tomb
- Keep the core zone intact in accordance with the Law on cultural heritage.
- Extend protection zones to maintain the landscape area with special meanings of feng shui and maintain the conditions of all included cultural heritage sites.

Zone 2: Agricultural landscape
- Preserve and enhance traditional cultural values related to the lives of the farmers and their relationship with the land they cultivate.
- Protect the water system and upgrade the canal system. Revitalize water bodies that have been degraded and polluted such that those areas can once again be used for agricultural activities.
- Raise the awareness of communities regarding their responsibilities towards their environment.
- Diversify economic and development opportunities in the area such as the development of eco-tourism:
  - Provide tourists with experience of rural and agriculture practices: join farmers and experience agriculture activities such as ploughing, transplanting rice seedlings, and harvesting rice and farm products. Live together with local people and join traditional festivals.
  - Provide home cook food and local specialties (eg cassava, corn).
  - Combine eco-tourism experiences with heritage tourism offered by the Tu Duc Tomb and other tomb complex (Zone 3).
- Develop natural landscape based on the detailed master plan of Thuy Xuan ward.

Zone 3: Tomb complex in the surrounding area of the Tu Duc Tomb
- Develop a system of information and images for the monuments in this zone.
- Develop a tourism route with connection to the Tu Duc Tomb and the neighboring zones (zone 2, 4) and create conditions for tourists to explore the region.
- Protect the landscape with green trees. Encourage the development of outdoor activities (eg picnic, camping)
- Gradually upgrade the infrastructure to improve the accessibility and connectivity between different monuments.
- Diversify tourist experience in the area and explore the home stay tourism model.
- Conduct research to develop long-term development plan. Take priority for implementing projects on preserving cultural heritages and improving natural environment.
- Control population development with appropriate management measures for long-standing households.

Zone 4: The area in front of the tomb
- Improve the architecture and services of the shops by specific regulations after collecting ideas from the people.
- Cooperate with local authorities and business households to improve the authenticity of their tourist products and services. Minimize uncontrolled development of small businesses.
- In cooperation with planning authorities and local counterparts, provide construction and design guidelines that respect the cultural values of the area in order to prevent spontaneous constructions.
- Carry out awareness raising campaigns to explain the meanings and values of cultural heritage conservation to the community.
Zone 5: Remaining landscape in the surrounding of Tu Duc Tomb

- Construct foot paths around the La Thanh of Tu Duc Tomb based on the current paths. Combine the tourism services and exhibition of traditional handicraft products (e.g., incense sticks, copper casting, palm-leave conical hats).
- Revitalize stagnant water-clogged areas.
- Protect and develop green spaces.
- Cooperate with local authorities to develop legal corridor, promulgate regulations for construction heights and density in each area surrounding Tu Duc Tomb.

Proposed Boundary Extension for the Tu Duc Tomb Cultural Landscape

Based on the five subzones identified which encompasses the Tu Duc Tomb core area and surrounding areas, the following protection boundary is proposed (Fig 22):

Furthermore, it is important to preserve the connection between Tu Duc Tomb and the system of rivers and mountains by managing the heights of buildings to protect the views between the tomb and the mountain system (Fig 23). There also calls for a need to upgrade and exploit the boat station and ancient road to sustain the relation between Tu Duc Tomb and the Perfume River.
Fig. 23 Identified views between tomb and mountains and river system
4 Heritage Tourism

4.1 Introduction

Hue is known as the land of heritage and beautiful landscapes. Hue’s system of cultural heritage carries both the best of what the national cultural identity has to offer, and unique characteristics of the central region. Conservation and restoration play an important role in maintaining the aesthetic appeal of the heritage assets and allow for their sensible presentation to the tourists.

For this component of the training, the trainees focused on creating an inventory of existing and potential tourist sites, services and facilities at the Tu Duc Tomb and surrounding areas, as well as accounting for the restoration records for the buildings inside the Tu Duc Tomb. The training explored the use of GIS as a tool to assist tourism planning for the future beginning with the very first and basic application – tourism resource inventory. Such resource inventories are usually developed to form the basis for other applications, such as location suitability. Another dimension of these inventories is to form the basis for providing interactive information to the tourists over the Internet.

The Tourism Group established three map systems:
- Inventory of existing tourist sites at the Tu Duc Tomb core zone;
- Inventory of existing and potential tourist facilities or services at the Tu Duc Tomb and surrounding areas;
- Restoration record for the buildings at the Tu Duc Tomb site.

The participants designed excel forms to collect attribute data for each identified site for qGIS. Field surveys and SWOT analyses were also carried out to examine in detail tourism potentials for selected potential sites and services. The results will inform part of HMCC’s UNESCO Management Plan.

4.2 GIS Maps

4.2.1 Tourist sites at the Tu Duc Tomb

Objective: To identify and create an inventory of existing tourist sites that are relatively intact, currently open to visitors, and are of interest to tourists at the Tu Duc Tomb core zone.

Scope of work: The survey grouped the building structures at the Tu Duc Tomb into three categories: the first category included buildings where Emperor Tu Duc lived and where he was worshiped after his passing. These included structures such as the Khiem Cung gazebo, Hoa Khiem court hall, Luong Khiem temple, Minh Khiem theatre, On Khiem structure, Phap Khiem and Le Khiem halls, Du Khiem and Xung Khiem pavilions, and harem structures such as Tong Khiem and Du Khiem (these two structures no longer exist). The second category was the King’s burial site, which included his grave, the stele house and the courtyard. Lastly, the third category included features with feng shui implications, such as the semi-circular Luu Khiem lake and the Tinh Khiem islet.

In addition to the above-mentioned structures, our inventory also included two tomb complexes that are equally important as the Tu Duc’s Tomb within Hue’s Royal burial system. These
included Emperor Kien Phuc’s (Tu Duc’s adopted child) Royal burial and worship site, and Le Thien Anh Queen’s (Tu Duc’s wife) Tomb.

With a focus on promoting tourism, we paid special attention to the use of GIS maps as a tool to provide visitors with historical information. A special characteristic of the Tu Duc Tomb complex is the fact that it did not only serve as the Emperor’s final resting place, but also as an alternate place for the Royal court, where the Emperor spent the last 16 years of his life. In order to explore this narrative, each structure in the attribute table was defined with textual information describing the structure’s functions before and after Emperor Tu Duc’s time.

Furthermore information including name, year of construction, size, type of building (palace, temple, pavilion, etc), structure (number of rooms, number of floors), materials (wood, brick) were collected.

**Findings:**
See Annex 10 for the map of Tourist sites at the Tu Duc Tomb

**Potentials for tourism development in the surrounding area of the Tu Duc Tomb:** The data collection gave priority to structures that have been of significant interests to tourists at the Tu Duc Tomb core zone. Based on this inventory, heritage sites outside the core zone in the surrounding area of Tu Duc Tomb should further be explored for their potential for development into tourist sites. The process can begin with the royal tombs of the emperor’s wives and concubines located outside of the Tu Duc Tomb complex, such as the Dong Khanh’s Tomb, Kien Thai Vuong’s Tomb, Hoc Phi’s Tomb, Thanh Cung’s Tomb, Tu Cung’s Tomb and the 15-ladies’ Tombs.

**Potentials for GIS application:** In terms of the descriptive text linked to each site, further research and development of their content direction and narrative power is required. This content can be leveraged for the development of a GIS-based interactive story web map (eg. [http://downloads2.esri.com/agol/pub/redlandsguide/index.html](http://downloads2.esri.com/agol/pub/redlandsguide/index.html)). Launched on a web platform, story maps help promote the heritage sites in an interesting and informative way.

4.2.2 Existing tourist facilities and services at the Tu Duc Tomb

**Objective:** To create an inventory of existing tourism facilities and services and identify suitable locations for potential development of tourist facilities and services.

**Scope of work:** The survey set out to identify locations of essential tourist facilities such as toilets and rest areas; collect general information and locations of the souvenir vendors and the type of products they sell; collect general information and locations for ambient resources that can complement other tourist attractions (eg. accommodation options around the Tu Duc Tomb and transportation options that can be used to reach the Tu Duc Tomb).

**Findings:**
See Annex 11 for the map of Tourist services and facilities at the Tu Duc Tomb

Inside the Tu Duc Tomb core zone, there are three areas where souvenirs and refreshments are sold. The vendors obtained their right to set up the stalls through three key vendors who were given the license to operate inside the Tu Duc Tomb. A general survey of the products sold in the stalls indicated that there are few options showcasing intangible cultural assets or local handicrafts that could be offered by the local area. The authenticity of the products is also
questionable. The twenty stalls located outside the entrance of the Tu Duc Tomb present similar issues.

There are also little ambient facilities to complement the tourist experience. Inside the Tu Duc Tomb, there are little information displays or presentation of intangible cultural heritage. There is also little exploitation of the surrounding Tu Duc Tomb setting, such as scenic routes, vantage points or local handicraft villages. Transport options to the Tu Duc tomb are predominately private tour buses. Only one hostel with mediocre tourist services was identified.

In terms of essential tourist facilities inside the Tu Duc tomb, toilet facilities are adequate. Seating areas are located along walking paths.

**Potentials for tourist facilities development:** The lack of diversity of products and limited quality of handicrafts sold inside and outside the Tu Duc Tomb indicated a general lack of awareness by the local communities in terms of understanding the possibilities offered by their local traditions. Further research and analyses into possible sources of marketable local crafts and intangible heritage (e.g. local food, folk music) will help re-invigorate the local tourism market. The HMCC should also plan for awareness raising campaigns to re-engage the local communities in appreciating the values of their cultural heritage and showcase their traditions in a way that does not conjure negative perceptions and stereotypes.

During map analysis, the participants proposed three potential tourism facilities and services that could further be explored by SWOT analyses:

- An alternative entrance to the Tu Duc tomb. This potentially offers a more interesting experience to the tourists;
- ‘Homestay’ tourist accommodation option that offers up a more authentic cultural experience for the tourists;
- A new car park that can improve the accessibility to the Tu Duc Tomb and other potential tourist sites.

The results of these SWOT analyses are presented in section 4.3.

**Potentials for GIS:** Continue to develop the inventory of tourist facilities and services at the Tu Duc Tomb using GIS and use the information to identify other suitable locations for the development of other tourist facilities and services. GIS can be used as a scientific base to plan for service spots within and outside the Tu Duc Tomb. Combined with analysis of the master plan, it is possible to establish a comprehensive tourism development plan for the Tu Duc Tomb area.

Content for tourist facilities and services could further be developed and be used as guiding information for tourists across all the heritage sites in Hue. This content can potentially be included in the GIS-based web map as proposed (see section 4.2.1).

**4.2.3 Record of restoration works performed on the Tu Duc Tomb**

**Objective:** To record the list of buildings/structures and their restoration records.

**Scope of work:** Over the course of history, Hue experienced political turmoil that had contributed to the destruction of many structures (e.g. Tong Khiem Vien and Dung Khiem Vien). Tu Duc Tomb belongs to the list of heritage structures for which the HMCC is planning for a
comprehensive restoration campaign. The aim is to bring back their historical and cultural values that are of interest to the public.

The current survey included information for each structure’s restoration history, condition and the tentative planning and budget allocation for their future restoration. The inventory included buildings within the Tu Duc’s Tomb core zone: Khiem Cung gazebo, Hoa Khiem court hall, Luong Khiem temple, Minh Khiem theatre, On Khiem structure, Le Khiem and Phap Khiem halls, Du Khiem and Xung khiem pavilions, Tong Khiem and Dung Khiem harem structures, the stele house, the grave site, the courtyard, Luu Khiem lake, the semi-circular lake, Tinh Khiem islet, King Kien Phuc’s tomb and palace, and the Queen Le Thien Anh’s tomb area.

**Findings:**
See Annex 12 for the Map of Restoration record and conditions of buildings at the Tu Duc Tomb

The Tu Duc Tomb complex has been restored at different occasions. Restoration works on this heritage included mainly the replacement of tile roofs of different temples; repairs to eaves gutters; and repairs to the floors, columns, and the collapsed rampart. These works were carried out in 1956, 1957, 1958, 1963, 1970 and 1973. Between 1983 and 1986, restoration works included the repairs to Minh Khiem theatre’s tile roof, Xung Khiem and Du Khiem pavilions, the reconstruction of the hand-rail around Luu Khiem lake, enhancement of the rampart and the restoration of Khiem Cung’s roof. Comprehensive restorations of Minh Khiem theatre, Hoa Khiem court hall and Chap Khiem temple were also carried out respectively in 1991, 1992 and 1997-1998.

**Future potentials for restoration works at the Tu Duc Tomb:**
Based on the general assessment, the following levels of restoration needs can be outlined:

- Enhanced maintenance and conservation aimed at preserving structures that are reasonably intact including Hoa Khiem court hall, Luong Khiem temple, Minh Khiem theatre, On Khiem structure, Tu Duc’s grave site, the stele house and courtyard, Luu Khiem lake and the semi-circular lake Tieu Khiem Tri.
- Restoration of structures with symbolic value such as Tong Khiem & Dung Khiem harems, temples on the Tinh Khiem island and the bridge across the island.
- Protection and respect of the natural landscape.

**Potentials for GIS application:**
Despite our efforts to collect data for the restoration and conservation of heritage structures, we were aware that more data is required. We require architects and conservation/restoration experts to further accurately assess the condition of the structures needing restoration, from walls to decorations, to floors and interior furniture etc. Based on their expertise, we will be able to build an assessment system and utilize GIS to analyze and prioritize conservation and restoration needs.

Secondly, more detailed site plans of scales between 2:200 and 1:1000 are required to acquire greater definitions of the architectural structures. The current Tu Duc Tomb is however adequate for the purpose of showing the location of the monumental buildings within the core zone.

Finally, using GIS will facilitate the prioritization of restoration needs and should be applied across all the Hue heritage monument complexes.
4.3 SWOT analyses and Recommendations for tourism development at Tu Duc Tomb and Surrounding Areas

Based on the map analysis of the tourism sites, facilities and services maps at the Tu Duc Tomb, the participants identified potential tourist sites and facilities that could enhance the tourists' experience in the area. SWOT analyses were performed on these potential sites and facilities. These included a potential tourism site Dong Khanh’s Tomb complex; an alternative entrance to the Tu Duc Tomb; a new accommodation model ‘homestay; and a new car park at the foot of Vong Canh hill.

The SWOT analyses allowed the participants to make recommendations to the HMCC and other responsible agencies as part of improving the implementation of the “Program on the development of tourism services at heritage spots in Hue”. This program was approved by the Hue’s People Committee in Decision 2295/QD-UBND.

4.3.1 Dong Khanh Tomb complex

The Tomb of Emperor Dong Khanh (1885-1888) is located in close proximity to the Tu Duc Tomb and 7 km southwest from the centre of Hue. Dong Khanh initially ordered its construction as a temple to commemorate his father, but in 1917 the temple was repurposed by his successor Thanh Thai into the Donh Khanh Tomb. As one of the smallest royal tombs, Dong Khanh Tomb has mixed French and Eastern design and contains a unique display of decorative art.

Strengths:
1: Rich cultural and historical value.
2: Part of rich cultural landscape and within the system of tombs around the Tu Duc Tomb.
3: Beautiful architecture and has been listed as a UNESCO World Heritage site.
4: Accessible by road system and reachable from the Tu Duc Tomb.

Weaknesses:
1: The site is degrading rapidly and has not received any comprehensive restoration and investment.
2: The site is not marked and surrounded by a wall, making its management and protection challenging.
3: There is no specific plan for the promotion of this site to tourists.
4: Tourism facilities and transportation to the site are under-developed.

Opportunities:
1: Good potential to attract tourists.
2: Good potential for the development of supporting services (souvenirs, cafes, electric cars, etc)

Threats:
1: Environmental degradation of the area by local residents unaware of the protection zone around the Dong Khanh site.
2: Limited public awareness on the need to protect the heritage site.

Recommendations

Tourism development:
- Invest on the development of tourism facilities such as public toilets, benches and souvenir shops.
The HMCC can leverage the popularity of the Tu Duc Tomb for the Dong Khanh Tomb due to their close proximities to each other. Environmentally friendly ambient resources such as electric car or horse-drawn carriage services can be developed to reach the Dong Khanh Tomb from a common tourist drop-off point for both tombs. This system of transport can also be used to explore other interesting sites in the area (Tu Duc – Dong Khanh - Kien Thai Tombs and other burial sites for the Queens).

The opening of the Dong Khanh Tomb to tourists will attract new opportunities for local business en route. More research should be conducted to improve the authenticity, quality and diversity of the products to be sold in the souvenir shops.

**Site management and protection:**
- Authorize ban on tree cutting and exploitation of the site.
- Delineate the Dong Khanh site by benchmarks and signage system such that local residents are made aware the location of the protection boundary.

### 4.3.2 Car Park at the foot of Vong Canh Hill

**Strengths**
1. Well-located, right at the foot of Vong Canh hill.
2. Approved in principle by the Provincial People’s Committee.
3. Represents one of the 11 solutions to develop tourism services and connection points within the system of Tu Duc – Dong Khanh - Kien Thai and other royal burial sites at the foot of Vong Canh hill.

**Weaknesses**
1. Dependence on local authorities to acquire land, compensate payment and regulate parking.
2. A significant distance (over 300m) between the proposed location of the car park to the Tu Duc Tomb.

**Opportunities**
1. Increase income and improve livelihood for local people around the car park.
2. Contribute towards local revenue such as the local authority managing the car park.
3. Comprehensive planning of souvenir shops, restaurants, cafes and other ambient services and transportation that can leverage the convenient location of the car park.

**Threats**
1. Support from local residents is not strong. To develop the proposed car park, some local residents will need to be relocated and there is limited land for resettlement. There is also limited compensation budget for the affected people.

**Recommendations**

**Engender community support:**
- Increase local awareness and publicize the car park plan. Promote the advantages associated with the new car park that will benefit local livelihoods in order to encourage community support.
- Devise appreciate compensation plans for the local people losing land to the car park.
- Commence investment plans and procedures related to land acquisition.
Tourism Development:
1. Invest on creating ‘last mile’ transport services to the Tu Duc-Donh Khanh-Kien Thai Tombs by means of environmentally friendly electric cars, horse-drawn carriages or bicycle rentals.
2. To leverage the convenient location of the car park, explore plans for eco-tourism or accommodation models such as ‘homestay’ is considered.

4.2.3 Alternative Entrance to the Tu Duc Tomb
The Tu Duc Tomb has another gateway than the current one being used by the tourist. This gate is on the wall belonging to the Tu Duc complex of monuments and the UNESCO inventory. The gate was used by the King.

Strengths
1: Located near the Luu Khiem lake, the immediate vista upon entering the Tu Duc Tomb offers a beautiful and poetic view of a tree-lined landscape.

Weaknesses
1: The gate has been neglected and never been exploited for tourism purposes.
2: Reopening the gate will require widening the road that gives way to its access. This will require some land acquisitions, incurring a budget that the HMCC may not have funds for. There may also be bottlenecks relating to legal procedures for the land acquisition process.

Opportunities
1: Opening the gate potentially stimulates new local businesses along the road leading to the entrance. It will also be an opportunity for the HMCC to improve on tourist services provided at the entrance area.
2: An enhanced tourist experience as they enter the Vu Duc Tomb passing through a more interesting and attractive part of the complex.
Threats
1: A few households are living along the road outside the Tu Duc Tomb. The plan to widen the road leading to the new gate will face opposition from these households.
2: Relocation to the alternative gate will affect current livelihood activities established by the vendors around the current gate. This will face opposition from the local people.
3: Unregulated vendors ‘bothering’ tourists at the new entrance.

Recommendations

Engender community support:
- Increase local awareness and publicize the plan for widening the road leading to the gate. Promote the advantages associated with the new entrance that will benefit local livelihoods to encourage community support.
- Develop appropriate compensation mechanisms to buy land from local households.

Tourism development:
- Work with local authorities on plans for widening the road leading to the gate and identify and assess all security issues and possible impacts.
- Invest in restoration works to improve the conditions of the road leading to the gate, the gate itself and the areas inside and outside the gate.
- Create new heritage tourism services inside the gate area. A suggestion is to set up a lotus tea house in the area close to the gate, which is a fitting way to enjoy the poetic ambience of the Tu Duc Tomb.

4.3.4 Homestay Model in the Thuy Xuan district

The areas surrounding the Tu Duc Tomb have the potential to support the development of homestay tourism and offer tourists alternative accommodation and cultural experiences than the commercial hotel options offered in Hue city. Homestay accommodation offers a rural environment where tourists can learn about the local lifestyle and livelihood practices, culture and nature. This immersion experience encourages visitors to prolong their length of stay in the area. For the local communities, they develop a sense of custodianship and pride to showcase their traditions and living environments. Communities will be encouraged to develop more distinct and localized tourism products and services to attract tourists, which in turn will result in improved livelihoods and income generation.

Strengths:
1. Homestay tourism that is becoming increasingly popular in Thua Thien Hue. It is considered to improve the competitive edge for economic development in the province. The idea has received strong support from the Provincial People’s Committee, Party Committee, and the National Administration of Tourism.
2. The surrounding areas of the Tu Duc Tomb are attractive and tranquil open spaces of agricultural land, rice paddies and local residential zones.
3. As part of the cultural landscape of the Tu Duc Tomb, tangible and intangible heritage can be promoted through the homestay model.
4. Thuy Xuan district is close to Hue city and accessible by car.

Weaknesses:
1. The concept of homestay tourism is not well understood in the community. One hostel close to the Tu Duc Tomb was surveyed and it is small and of low quality.
2. Tourist destinations and supporting services are still poorly promoted and organized in an old-fashion manner. This does not offer incentives for tourists to extend their length of stay in the area.

3. Tourism development potentials in the area in terms of alternative tourist destinations and services remain un-tapped.

4. Little understanding as to how private tourism operators connect their activities in the area.

**Opportunities:**

1. The number of international tourists coming to Vietnam and some other countries is on the rise. Homestay tourism around the Tu Duc Tomb can offer alternative experiences such as rural life, agricultural activities, local home-cook food, fresh produces and village crafts.

2. Homestay hosts become educated custodians to the strong heritage values in the area. They assist tourists to understand the historical and cultural significance of the royal past, and help promote intangible cultural heritages such as royal food and local song and dance.

3. The homestay model can tap into the increased tourism traffic provided by new facilities and services that will be implemented in different tourist zones in the Thuy Xuan district.

4. The homestay model can potentially tap into the support of a strong tourism industry present in Hue.

**Threats:**

1. Competition from other attractive eco-tourism resorts and lodges operating on a similar model to homestay operations in Hue and neighboring provinces.

2. Environmental degradation if increased tourist traffic and their increased lengths of stay in the area are not dealt with by management nor appropriate infrastructure.

3. Increased number of vendors ‘bothering’ visitors and disturbing the leisurely environment of the area.

**Recommendations:**

**Development of Homestay Model**

- Conduct research into homestay best practices that can be translated into the context of the Thuy Xuan district and other similar heritage areas in Hue.

- Promote the advantages of the homestay model to local communities in order to improve their incentives to participate.

- Develop standards and guidelines for community members who are interested in the taking part in the homestay model. Important issues in terms of accessibility, adequacies of facilities, safety, hygiene and ability to provide tourist services (eg quality local food, experiences, information, basic communication) must be addressed.

- Conduct research about tourism services and activities in the area that are of interest to homestay visitors. For example local craft villages and their products (conical hats, incense, bronze), local food (specialty stores, restaurants), intangible heritage (royal food, song and dance), nature (cycling, walking routes), rural experiences.

- Improve the authenticity, quality and diversity of the products being promoted in the area.

- Garner support from the tourism industry in order to improve the capacity for local communities to develop homestay tourism.

- Marketing activities to promote homestay tourism in the area.
5 Recommendations for Future GIS Implementation

5.1 Existing GIS capabilities at the HMCC

In 1999, UNESCO initiated a GIS training course for the HMCC whereby two key GIS application objectives were identified which began to address two management needs: micro-management of each monumental site by documenting their physical architectural conditions and restoration needs; and macro-management of the sites’ contextual settings by retrieving land use, infrastructural and protection zone information. The GIS trainer concluded that due to financial and time limitations, lack of data for some of the sites and the fact that original ‘source maps’ were often inaccurate, the final GIS map products were not ideal. Follow-up activities including the acquisition of accurate source-maps, site analyses, attribute data expansion are greatly required to implement GIS at the HMCC properly.

In 2005 and 2013, the Provincial People’s Committee provided two 3- and 6-week training courses to four HMCC staff which aimed to improve their skills in interpreting existing maps and to ensure that maps used by different departments within the HMCC were consistent.

However, despite past efforts, the HMCC never implemented nor applied GIS for site management. The lack of funding rendered it difficult for the HMCC to create or digitize new maps, sustain deep technical understanding amongst staff and maintain specialized expertise within the Centre capable of managing a complex GIS system.

The HMCC also did not have assigned computers dedicated to GIS, nor the means to purchase software licenses to support the GIS database. The current training therefore utilized the free open-source software QGIS to build the spatial and attribute databases for the HMCC. QGIS software provides data viewing, editing and analysis capabilities and has nearly all the features of the commercial ArcGIS tools. QGIS can be freely modified to perform specialised tasks and functions and has been used for a wide range of applications by institutions, universities, authorities and companies around the world. For the current training, HMCC participants had installed the QGIS software into their personal computers.

In terms of the participants’ level of awareness regarding how GIS can be applied to manage cultural resources, it was apparent at the start of the current training that it was very weak. Therefore, the training encouraged participants to explore how GIS can be applied in ways useful to the HMCC and following objectives for GIS application were developed:

- To develop an inventory of architectural, historical and landscape elements that are considered as part of the cultural landscape of the Tu Duc Tomb;
- To document the architectural conditions and the restoration record for the buildings at the Tu Duc Tomb site;
- To develop an inventory of existing and potential tourist sites at the Tu Duc Tomb and surrounding areas;
- To develop an inventory of existing and potential tourist facilities or services at the Tu Duc Tomb and surrounding areas.
5.2 Recommendations for GIS Implementation

5.2.1 Future institutional and technical requirements

Software and facilities:
Allocation of dedicated computers for the GIS database and software in one secure location (GIS workstation) is required to ensure integrity and controlled accessibility of the data. Dedicated personnel at the HMCC should be assigned to properly manage this database.

The current training utilizes the free and open source QGIS software to process the basemaps, spatial and attribute data collected throughout the training. Given HMCC’s likely insufficient financial means to sustain expensive licences for commercial software such as ArcGIS, it is worthwhile to continue exploring the use of QGIS in order to realistically sustain GIS implementation at the Centre.

Accuracy and expansion of spatial and attribute datasets:
The HMCC will require to digitize GIS maps for all 16 monumental sites plus 39 other heritage points documented by the Centre from accurate source maps.

In terms of attribute data contributed by the participants, further refinement and development of content of the excel forms (to monitor conservation management and heritage tourism development) should be considered such that meaningful analyses can be derived from the data. This entails more rigorous literature research as well as fieldwork related to the specific objectives of the GIS application. Furthermore, the accuracies of the data should be checked in terms of content and entry into the GIS.

Human resources and capacity building:
It is necessary to build the capacity of personnel within the Centre who is dedicated to managing and maintaining the GIS database and workstation. He/she should be able to coordinate and communicate with other personnel from partner specialist institutions and departments (e.g., Department of Information and Communication, EDIC, international development partners, etc.) to manage new datasets, and be able to work with experts to analyse newly generated maps for meaningful information to monitor the sites.

Data management and coordination:
The current training has established initial collaboration efforts with EDIC. The institute provides necessary base maps for the HMCC in exchange for survey data provided by the HMCC. The HMCC should sustain such collaborative arrangements in order to have access to quality data for GIS implementation.

Funding:
The HMCC works on plans and annual funding arrangements for training and purchase of equipment, software and facility set up.

5.2.2 Future GIS applications
The potentials for GIS to be applied for a wide range of monitoring applications can benefit the management functions of the HMCC. The objectives for GIS applications must reflect the management goals of HMCC’s Management Plan, while the results regenerated from the monitoring activities of GIS should inform the Management Plan. All together these processes must be iterative in order to maximise the application of GIS.
**Conservation management:**
Continue to expand and develop spatial and attribute dataset to define potential cultural landscape elements and identify urban development pressures across all monumental sites. These data can be analysed by GIS in order to investigate the extension of conservation boundaries around the heritage sites as recommended by UNESCO.

**Prioritization of restoration works:**
Develop an inventory of the architectural condition and restoration needs for all monumental sites with a team consisting of technical drawing staff, architects and preservation technicians. GIS can be used as a tool to monitor the conditions of monuments and prioritize for their restoration.

**Heritage Tourism:**
Continue to expand and develop spatial and attribute dataset for potential tourist sites and identify suitable locations for development of tourist facilities and services (e.g., intangible cultural heritage products, homestay concepts)

GIS can be developed into a tourist-friendly web map for tourists. An example is an interactive story web map (http://downloads2.esri.com/agol/pub/redlandsquide/index.html), whereby the HMCC can tailor the content of the narrative in an interesting way for each heritage site. Launched on a web platform, story maps can support tourism promotional activities at the HMCC.

**Disaster disaster risk management:**
Management of natural disasters (floods and typhoon) especially for low-lying areas.
6 Conclusions

Overall, the training achieved the collection and analyses of information for landscape conservation and tourism development, and provided technical GIS training. The results of the training included GIS maps and recommendations that will be used to inform HMCC’s Management Plan for conservation, tourism and GIS implementation. The results of the training provided the following key conclusions: (1) the protection boundaries need to be reconsidered; (2) heritage tourism development strategies need to be improved, and (3) that there are great potentials for GIS to be applied at the HMCC for a range of applications. All these aspects should be considered in the Management Plan. For each of these key conclusions, detailed recommendations applicable to all heritage sites in Hue City are given as follows:

1. Extension of Protection Boundary

The Management Plan needs to include the redefined cultural landscape, which allows the property to be re-nominated by UNESCO as a cultural landscape. The Management Plan with the newly cultural landscape should be integrated into a larger regulatory framework (Hue Master Plan) developed for the city of Hue. Based on our analysis of Tu Duc Tomb we recommend the following:

- Identify cultural values of the monument in relation to the neighboring landscapes for all heritage sites in Hue. The pressures of urbanization, encroachment and infrastructure development within the cultural landscape setting should also be identified.
- Use GIS as a tool to score and weight the significance of identified cultural values in and around the monument sites. This provides a scientific basis for heritage protection that is grounded in a systematic process of valuation. With a sound rationale, new boundaries can be proposed and their relevance be discussed with planning authorities and decision makers.
- Inclusion of urban design guidelines (e.g., height of buildings) for residential properties included inside the extended boundary in order to maintain their harmonious relationship with the cultural landscape.

2. Heritage Tourism Development in Hue

Tourism development strategies specifically geared towards heritage tourism are not fully explored in Hue. At the same time the new understanding of the cultural landscape demands for new approaches towards heritage tourism development strategies. Based on our analysis of Tu Duc Tomb we recommend the following:

- Complete the inventory of existing tourism sites using GIS and use the database as a basis for identifying new tourist sites;
- Select potential tourist sites that will enhance the authentic experience of the tourists within the cultural landscape. Examples include traditional craft villages, rural temples and natural environments;
- Explore other tourism models in order to improve the diversity of their experience. The authenticity of the tourist experience must always be taken into account when exploring new options, such that they do not devalue the system of the cultural landscape. Examples include ‘homestay’ tourist accommodation model, eco-tourism, environmental friendly transport options, new walking or cycling routes.
- Improve the diversity and authenticity of the tourism products by identifying sources of marketable local crafts and intangible heritage. Examples include local food, song and dance.
Modern cultural tourists now seek a high-quality, informed cultural experience. The HMCC should take advantage of the internet and new technological platforms (eg. smart phones) to showcase and promote their extensive knowledge on the heritage sites in an attractive way. This requires further research and development of the descriptive content of each heritage site, with special attention paid to their narrative power. Combined with GIS application, the content can be developed as interactive story web maps that can be launched on platforms such as HMCC’s website or smart phone applications.

- Raise the awareness of local communities and re-engage their appreciation of the values of their cultural heritage.
- Training and capacity building for staff and tour guides to give tourists more information, and increase interest of tourists.
- Collaborate with travel agencies and other enterprises working in the tourism sector to encourage innovative public-private partnerships for sustainable tourism development in Hue.
- Increase the promotion of Thua Thien Hue as a tourist destination through the media and through domestic and international travel agencies.

3. Implementation of GIS

An improvement in data management for monitoring the heritage sites is very urgent. We have learned in this training that there are great potentials for GIS to be applied for a wide range of monitoring applications which can benefit the management functions of the HMCC. Based on our GIS analysis of Tu Duc Tomb we recommend the following:

- The objectives for GIS applications must reflect the management goals of HMCC’s Management Plan;
- The results regenerated from the monitoring activities of GIS should inform the Management Plan;
- All together these processes must be iterative to maximise the application of GIS;
- GIS will allow the HMCC to function in a strategic and proactive manner regarding the monitoring of heritage assets and tourism development in the future to come.
Annex 1: Historically significant built works around the Tu Duc Tomb
Annex 2: Historical Significance of Tomb complexes surrounding the Tu Duc Tomb – Time of Construction
Annex 3: Historical Significance of Tomb complexes surrounding the Tu Duc Tomb – Social functions
Annex 4: Architectural characteristics of Tomb complexes surrounding the Tu Duc Tomb
Annex 5: Historical Significance of Tomb complexes surrounding the Tu Duc Tomb – Management

BẢN ĐỒ CÁC CỘNG TRÌNH CÓ Ý NGHĨA LỊCH SỬ
Khu vực lăng căn Làng Tự Đức
-CẤP QUẢN LÝ-

CHÚ GIẢI
Cấp quản lý các công trình
Dòng tôn
Hồ Phật giáo
Phường Thủy Xuân
Phường Thủy Biểu
Trung tâm Bắc tốn Di tích Cổ đô Huế
Annex 6: Current conditions of the Tomb complexes surrounding the Tu Duc Tomb

BẢN ĐỒ CÁC CỘNG TRÌNH CỔ Y NGHĨA LỊCH SỬ
Khu vực lân cận Làng Tự Đức -HIỆN TRẠNG-
Annex 7: Built works around the Tu Duc Tomb which impacted on Emperor Tu Duc’s decision for the site of the Tu Duc Tomb
Annex 8: Mountains with feng shui implications for the Tu Duc Tomb
Annex 9 Water system around the Tu Duc Tomb
Annex 10: Tourist sites at the Tu Duc Tomb
Annex 11: Tourist services and facilities at the Tu Duc Tomb
Annex 12: Restoration record and conditions of buildings at the Tu Duc Tomb
Annex 13 List of Participants

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