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MINISTRY OF EDUCATION AND CULTURE**

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29 November 2017

Ms. Mechtild Rössler
Director of the World Heritage Centre
UNESCO
Paris

**Subject: Report on the State of Conservation of Sangiran Early
Human Site (C593)**

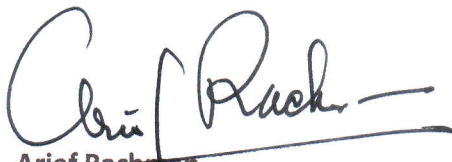
Dear Ms. Mechtild Rössler,

With reference to the decision of the World Heritage Committee number 40 COM 7B.36 from its 40th session in Istanbul, Turkey on July 2016, we would like to submit the report on the State of Conservation of Sangiran Early Man Site.

Hereby, please find enclosed the document.

Thanking you for your continuous support and collaboration in the implementation of the World Heritage Convention, I remain,

Sincerely yours,


Arief Rachman
Executive Chairman

Copy

Permanent Delegation of the Republic of Indonesia to UNESCO



**THE STATE OF CONSERVATION
SANGIRAN EARLY MAN SITE (INDONESIA)
(C593)**

40 COM 7B.36 (Istanbul, 2016)

Conservation Office of Sangiran Early Man Site

**Ministry of Education and Culture
2017**

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C. Official Record on the Drafting of Sangiran Early Man Site State of Conservation Report	iii	5



**FORMAT FOR THE SUBMISSION OF
STATE OF CONSERVATION REPORTS
BY THE STATES PARTIES**

(in compliance with Paragraph 169 of the *Operational Guidelines*)

Sangiran Early Man Site (Indonesia) (C593)

1. Executive Summary of the report

This report, addressed to the World Heritage Centre, is in response to the request made in Paragraph 5 of WHC Decision 40COM 7B.36 (2016) of an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 42nd session in 2018, for the improved safeguarding management of the Sangiran Early Man Site (C 593). Altogether there were two (2) recommendations contained in the aforesaid Decision of the Committee, viz:

DECISION PARA 3

- i. Integrated Management Bureau to ensure coordinated management, conservation, and monitoring of the property

DECISION PARA 4

- ii. Integrated Management Plan together with comprehensive conservation and tourism management plans completed

The report consists of a narrative explaining the progress made in the implementation of the measures taken by the Republic of Indonesia (the State Party) to address each of the two specific issues enumerated in Decision 40COM 7B.36. For ease of reference the Committee Decision 40COM 7B.36 is reproduced as Annex A, attached to this report.

The narrative report on progress made in the implementation of each of the two issues arising from Decision 40COM 7B.36 is supported and supplemented by a variety of annexes table of supporting documents, both for ease of reference and to ensure the completeness of this report.

Annexes paragraph reference	Relevant issue(s)	Decision
A. WHC Decision 40COM 7B.36		
B. 2017 Sangiran Early Man Site Management Plan	i, ii	3,4
C. Official Record on the Drafting of Sangiran Early Man Site State of Conservation Report	iii	5

In order to complete Sangiran Early Man Site Management Plan together with integrated conservation and tourism management plan, the State Party (Indonesia) has conducted a series of coordination meetings, workshops, and consultative meetings from February to September 2017. For ease of reference the 2017 Sangiran Early Man Site Management Plan inclusive of comprehensive conservation and tourism management plans is reproduced as Annex B, attached to this Report.

In line with policy of the Ministry of Education and Culture of the Republic of Indonesia to create an integrated management system and corresponding comprehensive management plan for each World Cultural Heritage Site in Indonesia, the process which has been put into place in Sangiran over the past

two years has been completed for Sangiran Early Man Site during the period 2016-2017, resulting in a revised Master Plan for comprehensive management of the property, encompassing management of the identified factors among others development pressures, environmental pressures, tourism and visitation pressures, and inhabitant within the Property.

The establishment of the Integrated Management Bureau and the Integrated Management Plan together with the comprehensive conservation and tourism management plans are encouraged and requested in Paragraf 3 and 4 respectively. The requests have been fulfilled through the establishment of Conservation Office of Sangiran Early Man Site (SCO) to ensure coordinated management, conservation, and monitoring of Sangiran Early Man Site and the completion of the 2017 Sangiran Early Man Site Management Plan – an Integrated Management Plan where conservation and tourism management plans are integral parts of – in coordination with relevant stakeholders. This State of Conservation Report has been collaboratively drafted through a coordination meeting and finalized upon received of inputs and feedback from stakeholders.

2. Response to the Decision of the World Heritage Committee

This report has been made in response to concerns expressed by the committee over a number of requests to review the State of Conservation of Sangiran Early Man Site, Indonesia. Following a detailed discussion at the 40th Session in Istanbul, Turkey (2016), the World Heritage Committee took the following decisions:

**Committee Decisions 40 COM 7B.36
Sangiran Early Man Site (C 593) (Indonesia)**

The World Heritage Committee,

1. Having examined Document WHC/16/40.COM/7B,
2. Recalling Decision **38 COM 7B.13**, adopted at its 38th session (Doha, 2014),
3. Noting the progress made with the implementation of the previous Committee decisions and the Reactive Monitoring mission recommendations, encourages the State Party to establish, as soon as possible, the Integrated Management Bureau to ensure coordinated management, conservation and monitoring of the property;
4. Also notes the improvements made with the establishment of an integrated management system and requests the State Party to complete the integrated management plan, together with the comprehensive conservation and tourism management plans and submit these plans to the World Heritage Centre by **1 December 2017**, for review by the Advisory Bodies;
5. Also requests the State Party to submit to the World Heritage Centre, by **1 December 2017**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 42nd session in 2018.

Response from the State Party to the World Heritage Committee's Decision per paragraph will be addressed as some issues below :

DECISION 40COM 7B.36		ANNEX
DECISION 40COM 7B.36 Paragraf 3		
3.i.	Integrated Management Bureau to ensure coordinated management, conservation and monitoring of the property	B
	<p>In response to the recommendation and request given in the Decision of the World Heritage Committee 40COM 7B.36 at the Sangiran Early Man Site to establish the Integrated Management Bureau to ensure coordinated management, conservation and monitoring of the property, saat ini, SCO sudah menjalankan fungsi sebagai the Integrated Management Bureau for managing Sangiran Early Man Site. The existing SCO strenghtens its coordinative roles to involve all the stakeholders since 2016, in the process of finalizing the integrated management plan.</p> <p>Coordinated management structure has been finalized as part of the 2017 Sangiran Early Man Site Management Plan. This management structure represents all the stakeholders, which include, SCO representing the Central Government in this regard the Ministry of Education and Culture, Provincial Government, the local Regencies, and the local community.</p>	B
DECISION 40COM 7B.36 Paragraf 4		
4.ii	The integrated management plan, together with the comprehensive conservation and tourism management plans completed	
	<p>The State Party has completed the integrated management plan, inclusive of the comprehensive conservation and tourism management plans. By several Coordination meeting, workshops, and consultations with expert of World Heritage Management, involving the stakeholders in National, Central Java Province, Sragen Regency, Karanganyar Regency, community leaders, and Non Governmental Organizations. Relevant Ministries, namely Ministry of Education and Culture, Ministry of Tourism, Coordinating Ministry for Human Development and Cultural Affairs. Provincial and local government institutions involved:</p> <ol style="list-style-type: none"> 1. Office of Youth, Sports, and Tourism of Cental Java Province 2. Office of Education and Culture of Cental Java Province, 3. Office of Public Works, Water Resource and Spatial Planning of Cental Java Province, 4. Office of Public Works, Highways, and Human Settlements of Cental Java Province, 5. Planning, Research, and development Agency of Central Java Province, 6. Office Youth, Sports, and Tourism of Sragen Regency, 7. Office Education and Culture of Sragen Regency, 8. Office of Public Works and Spatial Planning of Sragen Regency, 9. Planning, Research, and development Agency of Sragen Regency, 10. Office of Educatian and Culture of Karanganyar Regency, 11. Office of Youth, Sports, and Tourism of Karanganyar Regency, 12. Office of Public Work and Spatial Planning of Karanganyar Regency, 13. Planning, Research, and development Agency of Karanganyar Regency. <p>Comprehensive plans for conservation and tourism management are integral parts of the 2017 the Sangiran Early Man Site Management Plan. The basis of integrating the comprehensive plan for conservation and tourism management into the Management Plan is the identified threats and factors affecting the property to provide guidance for conservation and tourism management activities. While, the identified areas to manage are development pressures, environmental pressures, natural disaster and risk preparedness, tourism and visitation pressures, and</p>	B

	inhabitant within the property. As for the implementation, a coordination structure, enforcement mechanism, and management infrastructure and facilities have been established and elaborated in the 2017 Sangiran Early Man Site Management Plan.	
DECISION 40COM 7B.36 Paragraf 5		
5.iii	An updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 42nd session in 2018 submitted by the State Party to the World Heritage Centre, by 1 December 2017	
	The development of the Integrated Management Bureau and the Integrated Management Plan together with the comprehensive conservation and tourism management plans are encouraged and requested in Paragraf 3 and 4 respectively. The requests have been fulfilled through the establishment of Conservation Office of Sangiran Early Man Site (SCO) to ensure coordinated management, conservation and monitoring of Sangiran Early Man Site and the completion of the 2017 Sangiran Early Man Site Management Plan in coordination with relevant stakeholders. This State of Conservation Report of Sangiran Early Man Site has been collaboratively drafted through a coordination meeting and finalized upon received of inputs and feedback from stakeholders.	C

3. Other current conservation issues identified by the State(s) Party(ies) which may have an impact on the property's Outstanding Universal Value

There are no other current conservation issues identified.

4. In conformity with Paragraph 172 of the *Operational Guidelines*, describe any potential major restorations, alterations and/or new construction(s) intended within the property, the buffer zone(s) and/or corridors or other areas, where such developments may affect the Outstanding Universal Value of the property, including authenticity and integrity.

There are no potential major restorations, alterations and/or new construction(s) intended within the property, the buffer zone(s) and/or corridors or other areas, where such developments may affect the Outstanding Universal Value of the property, including authenticity and integrity to be reported.

5. Public access to the state of conservation report

Uploading this report for public access on the website is accepted without reservation.

6. Signature of the Authority

Hilmar Farid
Director General for Culture
Ministry of Education and Culture
Republic of Indonesia

Annex A.

Annex B.

Annex C.

Annex A

Decisions adopted by the Committee in 2016

40 COM 7B.36

Sangiran Early Man Site (Indonesia) (C 593)

The World Heritage Committee,

1. Having examined Document WHC/16/40.COM/7B,
2. Recalling Decision **38 COM 7B.13**, adopted at its 38th session (Doha, 2014),
3. Noting the progress made with the implementation of the previous Committee decisions and the Reactive Monitoring mission recommendations, encourages the State Party to establish, as soon as possible, the Integrated Management Bureau to ensure coordinated management, conservation and monitoring of the property;
4. Also notes the improvements made with the establishment of an integrated management system and requests the State Party to complete the integrated management plan, together with the comprehensive conservation and tourism management plans and submit these plans to the World Heritage Centre by **1 December 2017**, for review by the Advisory Bodies;
5. Also requests the State Party to submit to the World Heritage Centre, by **1 December 2017**, an updated report on the state of conservation of the property and the implementation of the above, for examination by the World Heritage Committee at its 42nd session in 2018.

Analysis and Conclusion by World Heritage Centre and the Advisory Bodies in 2016

The State Party has invested considerable efforts to strengthen and increase participation of local communities in management and monitoring of the site. While progress with strengthening legislation and protection measures has been reported, the IMB has yet to be established. The cooperation agreements signed between the different stakeholders is another important step towards greater coordination and decision-making. It is recommended that the Committee encourage however the State Party to establish, as soon as possible, the IMB to ensure coordinated management, conservation and monitoring of the property.

The State Party should complete the integrated management plan, together with the comprehensive conservation and tourism management plans and submit them to the World Heritage Centre for review by the Advisory Bodies. It should continue to further the active participation of residents in management, as well as improving regulations to control infrastructural and physical developments at the property.

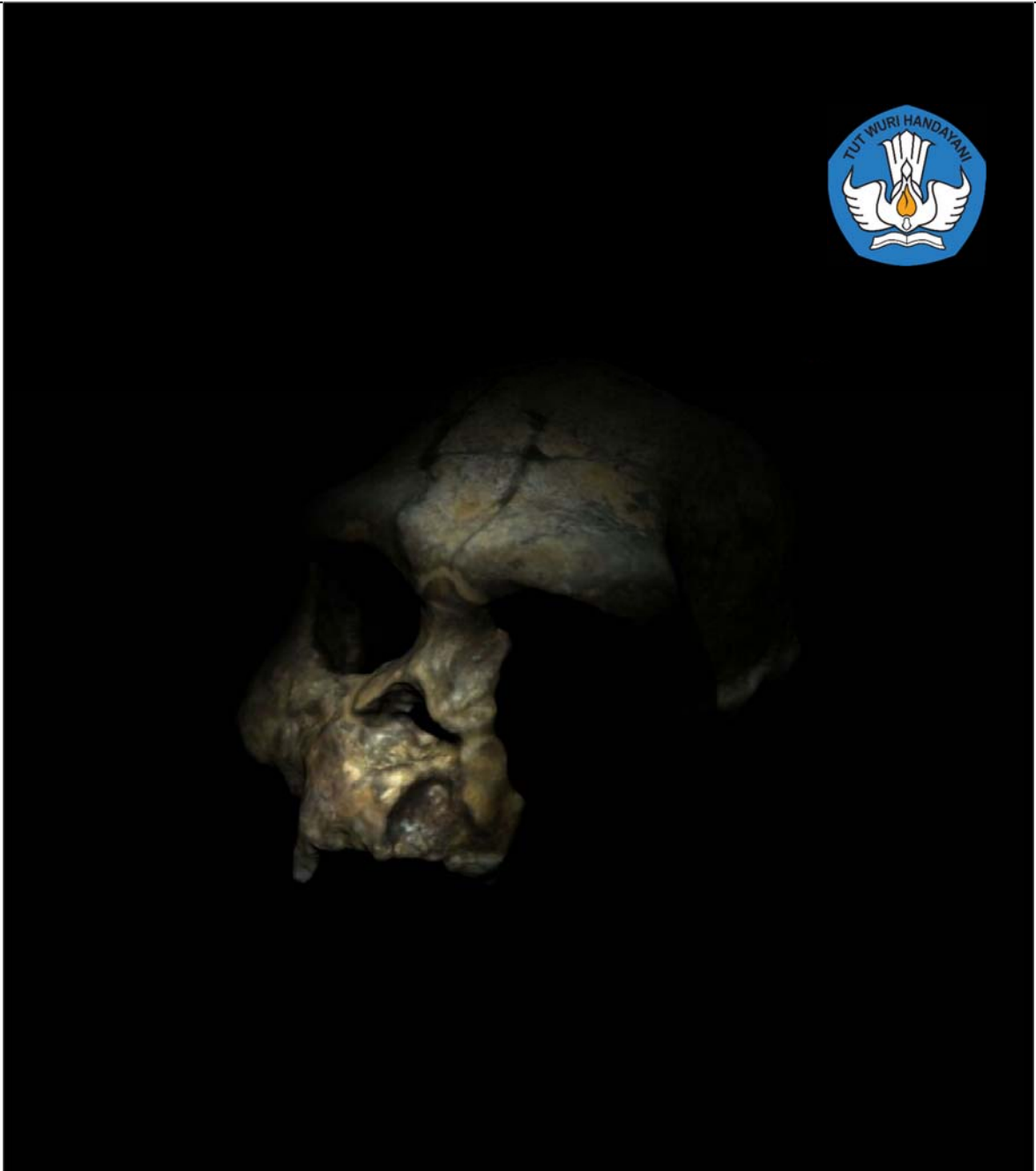
Restrictions on sand mining activities have been strengthened through additional decrees and it remains important to ensure that monitoring and coordination is carried out in close collaboration with the local government and trained staff.

The establishment of cluster museums will certainly contribute to greater understanding and enhance site interpretation. According to the information provided, the involvement of local residents in the site interpretation and conservation is facilitated and supported through these museums. However, caution should be exercised in terms of interpretation programmes, relating to the traditional performances.

Conservation issues presented to the World Heritage Committee in 2016

On 30 November 2015, the State Party submitted a report on the state of conservation of the property, which is available at <http://whc.unesco.org/en/list/593/documents> and provides update information on the following:

- *Legislation and regulations*: In order to further strengthen the legislations adopted since 2010, additional regulations such as the Decree on Integrated Geographical Area of Sangiran as National Level Cultural Heritage Area have been adopted. Increased cooperation among governmental, regional and local actors has been ensured through cooperation agreements signed in 2015, which includes an agreement on improved services for visitor management and conservation. The provisions for Environmental Impact Assessments (EIAs) are addressed through spatial planning regulations in both regencies of Sragen and Karanganyar.
- *Integrated Management Bureau (IMB)*: The IMB, foreseen to manage the property, is in a preparatory stage while its establishment is planned for 2016. The process for the development of an integrated management system and comprehensive management plan for Sangiran will be completed within 2016-17, resulting in a revised Master Plan for the comprehensive management of the property. The IMB will ensure active collaboration and involvement of all stakeholders and local communities in the management and conservation of the property, as well as in tourism related activities.
- *Comprehensive conservation and tourism management plans*: Through a series of workshops, factors affecting the property have been identified and form part of the management of the property. Strategies and time-bound actions to manage tourism have been identified in the tourism management plan.
- *Recommendations of missions*: Progress is reported with regard to capacity building and training of staff. The capacity building workshops have assisted in the development of the integrated management system and the development of a log-frame for management, conservation and monitoring. Increased awareness and involvement of local communities has been addressed through training activities. Further work is nevertheless required to ensure full participation of residents in site management, as well as improving regulations to control infrastructural and physical developments.
- *Illegal sand mining*: Restrictions on sand mining are ensured through regular monitoring and coordination with the local government and legally supported through the 2015 adopted Decree designating Sangiran Early Man site as National Cultural Heritage Area and the 2014 Decree designating Sangiran site as Central Java Protected Cultural Heritage Area.
- *Interpretation*: Measures have been taken to improve the interpretation of the property through Cluster Museums, providing visitors with better understanding of the values of the property and ensuring local participation in the conservation process.



SANGIRAN EARLY MAN SITE MANAGEMENT PLAN

MINISTRY OF EDUCATION AND CULTURE, INDONESIA
2017

ACKNOWLEDGMENT



Hilmar Farid
Director General for Culture
Ministry of Education and
Culture

The Management Plan of Sangiran Early Man Site is the result of a rewarding collaboration, dedicated effort, and thorough research among various institutions, experts, and local communities in and around Sangiran.

In this occasion, Directorate General of Culture, Ministry of Education and Culture of Republic of Indonesia are deeply grateful to the experts and personnels without whose hard work and contribution this Management Plan would not come into fruition.

We are particularly thankful to:

Member of Technical Working Group:

Advisor

Minister of Education and Culture
Coordinating Minister for Human Development and Culture
Governor of Java Central
Regent of Sragen Regency
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5. Planning, Research, and development Agency of Central Java Province,
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Map, Photograph, Graphic and Illustration Contributors

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Bibliography

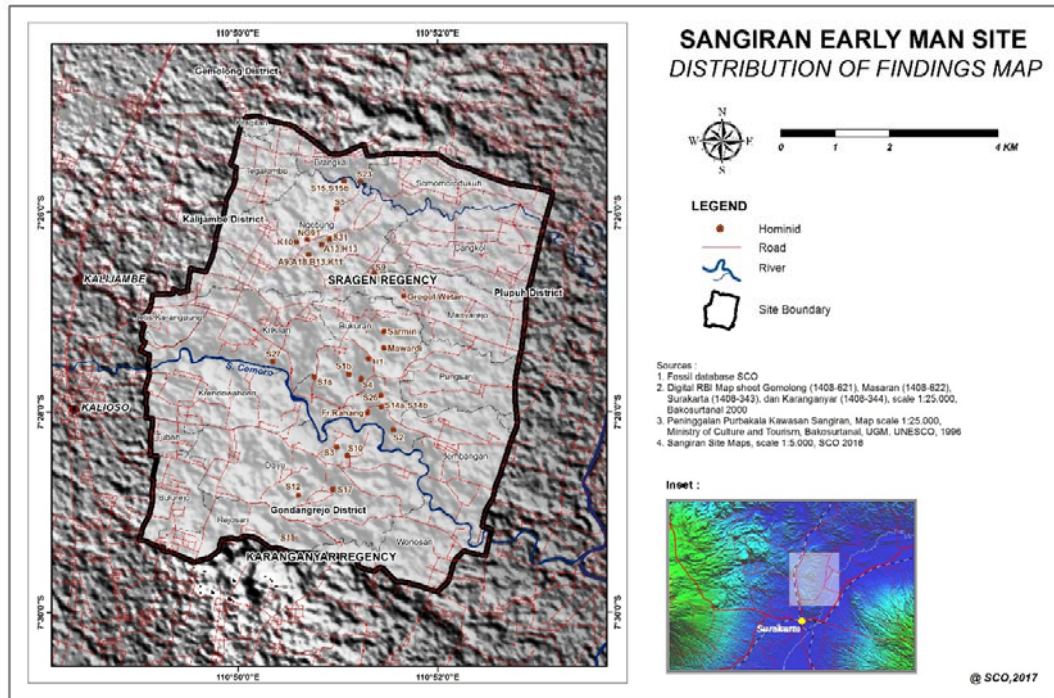
EXECUTIVE SUMMARY

Sangiran Early Man Site is the location of the discovery of fossils classically called *Pithecanthropus erectus*, which was later changed into a taxon *Homo erectus* as it is known today. In an area shaped into a reversed dome due to its geological formations, Sangiran has a complete series of stratigraphy in Southeast Asia. Sangiran Early Man Site was inscribed a World Heritage Site in 1996, representing an opportunity for better research in the early man history and to spread its value and significance to a wider global audience.

Statement of Outstanding Universal Value (OUV)

Sangiran Early Man site is situated about 15 kilometres in the north of Solo town in Central Java, Indonesia, covering an area of 5,600 hectares. It became famous after the discovery of *Homo erectus* remains and associated stone artefacts (well-known as Sangiran flake industry) in the 1930s. There is a very significant geological sequence from the upper Pliocene until the end of Middle Pleistocene by depicting the human, faunal, and cultural evolutions within the last 2.4 million years. The property also yields important archaeological occupation floors dating back to the Lower Pleistocene around 1.2 million years ago.

The macro-fossils that appear abundantly from the layers provide a detailed and clear record of many faunal elements, while the site reveals more than 100 individuals of *Homo erectus*, dating back to at least 1.5 million years ago. These fossils show a human evolution process during the Pleistocene period, particularly from 1.5 to 0.4 million years ago. Inhabited for the past one and a half million years, Sangiran is one of the key sites for the understanding of human evolution. More discoveries of stone tools have been made since. These human, fauna, and stone tool materials were deposited within its unbroken stratigraphical layers.



Map 1 Distribution of fossils and artefacts findings

A Master Plan for Conservation and Development of the Sangiran Site was adopted in 2004, identifying the potential area for development and the establishment of a site managerial body for the site. Several years later, the Ministry of Education and Culture established Sangiran Conservation Office in 2009 as field coordinator that works and cooperates directly with the respective local government as well as the direct and indirect stakeholders to the property.

To ensure that the OUV of the site is maintained and to ensure a sustainable and integrated development of the site, this Management Plan is formulated for a period of fifteen years from January 2018 to December 2032.

Objectives of The Management Plan

- 1) Preserving the long history of scientific investigation of the fossil record at these extensive open-air sites using the full range of on and off site preservation, museology, and interpretation strategies;
- 2) Protecting both the excavated and as yet un-excavated/un-recovered archaeological deposits which have future scientific research potential, within

their geo-morphological, depositional, geographical, environmental, and landscape contexts;

- 3) Promoting continued collaborative international and national scientific research into the evolution of Early Man and the Pleistocene environment that he inhabited, as evidenced at Sangiran, including associated flora, faunal, and artefact assemblages; and
- 4) Communicating to international, national, and local publics the results and relevance of this research in its contemporary scientific and developmental contexts, while at the same time actively and fully engaging with the local community, its concerns, and interests.

The Management Plan describes the current status of the site including the stakeholders, its protection and legislation, conservation, visitation facilities, and tourism. It establishes the baseline assessment from which the issues related to site management emerge. The issues that directly impact the site management at Sangiran Early Man Site have been broadly categorised into six areas in the Management Plan.

These are:

- 1.Land Use
- 2.Infrastructure
- 3.Environment
- 4.Tourism and Visitation
- 5.Research
- 6.Inhabitants within the Property

These main areas are used to assess the factors to manage and to develop policies and an action plan, identifying the responsible stakeholders, monitoring indicators, and time frame for the implementation of the action plan spreading over a fifteen-year period.

PART I. LOCATION AND DESCRIPTION

I.1 Location

Country: Indonesia

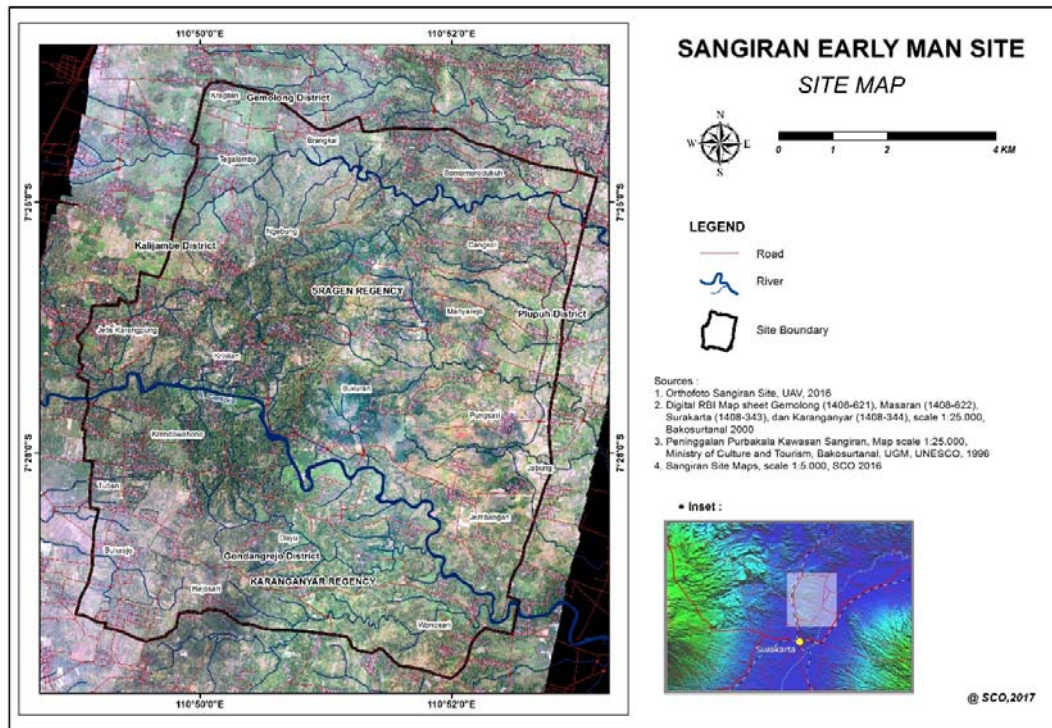
State, Province, or Region: Sangiran, Central Java

Name of Property: Sangiran Early Man Site

Geographical coordinates: 110°49' - 110°53' EM and 7°24' - 7°30' SL

Sangiran Early Man Site is located in Central Java, Indonesia. With an area of 56 km² which is an agricultural environment, it is 15 km north side of Solo (78 km from Yogyakarta). Administratively, it is located in two regencies, namely Sragen and Karanganyar. Included within the property is 4 sub-districts (Kalijambe, Plupuh, and Gemolong within Sragen Regency, and Gondangrejo within Karanganyar Regency), 20 villages, and 149 hamlets.

Geographically, the property is located in a hilly area (\pm 183 m above the sea level) of the Solo depression at the foot of Mount Lawu. There are three tributaries of antecedent streams running through the property of which cause river cliff incisions that reveal their palaeolithic sediments. Sangiran morphology today is the result of a severe erosion at the top of Sangiran Dome, dating back to 100,000 years ago, which eventually shaped Sangiran into a basin. The lithology and soil layering of Sangiran is the sedimentation result of loose volcanic deposits of sand, gravels, and pebbles, making it prone to landslides.



Map 2 Sangiran Early Man Site Map

I.2 Description

Sangiran Early Man Site is the location of the discovery of fossils classically called *Pithecanthropus erectus*, which was later changed into a taxon *Homo erectus* as it is known today. In an area shaped into a reversed dome due to its geological formations, Sangiran has a complete series of stratigraphy in Southeast Asia.

The dome of Sangiran Early Man Site contains a continuous series of stratigraphy of 2 million years, comprising of Kalibeng formation (2 million years ago), Pucangan formation (1.8 - 0.8 million years ago), Grezbank (0.8 - 0.7 million years ago), Kabuh formation (0.7 - 0.2 million years ago), Notopuro formation (0.2 - 0.12 million years ago), and the recent formation.

The dating of the formation indicates that the early man of Sangiran, as well as the ancient animal (primate, vertebrate, foraminifera, and molluscs), has been in the area since 1.5 million years ago. Meanwhile, the palaeolithic tools found within the property exhibit the technological evolution of the *Homo erectus*, representing a culture that dates back as far as 800,000 years ago. The site with the early man, faunal and floral fossils, palaeolithic and up to neolithic artefacts, are supported by the presence of

continuous series of geological formations, showing an important ecosystem characters for human evolution.

Other palaeolithic sites in Southeast Asia have not been able to show a clear connection with the early man fossils until the discovery of Sangiran in the 1980s, specifically in Kabuh formation which unearthed palaeolithic artefact workshops. Thus, the discovery of both fossils and artefacts within the same formation goes to show that Sangiran is the first evidence of early man settlement, in correlation with the *Homo erectus*, in Southeast Asia.

PART II. SIGNIFICANCE AND HERITAGE VALUES

In 1996, Sangiran Early Man Site was inscribed as a World Heritage property by the World Heritage Committee. The inscription represents an opportunity for better research in the early man history and to spread its value and significance to a wider global audience. A retrospective statement of Outstanding Universal Value was then adopted by the UNESCO World Heritage Committee in 2013 through decision WHC-13/37.COM/8E which briefly summarises the selection criteria as articulated in the next section.

II.1 Outstanding Universal Values

Sangiran Early Man site is situated about 15 kilometres in the north of Solo town in Central Java, Indonesia, covering an area of 5,600 hectares. It became famous after the discovery of *Homo erectus* remains and associated stone artefacts (well-known as Sangiran flake industry) in the 1930s. There is a very significant geological sequence from the upper Pliocene until the end of Middle Pleistocene by depicting the human, faunal, and cultural evolutions within the last 2.4 million years. The property also yields important archaeological occupation floors dating back to the Lower Pleistocene around 1.2 million years ago.

The macro-fossils that appear abundantly from the layers provide a detailed and clear record of many faunal elements, while the site reveals more than 100 individuals of *Homo erectus*, dating back to at least 1.5 million years ago. These fossils show a human evolution process during the Pleistocene period, particularly from 1.5 to 0.4 million years ago. Inhabited for the past one and a half million years, Sangiran is one of the key sites for the understanding of human evolution. More discoveries of stone tools have been made since. These human, fauna, and stone tool materials were deposited within its unbroken stratigraphical layers.

II.2 Criteria and Physical Attributes

II.2.1 Criterion iii

This property is one of the key sites for the understanding of human evolution that admirably illustrates the development of *Homo sapiens sapiens*, over two million years from the Lower Pleistocene to the present through the outstanding fossils (human and animal) and artifactual material that it has produced.

II.2.1.1 Attributes of Criterion iii

In 1893 the first fossil of *Homo erectus* was found by Eugene Dubois, followed by the discovery of animal fossils in 1929-1930 by LIC van Es and the flake tools by GHR von Koenigswald in 1934. The most intact fossil of *Homo erectus* with its well-conserved full face structure was later found in 1969 and becomes the only intact fossil in Asia.

After a pause during the second World War, intensive research started again and since 1977 resulted in the finding of a collection of human fossils in Pucangan formation and Grezbank, while hominid molar and animal fossils, as well as several massive stone and flake tools are found in Kabuh formation.

The discovery of bone tools in 1995 brought light to *Homo erectus* technological evolution, especially in showing their excellent ability to choose materials to exploit the environment, but it was not until 2004 that the spectacular discovery of Sangiran Flake Industry was believed to be an Archaic *Homo erectus* culture of the Lower Pleistocene time that dates back to 1.2 million years ago.

The stratigraphy within the property represents a systematic recording of geological history during quaternary, an important period of human evolution, which makes Sangiran internationally known as the most complete field laboratory for the early man history in the world. The site represents an outstanding example of an ecosystem which illustrates a significant stage of early man history. Sangiran early man fossils (50% of world fossil discovery) are the main contributor to *Homo erectus* as they indicate archaic evolution phenomena in Asia and represent the two first-stages of the three stages of evolution in over a million years.

The collection of fossils, both human and animal, artifactual materials, and the stratigraphy layers in Sangiran Early Man Site support criteria iii.



Image 1-4 (clockwise) *Homo erectus* skull, stone artefact, exposure lanscape, crocodylus fossil

II.2.2 Criterion vi

The property is displaying many aspects of very long-term human physical and cultural evolution in an environmental context. It will continue to be so and remain dynamically informative.

II.2.2.1 Attributes of Criterion vi

Geological history of Sangiran Early Man Site which is formed into a reversed dome was started from sedimentation of geologic formations, followed by a deformation process into a dome due to diaper intrusion. The summit of the dome was eroded by the presence of Cemoro, Brangkal, and Puren rivers, making the area into a recessed, reversed dome. This severe erosion at the top of Sangiran Dome dates back to 100,000 years ago.

The landscape of Sangiran Early Man Site includes varied topography which occasionally triggers land erosion. This erosion, which is caused by fluvial process of

Cemoro River, uncovers different stratigraphical layers and fossils. It was also discovered that Cemoro River is an antecedent stream, which explains its eroding potential of the Sangiran Dome.

This landscape is affected by different attributes, which are the traditional houses, the vegetation, and the existing road network interconnecting the clusters within the property boundary. The traditional houses in Sangiran are an example of vernacular architecture, easily identifiable through the roof shape and structure, the materials, and the mass. In terms of the vegetation, Sangiran is dominated by traditional agricultural land for domestic use. Any reforestation efforts due to environmental pressures should be appropriate to Sangiran's original setting.

The landscape of Sangiran Early Man Site, which includes the environmental context of the property, supports criteria vi.



Image 5 Sangiran Early Man Site agricultural lanscape



Image 6 Sangiran Early Man Site agricultural lanscape

II.2.3 Additional Values of the Property to be Managed

In addition to the values of the site that constitutes the Outstanding Universal Values of Sangiran Early Man Site, there are additional values of the property that have to be managed and are therefore, incorporated to the Management Plan.

II.2.3.1 Rural Characteristics

Sangiran Early Man Site as a World Heritage Property extends across an area of 56 km² and is also known as one of the only World Heritage Sites in the world that houses local inhabitants within its nominated property boundaries. With a total population of 64,608 people based on the 2016 statistical data, there are two administrative regencies, four sub-districts, 20 villages, and 149 hamlets within the property.

These functioning governing entities own offices and other public buildings that are rich in its architectural detail and style. The vernacular architecture of most government-owned buildings are made of wood and bamboo, and are testament to the architectural practices of the local community, which augment the Outstanding Universal Value of Sangiran Early Man Site and provide further potential for tourism and income generation for the locals.



Image 7-10 Traditional architecture of the Sangiran area

The Ministry of Education and Culture is currently undertaking an inventory assessment of the vernacular architecture located within the boundaries of Sangiran Early Man Site which will be the baseline for conservation guidelines, in an effort to preserve the vernacular architecture of Sangiran. The inventory assessment uses a dynamic and participatory approach with all concerned stakeholders in which several meetings and workshops will be delivered throughout 2017-2018.

II.2.3.2 Site Museums

Site museums are available on each of the five clusters within the Sangiran Early Man Site. The vast amount of knowledge, fossils, and fossil deposits in the site underscores the need for these museums, which are listed below according to their own needs and specialisations. These museums help conserve, archive, and interpret the fossils and their history to a wider audience. Moreover, interactions with the local inhabitants are capacitated through joint collaboration in events and locally sourced staff members of the museums.

The construction of the museums is in line with the principles of the site conservation plan.

1. Krikilan Cluster Museum provides information to the public on the Outstanding Universal Values of Sangiran Early Man Site, human evolution and the environment they lived in, as well as their culture.



Image 11-14 Interior view of Krikilan Cluster Museum

2. Bukuran Cluster Museum provides a more in depth and detailed interpretation of human evolution.

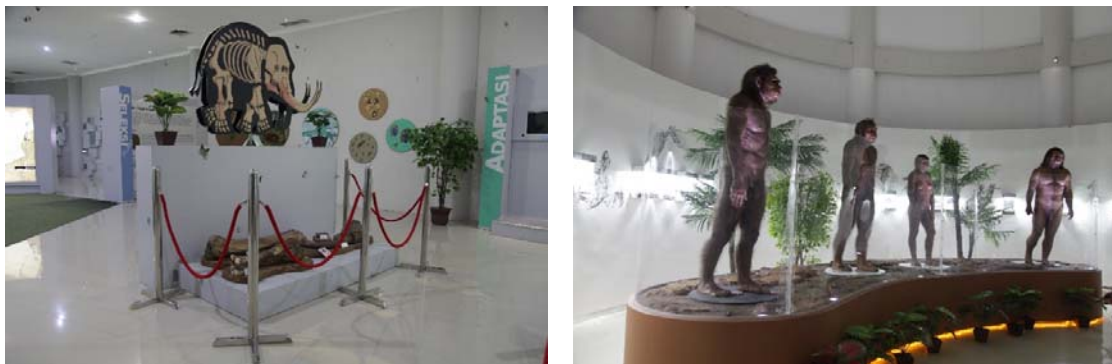




Image 15-18 Interior view of Bukuran Cluster Museum

3. Ngebung Cluster Museum provides information on the history of research and knowledge-building in Sangiran Early Man Site.



Image 19-22 Interior view of Ngebung Cluster Museum

4. Manyarejo Museum provides scientific interpretations on the local community's appreciation on the achievements of archaeological researches in Sangiran.



Image 23-26 Interior view of Manyarejo Museum

5. Dayu Cluster Museum provides more information on the recent archaeological researches.



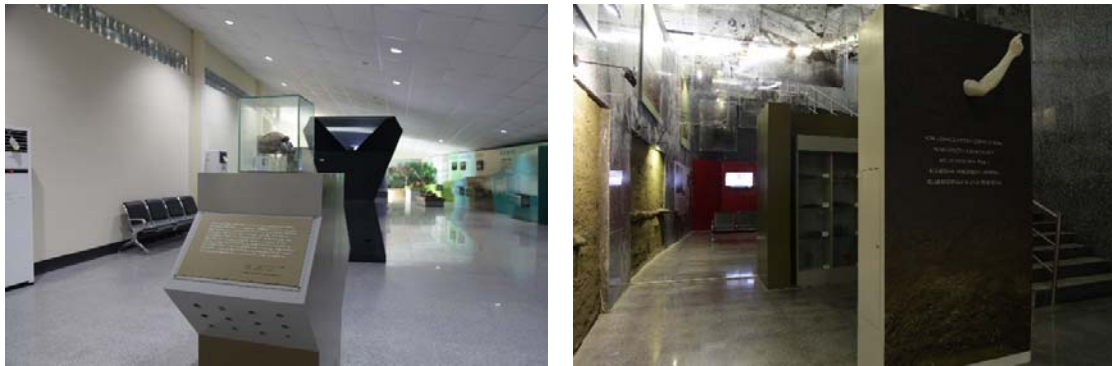


Image 27-30 Interior view of Dayu Cluster Museum

II.3 Integrity

“All the potential aspects of the property such as human and animal fossils, as well as the artefacts, are found in their natural context within the boundaries of the nominated area. As normal with discoveries from open sites, the evidence is rarely found intact due to erosion and transportation processes. One has to acknowledge that these natural agents have been for long the most efficient actors in excavating Sangiran Early Man Site.”¹

II.4 Authenticity

“This property illustrates the sequences of human, cultural, and environmental evolutions over two million years by means of the cultural materials from their original layers, which show specific periods and environments.”²

II.5 Protection and Management

II.5.1 Requirements

In order to protect the whole property, the Ministry of Education and Culture of the Republic of Indonesia issued the decree Number 070/1977. This decree declared the Sangiran area as a nationally protected cultural site of human evolutions during Pleistocene. As for comprehensive protection such as prevention against illegal trading of the fossils and area maintenance (including zoning of the property), the government has published the Indonesian Law Number 5/1992, which was then revised to Number 11/2010. The erosion, landslide, and transportation processes on the property have been countered by continuous reforestation conducted by local government. There have been no sand mining activities since it was stopped in 2008. Additionally, since

¹ The text is a direct quote from the Retrospective Statement of Outstanding Universal Value (37COM 8E) in 2013

² The text is a direct quote from the Retrospective Statement of Outstanding Universal Value (37COM 8E) in 2013

2008, the property has been declared as National Vital Object, which means that it is protected by the Government of Indonesia and regarded as a very important site for the nation due to its significant cultural resources. The property is fully managed and regulated now by the Directorate General of Culture, Ministry of Education and Culture, due to the bureaucratic changes at the Ministry of Culture and Tourism in 2012. The government takes all stakeholders i.e. local communities, local governments, and universities, to manage the property under the supervision of the Ministry. A Master Plan and a Detailed Engineering Design are established for long-term management, consisting of research, protection, and public use.

The Government of Indonesia also stipulated a legislation on the conservation and management of cultural heritage that falls under the provincial protection designation: Regional Regulation of Central Java number 10/2013; which has also been translated into a more detailed spatial planning of the Karanganyar Regency. A complete list of the legal framework on the protection and management of the site is available in the subsequent part of this Management Plan.

In order to effectively maintain the property, four thematic clusters are developed, namely the Krikilan Cluster (as visitor centre), Ngebung Cluster (the history of site's discovery), Bukuran Cluster (human evolution), and Dayu Cluster (modern research). Regarding tourism management, the four clusters will be connected by means of a special tourism route. People are expected to visit all clusters, which will take more than one day. The property's designation as a National Strategic Area (in progress) ensures its long-term protection, involving the local community in conservation aspects. Finally, the management of the property is conducted firmly and not-for-profit by a Coordinating Board, involving all the stakeholders under the direction of Directorate General of Culture, Ministry of Education and Culture.

II.5.2 Objectives of the Management Plan

In order to protect the integrity (and authenticity) of the property's physical attributes from risks that threaten them, so that the criteria which give the property its OUV are safeguarded over the long-term, this management plan has been established to safeguard the Pleistocene fossil record of *Homo erectus* and associated flora and faunal fossils, as well as artifactual evidence, in its depositional and environmental contexts at Sangiran with the quadruplex objectives of:

- (i) Preserving the long history of scientific investigation of the fossil record at these extensive open-air sites using the full range of on and off site preservation, museology, and interpretation strategies;
- (ii) Protecting both the excavated and as yet un-excavated/un-recovered archaeological deposits which have future scientific research potential, within their geo-morphological, depositional, geographical, environmental, and landscape contexts;
- (iii) Promoting continued collaborative international and national scientific research into the evolution of Early Man and the Pleistocene environment that he inhabited, as evidenced at Sangiran, including associated flora, faunal, and artefact assemblages; and
- (iv) Communicating to international, national, and local publics the results and relevance of this research in its contemporary scientific and developmental contexts, while at the same time actively and fully engaging with the local community, its concerns, and interests;

with the aim to further the understanding of the co-evolution of hominid and other species during the Pleistocene era and the Pleistocene-Holocene transition of environmental and climatic volatility and the implications of this relationship for insight into environmental issues of enduring relevance such as human adaptation to climate change in both macro- and micro-ecological contexts.

PART III. LEGAL PROTECTION

The Sangiran Early Man Site was declared a protected archaeological reserve, as prescribed in Monument Ordinance Staatsblad 238/1931 by means of a decree issued by the Ministry of Education and Culture in 1997. Under the provisions of Law No 5/1992, which was then revised to Law number 11/2010 concerning cultural property (which replaced Monument Ordinance Stb. 238/1931), no exploration, excavation, or other form of digging is permitted in the area without authorisation; penalties for transgression are fines and/or imprisonment.

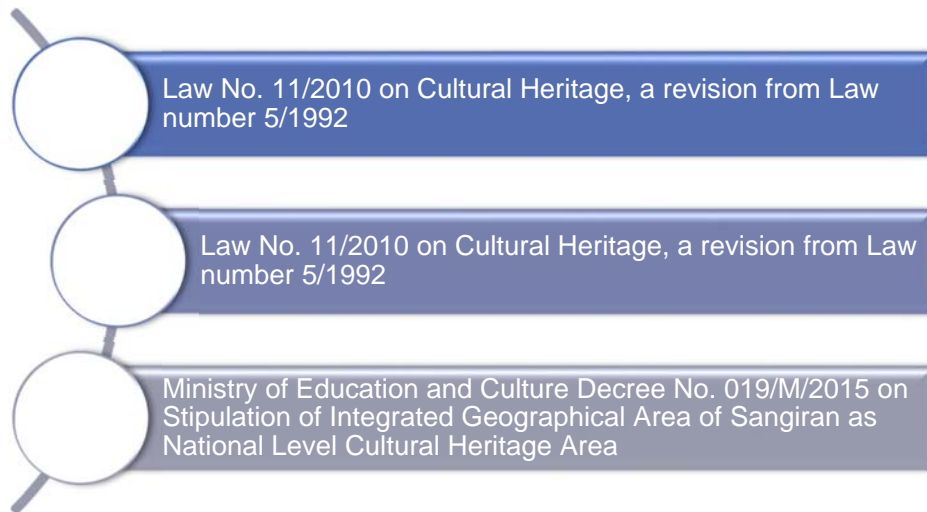
Other legislation protection for Sangiran Early Man Site is represented by the establishment of the following provisions and protections, in international, national, provincial, and local level, which in recent years are more reinforced and affirmed the role of Local Government in strengthening the protection of the property:

International Protection Designation

Sangiran Early Man Site is legally acknowledged and protected as a World Heritage Site through:



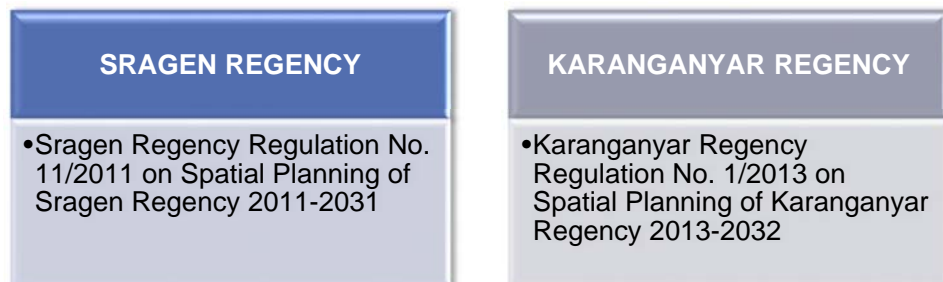
National Protection Designation



Provincial Protection Designation



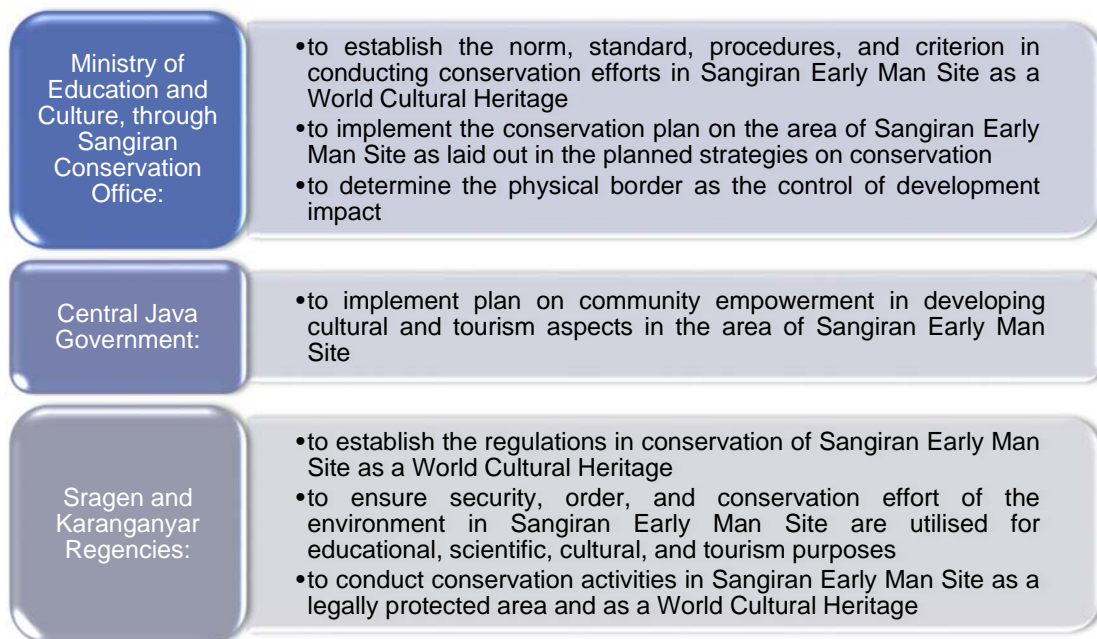
Regency-Level Protection Designation



Memorandum of Understanding / Cooperation Agreement

1	MOU between Ministry of Education and Culture, Central Java Governor, Sragen Regency, and Karanganyar Regency No. 105620/MPK.F/CB/2014; No. 32/2014; No. 019.6/213.A/001/2014; No. 100/59/2014 on Protection, Development, and Utilization of Sangiran Area as World Cultural Heritage
2	Cooperation Agreement between the Directorate General of Culture Ministry of Education and Culture, Central Java Provincial Office of Culture and Tourism, and Local Office of Tourism, Culture, Youth, and Sport of Sragen Regency No. 382/F/CB/2014 No. 556/1410; No. 556/2050/023/2014 on the Improvement of Services for Sangiran Early Man Museum Visitors in Sragen Regency
3	Cooperation Agreement between the Directorate of Heritage Conservation and Museum Ministry of Education and Culture, Central Java Provincial Office of Culture and Tourism, Local Office of Tourism, Culture, Youth, and Sport of Sragen Regency, and Local Office of Tourism, Culture, Youth, and Sport of Karanganyar Regency No. 1097/F.2/DN/2015; No. 432/1634/2015; No. 556/28/002/2015; and No. 556/215/2015 on Conserving Sangiran Cultural Heritage Area as World Cultural Heritage

These MOUs and CAs divide the rights and obligations between the national and local government in conserving Sangiran Early Man Site, which are elaborated as follows:



The three MOUs and CAs had expired in 2015 and are currently under an ongoing discussion for extension. These legal frameworks are efficient and integrated management mechanisms in which each entity is legally binding and responsible to

perform accordingly to their capability and function in order to preserve and safeguard the property.

Management Mechanism

This Integrated Management Plan also notes the need to establish an Integrated Management Bureau as recommended by the World Heritage Committee in the decision 40 COM 7B.36. However, the Government of Indonesia foresees bureaucratic difficulties in establishing a new entity before a concrete establishment and implementation of Sangiran as a national strategic area. In the mean time, the MOU and CA are utilised as an efficient and effective system to have all concerned parties to be responsible in the management of the site. These MOUs and CAs based its legal framework on the national law number 11/2010 on Cultural Heritage.

A secretariat was also set up in 2016 at the Ministry of Education and Culture to monitor and implement the rights and obligations stated in the MOUs and CAs, though it has yet to include the representatives of the stakeholders as its members. Eventually after further assessment from the legal team and official establishment of this secretariat, stakeholder representatives will be officially invited as members. Regular meetings are scheduled three to four times a year with all the concerned parties to follow up the content of the MOUs and CAs.

PART IV. FACTORS AFFECTING THE PROPERTY

Given its considerable size and diverse content, the property is affected by a number of different factors. This part elaborates factors affecting the property that will be addressed in the subsequent parts of the management plan.

IV.1 Development Pressures

The property is exposed to general development pressures, such as the issue of land use especially since local communities who have their own needs of change and development inhabit it. Issues on new infrastructure construction also looms over Sangiran Early Man Site as plans for road network and domestic housing are underway. The management mechanisms developed for the site and current management governance system ensure that any development pressures will be able to be controlled and the Outstanding Universal Value of the property protected.

At each attribute, the site manager in charge of protection is obligated to comply with the requirements of the heritage legislation applying to them, and to abide by the specific policy defined in the Management Plan so that any development that has the potential to damage the value of the World Heritage attributes will not take place within the boundaries of the property or the buffer zone. The policy direction in the Management Plan is reinforced, variously, by regulations applied through the laws as elaborated in the latter part of this Management Plan.

This Management Plan also seeks to reach consensus on solutions that emphasise consideration for World Heritage values within the new developments, of which their impacts vary.

IV.1.1 Land Use

The land ownership at Sangiran Early Man Site is mainly privately-owned by the inhabitants/local community within the property boundaries, with only a few owned by the government. This Management Plan will contribute in minimising the negative impact of change of land use and preserving the stratigraphical layers in the property by managing these several factors:

Factor 1: Commercial development³

Man-made topographical changes, including land-levelling, requires construction which will cause damage to the stratigraphy of the fossil and artefact deposits, as well as the overall landscape of the property.

Factor 2: Land conversion

Conversion of agricultural land to other uses, such as the use of plough for industrial plant and construction of houses that damage the property attributes and threaten the authenticity and integrity of the site.

New construction plans and land levelling on privately owned area are taking place, despite the effort from the local government to stop the actions. A number of local communities are pressuring the government to release a permit to either convert or sell the land for new construction plan. High development pressure is expected in both Sragen and Karanganyar regencies. The management plan will also be strengthened in establishing regulations on land use and development, as well as for law enforcement to protect the nominated property and its buffer zone.

IV.1.2 Infrastructure

The agricultural land in Sangiran Early Man Site is facing negative impact from new infrastructure construction, especially one that concerns public utilities as well as private development. There are several factors to manage within the infrastructure development in the property, which are:

Factor 3: Industrial areas

Irrigation system and associated infrastructure, which will alter the original landscape of the site and damage the stratigraphical layers containing fossil and artefact deposits. This has high potential in damaging the attributes of the site, especially with Sangiran Early Man Site pertaining most of its land cover through the agriculture industry.

³ The title of each factor in this part is taken from the list of 14 primary threats affecting the Outstanding Universal Value of World Heritage properties (www.unesco.org/en/factors/). These titles are adjusted according to the site's context in the subsequent parts of the Management Plan.

Factor 4: Effects arising from use of transportation infrastructure

Road, bicycle, and pathway network (including bridges and parking spaces). The construction of road network is currently under high pressure from the Office of Public Works and the Office of Tourism to commence, especially for the betterment of tourism infrastructure.

Factor 5: Housing

Construction of domestic housing and public infrastructure —developers undergoing with domestic housing complex construction surrounding the heritage site is imminent and therefore, policies and actions to prevent damage to the property have to be enforced and implemented.

The infrastructure development, if not controlled will threaten the attributes of the property because the new construction is not in accordance with the property's World Heritage values. Stronger cooperation and coordination with the Office of Public Works and the Office of Tourism are under discussion, with emphasis on the enforcement of the law and regulations on development within the cultural heritage area, ultimately providing alternate solutions that give consideration to the landscape and stratigraphical layers around the site.

IV.2 Environmental Pressures

No environmental pressures such as air pollution or climate change that would substantially damage the property's World Heritage values are projected at this time or in the future. However, the site itself is susceptible due to various factors.

Factor 6: Erosion and siltation/deposition

Site susceptibility is due to the landscape, land cover, and the water level it contains. Preservation of the landscape through land cover maintenance and control of the watershed will reduce the risk of imminent disasters, especially those inflicted by the seasonal change in the region such as landslide and flood.

IV.3 Natural Disasters and Risk-Preparedness

Due to the nature of the site having buried attributes, there are minimum to zero risk from natural disasters. Therefore, there are no factors identified under this area of management.

IV.4 Visitation and Tourism Pressures

IV.4.1 Tourism and Public Visitation at the Property

In 2010, the Government of Indonesia included Sangiran Early Man Site into the National Tourism Strategic Area, in which visitors and tourists will be directed to the property and hence, tourism facilities, services, infrastructure, and site interpretation need to be prepared properly and in place. The distribution of fossil deposit findings into four sub-districts requires management arrangements, especially regarding site interpretation and visitor route and access that cater to both tourism purpose and site conservation effort.

Issues such as:

Factor 7: Impacts of tourism/visitor/recreation

The number of visitors to Sangiran Early Man Site is relatively high and thus, a specific management strategy is needed to comply with the site's carrying capacity and to reduce any potential negative impact from tourism and/or visitation to the site.

Factor 8: Solid waste

Waste management, especially from the effects of tourism, is a factor to be managed by the responsible authorities to ensure proper waste disposal system and subsequently, to provide indirect education on being responsible tourist/visitor.

Factor 9: Effects arising from use of transportation infrastructure

Vehicles resulting from tourism are visible in large quantities. Management of the transportation routes and facilities will ease the carrying capacity of the site and reduce the negative impact of infrastructure developments.

Factor 10: Commercial development

Conversion from private structures to visitor facilities has the potential to damage the attributes of the property and altogether negatively impact the value of the property if

it is not regulated properly with concern to the carrying capacity, demand, and also sustainability of the newly converted public facilities.

Factor 11: Interpretative and visitation facilities

Information and site interpretation provided in the on-site museums are adequate. However, since the property is inscribed as a field laboratory, interpretative facilities located on the site, especially to enhance the information during heritage trails, are an important factor to manage.

These are considered in this Management Plan, and appropriate actions are taken and monitored to ensure the World Heritage values are not compromised. Many of the sub-districts have had relatively little visitation in the past, therefore the Management Plan takes a precautionary approach and implement monitoring programmes to track changes to visitation and trigger action to avoid any potential for negative impact on the attributes, especially on the foreseen surge of visitors in the future.

Improvement to the site museums located in each of the sub-district comprising the property are coordinated with the Ministry of Education and Culture, especially in diversifying the display and proper signage in order to provide a more informative description and history of the fossils, and laid out in the Tourism Plan in 2016 in coordination with the Central Java Province.

Other tourism services and facilities are provided through participatory approach to the local communities, as part of capacity-building and income generating activities. The Ministry of Education and Culture are conducting a series of workshops and training sessions based on the UNESCO Cultural Heritage Specialist Guide and are working together with all the stakeholders to standardise the hospitality services and facilities.

IV.4.2 Utilisation of the Property by the International and National Scientific Communities

Being one of the most complete field laboratories in the world, Sangiran attracts researchers from all over the world to predominantly study the early man history. Every year the property receives a large number of research proposals to conduct research and excavation on the site. Attention should also be given to the fact that geological, anthropological, and sociology researches are also conducted in Sangiran and thus, should follow the same guidance and regulations set up by the site manager.

At present, the damage caused by research in general and archaeological research in particular, as well as data processing in Sangiran is relatively high, especially to the attributes that support criterion iii on understanding of human evolution.

Besides research, the possibility of chance finds is also high in Sangiran. Local communities are empowered and incentives are provided to understand the importance of reporting to the site manager on any fossil and artefact findings and leaving them on site for the officials to properly handle excavation activities in order to prevent loss of contextual information and knowledge of the findings.

Factors to manage within this area include:

Factor 12: Research/monitoring activities

Development and execution of research activities, in which proposal will have to be submitted to the site manager for assessment before a permit is granted. Researchers are expected to follow the procedures and guidance set up in order to prevent damage to the attributes of the property and at the very least acknowledge the Sangiran Conservation Office who is the site manager in any of the research publications.

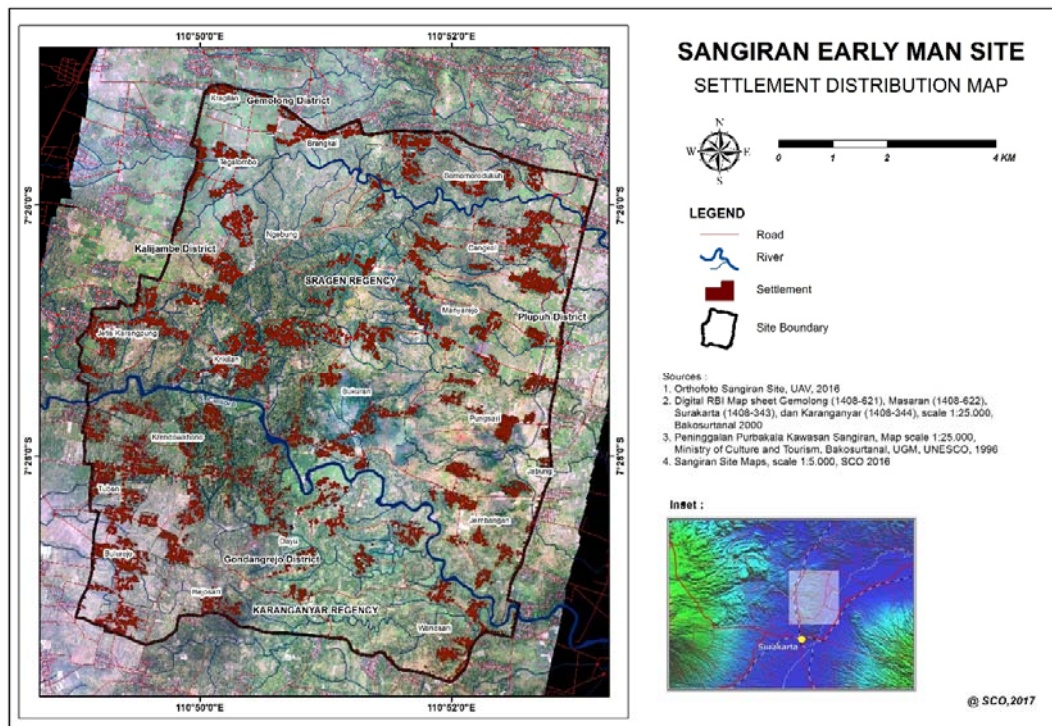
Illegal looting of human fossils through unmonitored excavation and mishandling of the artefacts has become one factor affecting the property. However, since 2004 the Government of Indonesia has implemented a conservation strategy to prevent this issue and strengthen the regulation through national as well as local regulations in both Karanganyar and Sragen regency.

Moreover, with the newly approved establishment of the Centre for Human Evolution, Adaptations, and Dispersals in the Southeast Asia (CHEADSEA), the research activities taking place within the property will conform to the strategies of CHEADSEA and will be under close coordination with its secretariat. Further elaboration of the objective and strategies of CHEADSEA can be found on Part VII of this management plan.

IV.5 Inhabitants within the Property

According to 2016 statistical data, Sangiran has a population of 64,608 people, whose private lands are part of the World Heritage property. The level of education of the population is relatively low; while many have received basic academic education, only a small number of people have gone to tertiary studies. The level of education links to the occupation of the inhabitants in Sangiran, in which most are working as farmers or planters. However, the arid land of Sangiran leads to low production of agriculture and thus, forcing the people to depend their livelihoods not only on agricultural harvest.

The low level of education in Sangiran presents difficulties in understanding the importance of conservation and safeguarding of the property by the communities, as well as impeding on the development to become a tourist destination that can provide meaningful experience for the visitors.



Map 3 Settlement distribution map in Sangiran Early Man Site

Regency	Subdistrict	Man	Woman	Total Population
Sragen	Kalijambe	7,910	7,921	15,831
	Plupuh	8,001	8,546	16,547
	Gemolong	2,836	2,971	5,807
Karanganyar	Gondangrejo	13,111	13,312	26,423
Total		31,858	32,750	64,608

Table 1 Population demography in Sangiran

Source:

Kalijambe in Statistics 2016; Gemolong in Statistics 2016; Plupuh in Statistics 2016; Karanganyar in Statistics 2016

In order to engage the community as local guardians of the site to ultimately conserve and safeguard the World Heritage Site for future generation, several factors have been identified to manage this issue:

Factor 13: Society’s valuing of heritage

Education and information are the first steps toward responsible and proud inhabitants of their property, which will eventually lead to an understanding of the values and importance of their living landscape.

Factor 14: Identity, social cohesion, changes in local population and community

Community engagement in the protection and management of the site is also demonstrated by engaging the local inhabitants as guardians of the site, in which a management system is created to fully engage the community and realise Sangiran Early Man Site’s potential as open-air, field museum and laboratory.

Factor 15: Impacts of tourism/visitor/recreation

Provide benefits to members of the local community derived from the heritage values of the site.

PART V. MANAGEMENT OBJECTIVES, PRINCIPLES, POLICIES, AND ACTIONS

Management Planning: Heritage Impact Assessment

Prior to the action plan for each of the factors to manage within the Sangiran Early Man Site, it has to be noted that the Heritage Impact Assessment (HIA) methodology for the site is yet to be determined, although it is understood that an HIA should be performed for any proposed development activity that might affect the quality of the archaeological site.

V.1 Management of Development Pressures

V.1.1 Objectives, Principles, and Policies for Managing Land Use

Management Vision:

Sangiran Early Man Site shall enforce the law and regulation on topographical changes to both privately owned and government-owned land in order to protect both the excavated and as yet un-excavated archaeological deposits, with consideration to the significance of the property which values the sustainable agricultural context and the future scientific research potential within the nominated boundaries of the World Heritage Site.

V.1.1.1 Factor 1

Man-Made Topographical Changes

Management Objectives and Outcomes

The objectives of managing the man-made topographical changes within the property boundaries are to minimise the negative impact of land-levelling and other changes to the property's attributes in order to preserve the stratigraphical layers of the original landscape and topography.

Management Strategies and Principles

The basic management strategy informing management of land-levelling and other man-made topographical changes within the property boundaries is to support local government in discouraging the proposal of such work, especially in the area of high fossil deposit distribution potential. To this end, the following management principles are adopted:

- Participatory discussion with all concerned stakeholders to share information and raise awareness on the importance of heritage protection and conservation through the prevention of land-levelling and other topographical changes.
- Prohibition of land-levelling activities and other topographical changes without legal permission issued by the responsible authority.

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Requesting advanced written permission/permit to make acceptable topographical changes, granted according to the recommendation of proper heritage impact assessment.
- Regular site patrol to monitor land-levelling activities.
- Conformity to the applied guidance and its terms and conditions.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Map areas where topographical changes are still acceptable.
- Establish a standardised heritage impact assessment methodology to be conducted for any proposed work plan, with special attention to the protection of the attributes from which it may receive negative impact.
- Determine guidance for activities that include works on topographical changes and regulate the appropriate tools to be used for such work.
- Establish a team to conduct heritage impact assessment on proposed topographical changes.
- Disseminate information on the negative impact of land-levelling and other topographical changes to all concerned parties through various media platforms.
- Stipulate the rights and responsibilities of each concerned party in Memorandum of Understanding (MOU).

V.1.1.2 Factor 2

Conversion of Agricultural Land

Management Objectives and Outcomes

The objective of managing the conversion of agricultural land into other use within the property boundaries is to prevent the negative impact of loss of agricultural land by minimising the construction of infrastructure foundation and deep-ploughing, in view of the preservation of the long history of scientific investigation of the fossil record and the non-industrial agricultural land.

Management Strategies and Principles

The basic management strategy informing management of agricultural land conversion into other use within the property boundaries is to promote the sustainability of the non-industrial agriculture through which the economic value is generated, by supporting local farmers and strengthening legal permit system on land conversion. To this end, the following management principles are adopted:

- Participatory discussion with all concerned stakeholders to share information and raise awareness on the importance of heritage protection and conservation through the prevention of agricultural land conversion.
- Discouragement of proposed land conversion and complete prohibition of such activity without legal permission issued by the responsible authority.
- Identification of areas where conversion is still acceptable with appropriate limitation, taking into consideration the protection of the attributes.

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Advance written permission to convert agricultural land, granted according to the recommendation of proper heritage impact assessment.
- Regular site patrol to monitor land conversion.
- Area within which land conversion is acceptable is coordinated with the concerned government agencies.
- Land conversion follows the applied guidance and requirements.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Map both converted land and original agricultural land as means of further assessment on the acceptability of new or proposed land conversion.
- Establish a standardised heritage impact assessment methodology to be conducted for any proposed work plan, with special attention to the protection of the attributes from negative impact.
- Agree upon the provisions of land conversion (which is stipulated under the Zoning Provision regulation) and its technical requirements.
- Stipulate detailed criteria and limitations on cultural heritage area zoning so that any proposed land conversion works will refer to them.
- Determine guidance on land conversion requirements, including the appropriate tools to be used to do such work.
- Establish a team to conduct heritage impact assessment on proposed land conversion.
- Disseminate information on the negative impact of converting agricultural land to all concerned parties through various media platforms.
- Stipulate the rights and responsibilities of each concerned party in Memorandum of Understanding (MOU).

V.1.2 Objectives, Principles, and Policies for Managing Infrastructure

Management Vision:

Sangiran Early Man Site shall establish a single integrated development plan to maximise the use of current infrastructure and oversee new construction, encouraging sustainability and utilising local tangible and intangible knowledge, in the spirit of protecting the archaeological deposits within their geographical, environmental, and landscape contexts, as well as communicating to international, national, and local publics the additional values and significance of the property.

V.1.2.1 Factor 3

Irrigation System and Its Associated Infrastructure

Management Objectives and Outcomes

The objective of managing the irrigation system and associated infrastructure is to optimise the current system's potential to the livelihood of the inhabitants within the

property and thus, decreasing the need of additional and/or new construction of irrigation which may present a negative impact on both the landscape and the stratigraphy where fossils and artefacts are deposited.

Management Strategies and Principles

The basic management strategy informing management of irrigation system and the associated infrastructure is to discourage any new proposals to construct new systems and to expand the current irrigation. To this end, the adopted management principle is to minimise the current, unmaintained system and its infrastructure.

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Maintenance of current irrigation construction
- Advance written permission on new or additional irrigation system construction, granted according to the recommendation of proper heritage impact assessment
- Regular site patrol to monitor approved new irrigation work

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Establish a standardised heritage impact assessment methodology to be conducted for any proposed work plan, with special attention to the protection of the attributes from which it may receive negative impact.
- Establish a team to conduct heritage impact assessment on proposed construction work.
- Disseminate information to all concerned parties through various media platforms.

V.1.2.2 Factor 4

Road Network

Management Objectives and Outcomes

The objectives of managing the road network is to minimise the negative impact of expansion and new construction of road network and seek better access options in order to prevent damage to the attributes of the property and protect the fossils and

artefacts within the land stratigraphy, and the invaluable information and knowledge they carry.

Management Strategies and Principles

The basic management strategy informing management of road network is to control and limit the expansion of the road network, taking into account the compatibility of the used materials with the land on site. To this end, the optimisation of existing network in order to decrease the need of adding new networks and prevent constructions is the adopted management principle.

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Advance written permission for new or expansion of road network, granted according to the recommendation of proper heritage impact assessment
- Maintenance of current road network
- Regular site patrol to monitor approved work, ensuring fossil deposits are not unearthed

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Document existing road network to determine the capacity and need of any further development and expansion.
- Establish and conduct heritage impact assessment proposed road network expansion.
- Establish a team to conduct heritage impact assessment on proposed construction work.
- Establish joint development plan with other concerned parties and enforce regulations on construction of road network to prevent any negative impact to the site and its attributes.

V.1.2.3 Factor 5

Construction of Domestic Housing and Public Infrastructure

Management Objectives and Outcomes

The objectives of managing the construction of domestic housing and public infrastructure are to minimise the negative impact it presents to the stratigraphy and prevent obstruction to the vista or the landscape of the property as well as restrict the construction of massive and high-rise buildings within the property boundary and the buffer zone, so that the protection of the landscape context of the site is ensured.

Management Strategies and Principles

The basic management strategy in regard to the construction of housing and infrastructure is to encourage the use of vernacular architecture and traditional building knowledge using locally sourced and environmentally friendly materials, which also adds to the Outstanding Universal Value embedded to the property. Therefore, the adopted management principle is to regulate new housing and infrastructure construction and conduct heritage impact assessment prior to issuing written permit.

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- New construction has to conform to the zoning regulations.
- Advance written legal permission, granted through recommendation from properly conducted heritage impact assessment.
- Incentive for the conservation work of vernacular architecture.
- Regular site patrol to monitor approved work.
- The plan development and the construction of the work includes clean water and waste management.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Establish a standardised heritage impact assessment methodology to be conducted for any proposed work plan, with special attention to the protection of the attributes from which it may receive negative impact.

- Establish design guidelines to ensure appropriateness of the new construction to the site and use of environmentally friendly material.
- Conduct community outreach programme on building regulations, conservation guidelines, and solid waste disposal system.
- Formalize the Architectural and Environmental Design and the permits to construct buildings.

V.2 Management of Environmental Pressures

V.2.1 Objectives, Principles, and Policies for Managing Environment

Management Vision:

Sangiran Early Man Site shall preserve these extensive open-air sites through the establishment of a monitoring system to minimise the negative impact of the site susceptibility from landslide, flood, or other threatening incidents, and a coping mechanism to protect the attributes and prevent further damage and loss of the Outstanding Universal Value of the property.

V.2.1.1 Factor 6

Site Susceptibility

Management Objectives and Outcomes

The objective of managing the site susceptibility of the property is to preserve the long history of scientific investigation of the fossil record from any possible incidents, such as landslide and flood, which may greatly impact the property due to its susceptibility.

Management Strategies and Principles

The strategy to manage the site susceptibility lies on three fundamental principles in order to prevent potential environmental disasters, which are to ensure the preservation of the landscape, maintenance of the land cover, and control of the watershed.

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Advance written legal permission to conduct assessment on privately owned area.
- Implementation of most effective and efficient landscape conservation and rehabilitation method to prevent landslide and mitigate flood.

- Stabilise slope and maintain adequate water contain according to proper heritage impact assessment.
- Field work is done under close coordination with the other concerned parties.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Conduct assessment on site susceptibility, including mapping potential landslide and flood areas to determine further action in order to prevent and prepare for future disastrous incidents.
- Establish a specialised coordination team between the Sangiran Conservation Office and other local government agencies/organisations to ensure immediate response.
- Recruit, train, and establish quick response team.
- Conduct inventory count for the available facilities for disaster risk management and procure necessary items as necessary.
- Implement the recommendation from assessment on site susceptibility.

V.3 Management of Visitation and Tourism Pressures

V.3.1 Objectives, Principles, and Policies for Managing Tourism and Public Visitation at the Property

Management Vision:

Sangiran Early Man Site shall provide a primary national and international educational reference for public understanding of the Outstanding Universal Value embedded in the physical attributes of the property in a sustainable, non-destructive, and non-extractive manner, supported by continuing expert research in the effort of promoting continued collaborative international and national scientific research and communicating the results and relevance of this research in its contemporary scientific and developmental contexts.

V.3.1.1 Factor 7

Visitor Numbers

Management Objectives and Outcomes

The objective of managing the visitors and tourists to the property is to reduce the negative impact of uncontrolled and unmanaged visitation to the fossil deposits and

the land stratigraphy. The management of which is also closely related to the assessment of the site carrying capacity and thus, regulation of the maximum visitor number and the action to prevent unregulated mass tourism.

Management Strategies and Principles

The strategy for visitor management is to distribute the visitation focus to the four clusters within the property to lessen the negative impact on a particular area. To this end, the following management principles are adopted:

- Spreading out the visitation route so that the carrying capacity of the site is not exceeded
- Prohibition or limitation of tourism access to areas that have future scientific research potential.

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Controlled recreational mass.
- Small group tourism.
- Restricted visitor access.
- Controlled visitational activities.
- Optimised visitation amenities and facilities, and procured as needed.
- Increased human resource competency in tourism industry and visitor management.
- Regular maintenance of the available amenities on the site.
- Regular site security patrol.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Determine maximum visitor number to respond to the recommendation of the carrying capacity limits of the site.
- Regulate visitation time to ensure proper monitoring process during visits.
- Map and establish areas in which visitation support facilities are lacking and ensure further and appropriate efforts are taken to respond to the assessment.

- Conduct visitor satisfaction surveys to monitor and improve service and facilities as required and appropriate.

V.3.1.2 Factor 8

Waste Management

Management Objectives and Outcomes

The objective of managing waste caused by visitation and tourism activities and industry in the property is to promote responsible visitation to the site and to reduce the negative impact on the environment, keeping the property clear from solid waste, smoke, and water pollution in order to protect both the excavated and un-excavated archaeological deposits within their environmental and landscape contexts.

Management Strategies and Principles

The basic strategy to manage waste is to increase public education and awareness on clean environment. To this end, the following management principles are adopted:

- Promotion of the reduce, reuse, and recycle (3R) system for both organic and inorganic waste
- Raise public's awareness through workshops and trainings
- Close coordination between the site manager and other concerned institutions to implement the programmes

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Adoption of waste disposal system.
- Promotion of responsible visitation and being a responsible visitor through various media platform.

Management Action

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Establish waste disposal system.
- Conduct trainings and workshops for the local community to raise awareness and support them in implementing the reduce, reuse, and recycle (3R) system.

- Build garbage dump area for the 3R system.

V.3.1.3 Factor 9

Transportation Infrastructure

Management Objectives and Outcomes

The objective of managing vehicles and the traffic caused by visitation and tourism at the property is to avoid congestion and overloading of vehicles in the property which exceeds the carrying capacity limit of the site and threatens the long history of scientific investigation of the fossil record at these extensive open-air sites.

Management Strategies and Principles

The basic strategy to manage the vehicles as the effect of visitation and tourism is to ensure the adequacy of the parking space and thus, eliminating the need to construct new space. To this end, the following principles are adopted:

- The number of vehicles entering the property does not exceed site's carrying capacity
- Vehicles are not allowed to park on the side of the street

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Traffic control to avoid congestion within the property boundaries.
- Parking space management to avoid parking on the side of the road.
- Increased quality of access to get the site ready for international tourists/visitors.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Map environmental carrying capacity limits and site-safe parking space.
- Implement the Integrated Accessibility Plan (*Rencana Aksesibilitas Terintegrasi, KSPN Sangiran Dsk.*) established in 2016.
- Develop Government Work Plan concerning accessibility to the property and its surrounding area.

V.3.1.4 Factor 10

Private to Public Use Conversion

Management Objectives and Outcomes

The objective of managing conversion from private housing/structure to public-use visitor facilities in response to the demand of tourism and visitation is to ensure that the converted facilities provide a sense of safety and comfort to the visitors of the site through standardised quality control.

Management Strategies and Principles

The basic management strategy and principle concerning the conversion of private structures to become visitor facilities are to provide adequate services and ensure the quality of services and facilities provided, with attention to the carrying capacity of the structure and therefore, restricting additional structure added to the existing to prevent any potential damage to the attributes of the property.

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Controlled development of facilities, especially those for tourism and industry.
- Standardised quality of public-use structures/tourism amenities.
- Quality attraction, accessibility, amenities, and environment to receive tourists and visitors.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Establish regulation and standard procedures to convert private housing into tourism facilities to ensure quality of the facility and comfort of the visitor.
- Conduct community empowerment programme on the provision of high quality tourism attractions, accessibility, and amenities.
- Revamp Sangiran's overall environment to receive both national and international visitation.

V.3.1.5 Factor 11

Information and Site Interpretation

Management Objectives and Outcomes

The objectives of managing the information and site interpretation are to communicate correct and factual information to the general public, especially on the values and significance of the property based on which Sangiran Early Man Site was inscribed into the World Heritage List, as well as to provide meaningful experience to tourists and visitors.

Management Strategies and Principles

The basic strategy for managing information and site interpretation is to ensure that the guides have the capacity and the information boards provide an understanding of the site. To this end, the following management principles are adopted:

- Increase guides' capacity in conveying the knowledge and understanding of the significance of Sangiran Early Man Site
- Texts are printed in readable font and size
- Information is written in easily understood and informative sentences

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Increased competency of guides through capacity-building.
- Procurement and improvement of the quality of the text on signage.
- Interpret the site as open-air museum, including integrating the tourist attractions identified in the Sangiran National Tourism Strategic Area Plan.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Provide multi-language information text to appeal to a wide demography of visitors.
- Recruit, train, and license an appropriate number of visitor guides.
- Create a scheduled rotation to the objects displayed in the museum in each cluster.

- Disseminate information on the values and significance of the site through various media platforms.
- Establish heritage trails to provide a meaningful experience for tourists and visitors.
- Conduct tourism activities that focus on the local wisdom and intangible value of the site.
- Conduct trainings for local tourism industries on providing international standard of quality in the hospitality industry.

V.3.2 Objectives, Principles, and Policies for Managing Utilisation of the Property by the International and National Scientific Communities

Management Vision:

Sangiran Early Man Site shall provide a primary guideline for public understanding of the conducted research at the property in an effective and efficient manner to prevent loss of knowledge and information of both the tangible and intangible values of the World Heritage Site and to promote the continued collaborative international and national scientific research into the evolution of Early Man and the Pleistocene environment.

V.3.2.1 Factor 12

Research

Management Objectives and Outcomes

The objectives of managing research activities within the property boundary are to identify areas of high research potential and provide them with the highest level of protection from the possible damage caused by research and excavation, as well as to introduce and utilise the highest scientific standard of research strategy and methodology in order to understand the value of the site.

Management Strategies and Principles

The basic management strategies for research activities are to minimise the possible damage to the site's attributes and to have control over the conducted research at the property. To this end, the following management principles are adopted:

- Limit all forms of non-scientific excavation
- Require all proposed research within the site to have a research strategy

- Promote and facilitate scientific research and international collaboration

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Advance written permission to conduct research and license to excavate.
- International applications for research must conform to the strategy and engage Indonesian scholar/s.
- Standardised research methodology.
- Joint research publication with Sangiran Conservation Office or acknowledgement in the publication.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Develop and establish Standard Operational Procedures (SOP) on research and artefact processing, as well as standardised research strategy.
- Formalize international research collaboration procedure to which all research applications have to conform.
- Increase cooperation and coordination with other government agencies on research done in Sangiran.
- Open access to publications and results of researches in Sangiran site, especially in collaboration with the local libraries.
- Convene conferences on the Early Man and its Environment under the auspices of CHEADSEA and the Ministry of Education and Culture.

V.4 Management of Inhabitants within the Property

V.4.1 Objectives, Principles, and Policies for Managing Local Community

Management Vision:

Sangiran Early Man Site shall provide participatory activities for all the stakeholders that promote capacity-building to the local community in order to ensure the conservation and safeguarding of the property through an understanding of the embedded Outstanding Universal Value.

V.4.1.1 Factor 13

Education and Information

Management Objectives and Outcomes

The objective of providing education and information to the community living within the property is to have them understand the significance and the Outstanding Universal Value of the site.

Management Strategies and Principles

The basic management strategy informing education and information to the community living within the boundaries of the site is to raise awareness and increase the level of education regarding the importance of protecting and managing the heritage. To this end, the adopted management principle is to educate the local communities on the importance of becoming guardians of the property.

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Ease access to education.
- Increased educational level and quality of the community on basic site management and protection.
- Strengthened role of the communities living within the property boundary as guardians/custodians to the site.
- Provision of educational incentives for members of the local community.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Map out students/productive-aged community members who are eligible to receive education.
- Provide and/or improve the educational facilities within the property.
- Conduct non-formal education for the local community on the value and importance of Sangiran.
- Disseminate information through various media platforms.
- Include the history of Sangiran into the local school curriculum.

V.4.1.2 Factor 14

Community Engagement

Management Objectives and Outcomes

The objective of engaging the community living within the boundaries of the site is to create a community-based management system so that Sangiran realises its full potential as open-air, full-site museum.

Management Strategies and Principles

The basic strategy informing engagement of the community living within the property is to provide support to sustainable and eco-friendly community development activities. To this end, the adopted management principles are:

- Trainings in eco-cultural tourism services and eco-cultural products among many others
- Support to and facilitation of community activities

Management Policies and Regulations

To implement the above-stated management objectives and principles, the following policies are adopted:

- Engagement of community members in conservation activities, which include protection, development, and utilization of the site.
- Engagement of members of the police/security forces in the protection of the site.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Provide training for local community and recruit docents.
- Procure necessary amenities and facilities for the docent system to work.
- Establish reporting set and mechanism.
- Disseminate information on regulations and requirements to become docents.

V.4.1.3 Factor 15

Benefitting from the Site's Heritage Value

Management Objectives and Outcomes

The objective of managing the heritage value is to provide benefits to members of the local community derived from the heritage values of the site. World Heritage Site attracts attention from the general public and is expected to provide benefits in various forms to the local community.

Management Strategies and Principles

The basic management strategy in managing the benefit from site's heritage value is to ensure opportunities for income-generating activities for the community. To this end, the adopted management principle is that all members of the local community have equal access to employment and/or capacity building activities.

Management Policies and Regulations

To implement the above-stated management objectives and principles, the adopted policies are:

- Work priority is given to the local community.
- Appreciation is given to the owners of land within the property who experience limitations in the utilisation of his/her land.
- Free certification to land ownership within the heritage area.
- Tax reduction incentives for land owners whose land is within the World Heritage property.

Management Actions

The plan for actions in the foreseeable future within the timeframe of this management plan is identified as to:

- Provide trainings in entrepreneurship for the members of the local community.
- Conduct activities on site monitoring for the local community to build awareness.
- Provide direct employment for the members of the local community whenever possible and which conform to the applied terms and conditions.
- Provide tokens of appreciation to the community members who support the conservation and management of the site.

PART VI MONITORING

VI.1 Key Indicators for Measuring State of Conservation

A Master Plan for Conservation and Development of Sangiran Area was prepared in 2004 and was later developed into a Master Plan for Conservation of Sangiran Site in 2012. In 2016, Sangiran was declared a part of the National Tourism Strategic Area, which prompts a comprehensive monitoring work on the site.

The monitoring indicators proposed for the whole property are indicated in the table below. The effectiveness of these indicators in providing important data, and the extent to which that data is useful in monitoring the state of conservation, will be assessed and if necessary modified as monitoring proceeds. Responsibility for collecting, maintaining, and interpreting monitoring data lies with the Sangiran Conservation Office, under the supervision of the Ministry of Education and Culture. The monitoring of some indicators is extended to the buffer zones, as changes of condition of the buffer zone may impact on the extent to which control of the buffer zone can be used to avoid or minimise threats to the Outstanding Universal Value of the property.

Monitoring Indicator

What: What do you measure to monitor the threats by each of the factor?

How: What methods do you use to measure?

How often: How often do you monitor the threats by each of the factor?

Threat
 Ascertained
 No threat

	Criteria iii (of which attributes are)			Criteria vi (of which attributes are)		
	Land stratigraphy	Fossils	Artefacts	Architecture	Agriculture	Infrastructure
Land levelling						
What	Quantity, location, and area of activity					
How	Observation and research					
How often	Monthly and reactive					
Land conversion						
What	Quantity, location, and area of activity					
How	Observation and research					
How often	Monthly and reactive					
Irrigation system						
What	Quantity and area of activity					
How	Observation and research					
How often	Monthly and reactive					
Road network						
What	Location and type of road					
How	Observation and research					
How often	Monthly and reactive					
Domestic housing&public infrastructure						
What	Location, size, type, quantity, and material of construction					
How	Observation and research					
How often	Monthly and reactive					
Site susceptibility						
What	Topography, land cover, and watershed					
How	Observation and research					
How often	Annually					
Number of visitor						
What	Number of visitor, visitor activity, and duration of visit					
How	Observation and research					
How often	Monthly and as appropriate					
Waste management						
What	Volume and type of waste					

How	Observation and research
How often	Monthly
Transportation infrastructure	
What	Volume density
How	Observation and administrative paperwork
How often	Monthly
Private to public use conversion	
What	Quantity of supporting facilities
How	Observation
How often	Annually
Information & site interpretation	
What	Quantity, location, and quality of information boards; level of understanding
How	Research
How often	Annually and reactive
Research	
What	Quantity compatibility between approved permits and received reports
How	Administrative paperwork
How often	Monthly
Education and information	
What	Number of participants and level of understanding
How	Administrative paperwork and research
How often	Annually
Community engagement	
What	Number of people working, level of social welfare, and number of reported illegal activities
How	Administrative paperwork
How often	Annually
Benefitting from heritage value	
What	Number of available employment and number of people working
How	Administrative paperwork and research
How often	Annually

Table 2 Monitoring indicators

The integrated monitoring structure and procedure involving different stakeholders and output from each stage may be more closely observed through below chart.

INTEGRATED MONITORING

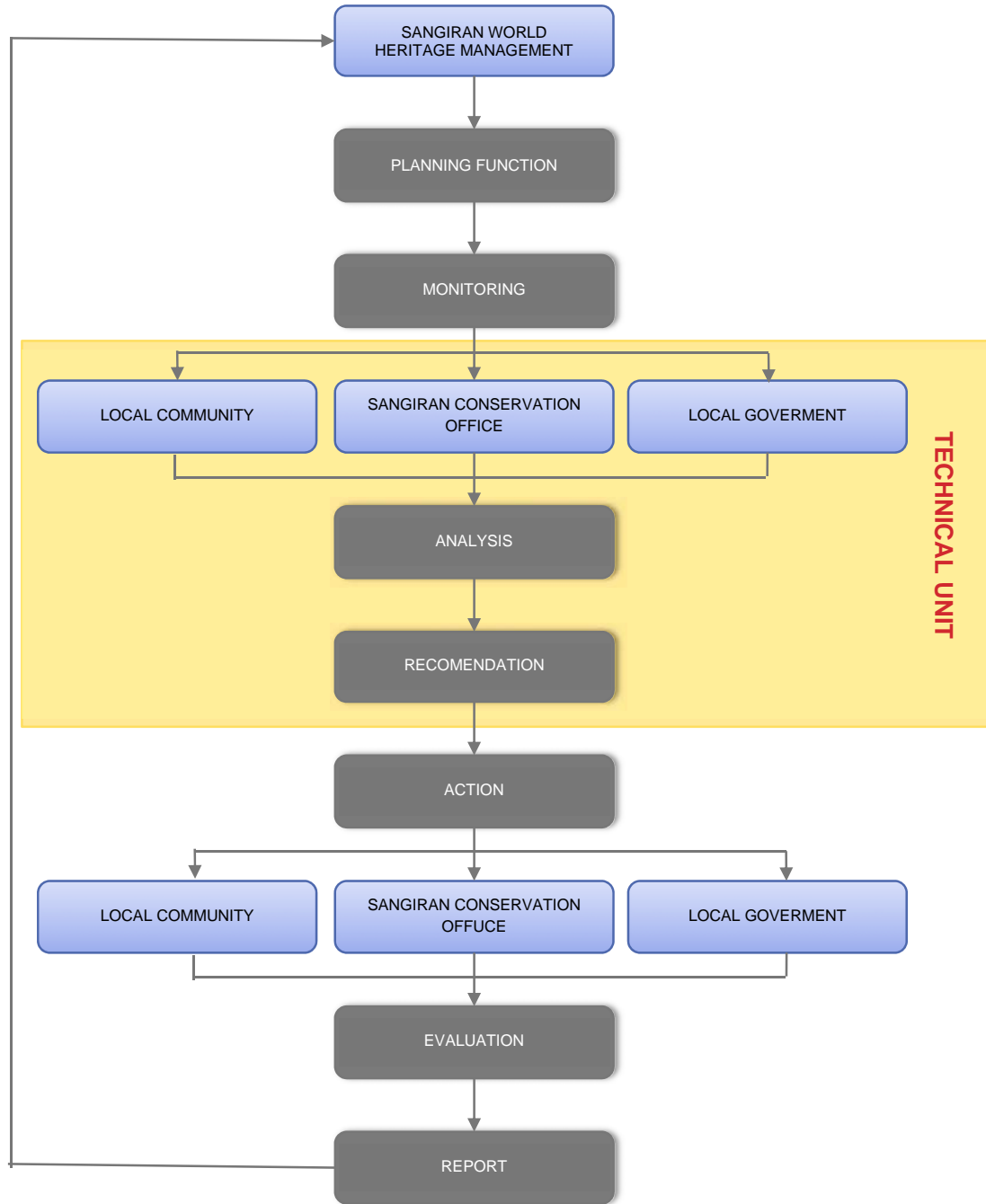


Diagram 1 Integrated monitoring system

PART VII IMPLEMENTATION

VII.1 Coordination Structure

The management and ownership of the entire site is under the Ministry of Education and Culture. There are two directorates under the Directorate General of Culture that are responsible for different aspects of the property, namely the Directorate of Heritage and Cultural Diplomacy that deals with the status of Sangiran Early Man Site as a World Heritage Site, and Directorate of Cultural Heritage Preservation and Museums that deals with the site museums.

The Ministry of Education and Culture established Sangiran Conservation Office in 2009 as field coordinator that works and cooperates directly with the respective local government as well as the direct and indirect stakeholders to the property. The establishment of this entity has come a long way since the effort to establish a forum to manage the property in 2002 which unfortunately did not work as desired, followed by the Master Plan for Conservation and Development of Sangiran Area in 2004 and a consultative meeting in 2006. A reactive monitoring mission was sent to Sangiran in 2008 and from there, Sangiran Conservation Office was established a year later.

The vision of Sangiran Conservation Office is “the attainment of a conserved Early Man Site which aims for the development and welfare of the community.” This vision statement is further explained based on the three main ideas:

1. A conserved site, which covers the area of protection, development, and utilisation of the Early Man Site.
2. Development, which endeavours to build the information on the culture of the Early Man.
3. Community welfare, which aspires to positively benefit the local communities living around the site.

The mission of Sangiran Conservation Office is described as follows:

1. To increase the protection effort in the Early Man Site as an invaluable heritage.
2. To increase the potential of the human resource in the area and the development of the values of the site.

3. To increase public appreciation and pride towards the World Heritage Site of Sangiran Early Man Site.
4. To increase the integrated and sustainable utilisation of the Early Man Site.
5. To increase responsive, transparent, and accountable human resource development, partnership, and management for the conservation of the Early Man Site.

The vision and mission of Sangiran Conservation Office places and emphasis on site conservation, which as elaborated in the Law number 11/2010 on Cultural Heritage, is translated into three main areas: protection, development, and utilisation. Therefore, SCO has an integrated approach in applying and implementing their rules and regulations into actions. The main units within SCO are divided into three: (1) the protection unit which will handle security, evacuation, maintenance, and rehabilitation efforts and actions; (2) the development unit, which will do quality improvement through research and revitalisation efforts, and finally; (3) the utilisation unit which will do community livelihood programmes.

SCO employs 271 staffs in total, with 20 people work in protection unit, 11 people in development, 9 people in utilisation, and the rest to do administrative and clerical tasks. Specialised tasks, such as preparation of a Management Plan are accomplished by recruiting professional consultant and technical staff, as and when required.

Periodic meeting is scheduled with the stakeholders at least three times a year and is organised under the supervision of the Ministry of Education and Culture to discuss any relevant and urgent issues in regard to the conservation and safeguarding of the property.

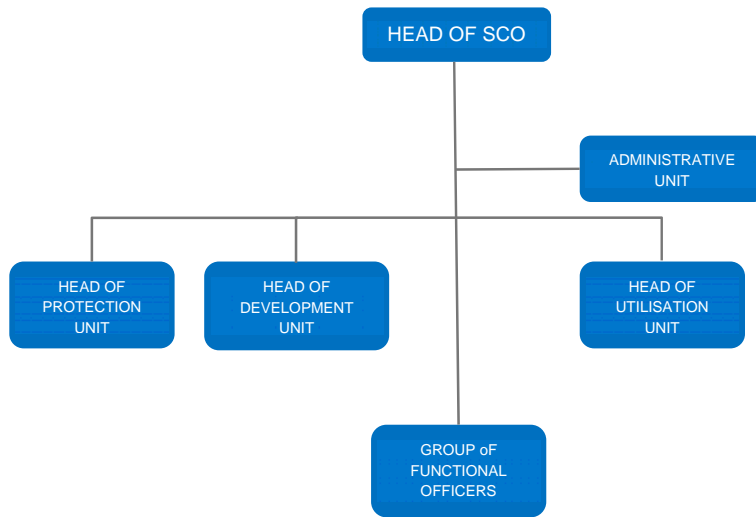


Diagram 2 Management structure within Sangiran Conservation Office

On a larger scale, the integrated management structure which involves the national, provincial, and local authority bodies may be observed through the chart below.

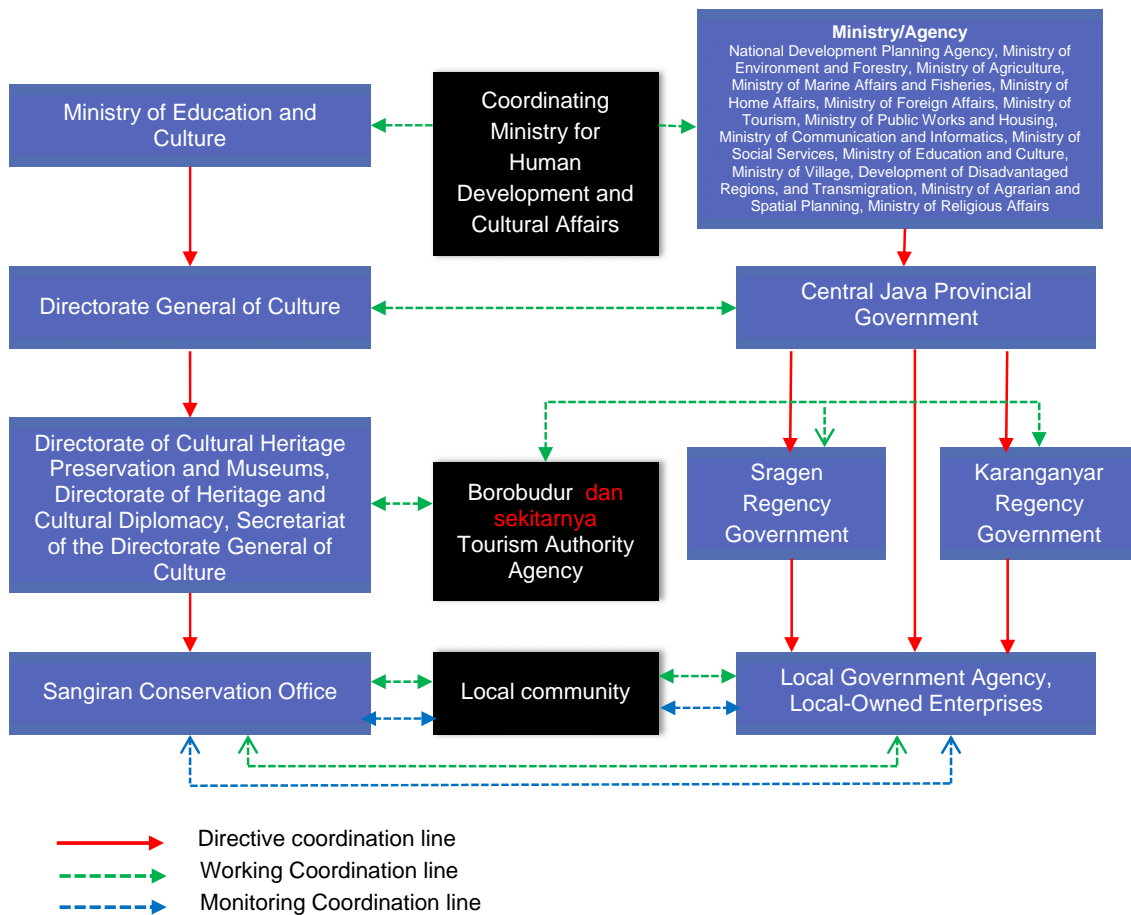


Diagram 3 Coordination structure in the management of the site

VII.2 Enforcement Mechanism

The protection given to Sangiran Early Man Site relies on positive management, which includes setting up proper administrative systems and public-participatory activities. Some legislation also stipulates mechanisms for providing the necessary management tools. Below are the different mechanisms to implement and enforce what has been laid out in the management plan:

1. Formal institutional arrangements for enforcement

The effective and efficient implementation and enforcement of legal provisions requires an institutional structure, the nature of which is influenced mainly by historical context, and the economic and political set-up. Sangiran Conservation Office (SCO) was set up as the site manager, an extension of the Ministry of Education and Culture that oversees the World Heritage Site under its jurisdiction.

2. Community enforcement

To a lesser extent, the legislation grants enforcement powers to users and owners. Although not strictly related to the management mandates of the site, communities are encouraged and empowered to be proactive in the conservation efforts of the site. SCO acknowledges and cooperates directly with several independent groups working towards the conservation effort of the culture and art of Sangiran, as well as sustainable tourism initiatives. Groups registered officially to carry on conservation issues of Sangiran art and culture within their capabilities are: (a) Youth Guardian Club, (b) *Perkumpulan Masyarakat Pelestari Situs dan Budaya Sangiran*, (c) *Paguyuban Pelestari Situs Sangiran*, and (d) *Teater Sangir*. On the issue of sustainable tourism, one group named Wonderful Sangiran works and coordinates directly with the SCO and other local government authorities.

3. Traditional institutions in enforcement

It is widely recognised that traditional institutions play an important role in safeguarding heritage sites. Sangiran Early Man Site through its Sangiran Conservation Office involves the boy scouts and girl scouts programme (locally known in Indonesia as *pramuka*) in awareness raising and conservation activities. While this programme has been implemented on a short term and small scale basis, plans to turn these activities into actions and policies are currently underway.

4. Incentive mechanisms

The issue of incentives, as well as compensations for the public to report fossils and artefacts has already been alluded to the Law No. 11/2010. The local community's responsibility requires them to notify the discovery of fossils and artefacts and in exchange, "Everyone is eligible for a compensation should any objects, buildings, structures, or location in which one found is stated as cultural heritage," as per article 24. The enforcement of this provision is relatively easy as the local inhabitants and the authorities are located within the site itself.

While the community's responsibility should lie not only in being compelled to report discoveries, but also play a crucial role in the active management of the site and its surroundings, the challenge is to promote the awareness of proper excavation conduct. Information on the importance of keeping the fossil and artefact discovery within its stratigraphical layer and reporting it to the SCO is widely spread in the effort of empowering the local community as guardians of the site.

Article 22 of the Cultural Heritage Law also stipulates tax incentives for the local inhabitants or local communities who have acted towards cultural heritage conservation efforts accordingly. Though the implementation of this particular article is yet to be done in Sangiran Early Man Site, local government authorities are ensuring that this article will soon become action.

5. Management agreements

Management agreements for Sangiran Early Man Site are signed by the Ministry of Education and Culture with the relevant the provincial authority and local authorities. These agreements provide for protection, development, utilisation, conservation, and service. The implementation of such agreements is ensured through periodic coordination meeting among the concerned parties.

VII.3 Management Infrastructure and Facilities

Coordinated effort has been made among all stakeholders of the property including national and local government authorities and local communities to provide access to the properties and to present the history of Sangiran Early Man Site as a meaningful experience.

Sangiran Early Man Site can be accessed through three points of arrival:

1. By bus: Tirtonadi Terminal in Solo
2. By train: Solo Balapan Station in Solo
3. By plane: Adi Soemarmo Solo Airport in Boyolali

Visitors travelling from nearby areas can access the site from Kalijambe, Kalioso, Plupuh, and Rejosari. The route and access maps are as follows:

Map 4 Access map to Sangiran Early Man Site

The stakeholders promote historical education of the Sangiran Early Man Site through the documentation of the invaluable information collected from the attributes and the interpretation of these data to the general public. The property as a field laboratory attracts researchers from all over the world and is committed to open access of the reports and publications of the site.

The visitor/interpretation plan for the site considers a range of approaches to tell the stories of the site to visitors. Site museums are erected in each cluster, displaying objects and providing information in two languages. Trained guides are available upon request at the site museums. The establishment of heritage trail routes and visitor information boards on site are currently underway.

Existing visitor facilities are described per cluster below

1. Krikilan Cluster

- (a) Amenity and guidance facility

The site museum at Krikilan is specific to provide information on the Outstanding Universal Values of the property, human evolution, and the culture and environment in which the early man lived. The information and objects displayed in the museum were

provided and curated by the Sangiran Conservation Office. Guide training in the whole property is now carried out for further improvement.

Basic amenities such as washrooms are available in the area, and the administrative office serves as a main guidance facility to control visitor entrance and provide information about the property.

(b) Access and parking space

Krikilan cluster is mainly reached by cars or tourist buses. There is enough parking space at the site museum, carrying up to 10 large-sized buses or 30 cars.

2. Dayu Cluster

(a) Amenity and guidance facility

The area of Dayu is well-equipped with basic amenities and interpretative information for visitors. The site museum focuses on information regarding recent archaeological researches, including the current researches carried out and the publications of previous researches.

(b) Access and parking space

Parking space in this cluster is available for only 10 vehicles. Its limitation is due to the relatively small site museum and therefore, low visitation. Heritage trail routes and visitation plan is discussed to include this cluster in order to increase its number of visitation, yet without having to expand the parking space.

3. Bukuran Cluster

(a) Amenity and guidance facility

Bukuran Cluster is well equipped with basic amenities such as prayer room, washrooms, and souvenir kiosks. This cluster hosts two site museums, the Bukuran Cluster Museum which specifically provides a more in depth and detailed interpretation of human evolution, and Manyarejo Museum which focuses on the participation of the local communities to archaeological researches in Sangiran.

(b) Access and parking space

This cluster is accessible by cars and tourist buses, with major road routes from other clusters well developed. There are parking space available for 10 buses or 30 cars.

4. Ngebung Cluster

(a) Amenity and guidance facility

Ngebung cluster hosts a site museum with particular information on the history of archaeological research in Sangiran Early Man Site with basic amenities and guidance functions. Information boards are also installed within the property.

(b) Access and parking space

The site is mainly reached by cars and tourist buses on a well-developed road system. There is a parking area with the capacity of 10 large-sized buses or 30 cars within the site museum.

Docent system

Engaging the community in the effort of protecting and managing the site is supported with procurement of facilities and provision of working space as necessary. In the effort of having the community to be docents for the site requires the ownership of mobile phone for monitoring and reporting purposes and motorcycle for mobility. It is presumed and through observation that the members of the local community own either one or both.

A working space for the docents to gather is currently available in one of the clusters. It is now known as '*Rumah Baca Sangiran*' (translates as Sangiran Reading House) in which space is dedicated to be a mini library as well as a community function hall for educational purposes. It has been identified that *Rumah Baca Sangiran* would also be available as a small working space for docents working in the cluster and therefore, there is a need to have similar space available in other clusters.

VII.4 CHEADSEA

Centre for Human Evolution, Adaptations, and Dispersals in the Southeast Asia, also known as CHEADSEA, is a Category 2 Centre under the auspices of UNESCO to contribute to advancing the strategic objectives of the World Heritage Programme "Human Evolution: Adaptations, Dispersals, and Social Developments" (HEADS) as proposed by the Government of Indonesia. The establishment of CHEADSEA was approved during the 202nd Session of the Executive Board in Paris (document number 202 EX/18 Part XIII).

The centre's objective and function is to promote, facilitate, and support collaboration between State Parties to the UENSCO World Heritage Convention in Southeast Asia in the field of human evolution, adaptations, and dispersals during the Pleistocene and Early Holocene eras. The goal of this collaboration is to build human resource capacities for the realization of UNESCO Strategic Objectives with regard to the HEADS Programme, through the:

1. Development of research and conservation methods, techniques, technologies;
2. Training and capacity-building in these methods;
3. Facilitation of research collaboration; and
4. Communication of research results to the scientific community and to the general public.

CHEADSEA will operate within the framework of the Directorate General of Culture, Ministry of Education and Culture of the Republic of Indonesia in accordance with the UNESCO Revised Integrated Comprehensive Strategy on category 2 centres. The centre will have the legal capacity to manage funds, obtain and give payments for services rendered, and acquire all means necessary for its functioning.

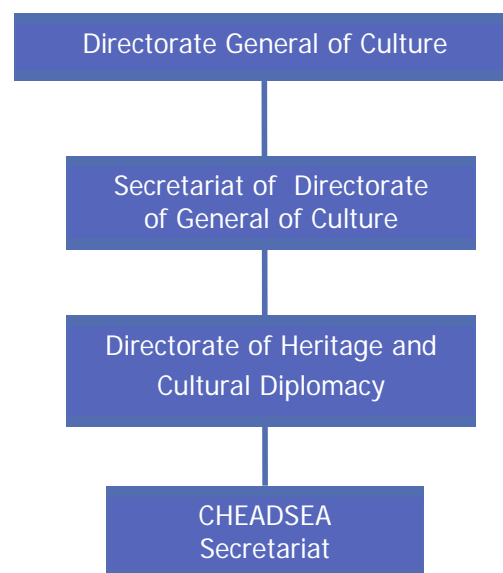


Diagram 4 CHEADSEA organizational structure under the Directorate General of Culture

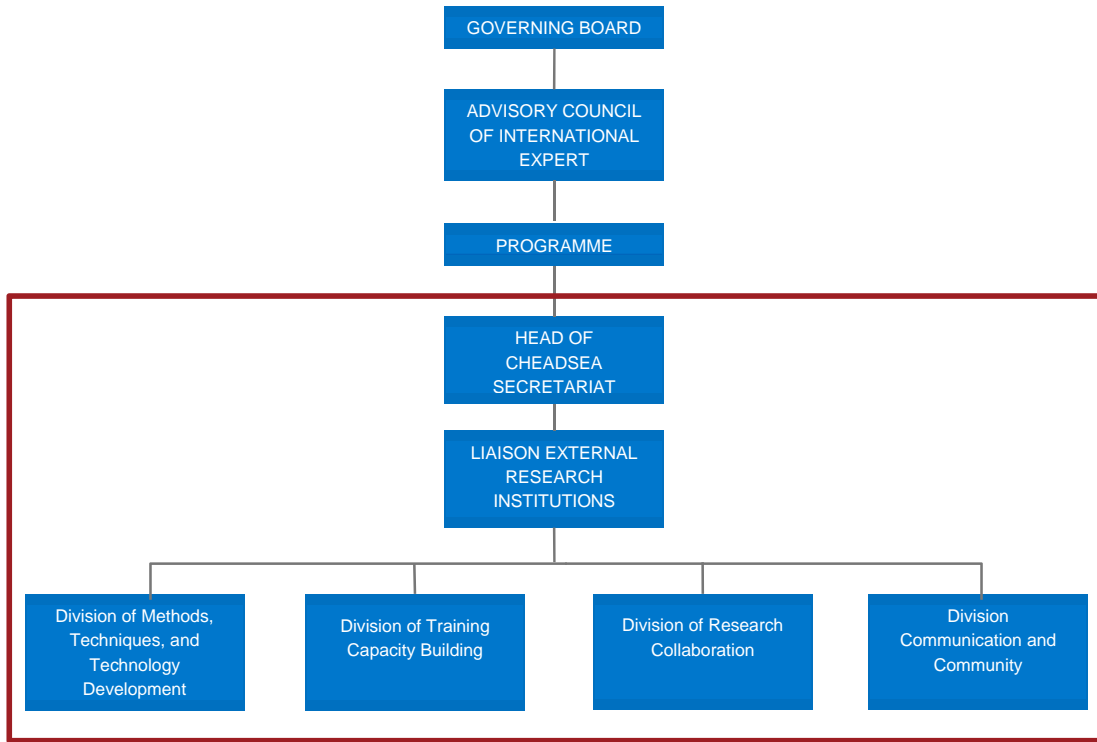


Diagram 5 CHEADSEA structure

PART VIII CONCLUSION

VIII. 1 Summary Action Matrix

Factor Affecting the Property	Specific Physical Attributes Affected	Criterion Values Affected	Applicable Management Policy	Action	Monitoring Indicator	Responsible Actor	Time frame
<i>Man-made topographical changes</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil Landscape 	iii and vi	<ul style="list-style-type: none"> Advance written permission Regular site patrol Applied guidance with its terms and conditions 	<ul style="list-style-type: none"> Map areas where topographical changes are still acceptable Establish Heritage Impact Assessment (HIA) methodology Determine guidance for topographical changes activities, including the appropriate tools used for such activities Assemble team to conduct HIA Disseminate information Stipulate rights and responsibilities in Memorandum of Understanding (MOU) 	Quantity, location, and area of activity	<ul style="list-style-type: none"> Sangiran Conservation Office (SCO) Local Government Agency (GA) on Public Works and Energy and Mineral Resources Local community 	Monthly Incidental
<i>Land conversion</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil Landscape 	iii and vi	<ul style="list-style-type: none"> Advance written permission Regular site patrol Coordinated land conversion area with concerned agencies Land conversion follows applied guidance and requirements 	<ul style="list-style-type: none"> Map converted and original agricultural land Establish HIA methodology Agree upon the provisions of land conversion (Zoning Provision) and technical requirements Stipulate detailed criteria and limitations on cultural heritage area zoning Determine guidance on land conversion requirements, including the appropriate tools Assemble team to conduct HIA Disseminate information Stipulate rights and responsibilities in MOU 	Quantity, location, and area of activity	<ul style="list-style-type: none"> SCO Provincial GA on Energy and Mineral Resources Regency GA on Public Works Local community 	Monthly Incidental

<i>Irrigation system</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil Landscape 	iii and vi	<ul style="list-style-type: none"> Advance written permission Regular maintenance of current irrigation construction Regular site patrol 	<ul style="list-style-type: none"> Establish HIA methodology Assemble team to conduct HIA Disseminate information 	<ul style="list-style-type: none"> Quantity and area of activity 	<ul style="list-style-type: none"> SCO Provincial GA on Energy and Mineral Resources, Natural Resources, and Agriculture Regency GA on Public Works and Spatial Planning Local community 	Monthly Incidental
<i>Road network</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil Landscape 	iii and vi	<ul style="list-style-type: none"> Advance written permission Regular maintenance of current road network Regular site patrol 	<ul style="list-style-type: none"> Document existing road network Establish and conduct HIA Assemble team to conduct HIA Establish joint development plan 	<ul style="list-style-type: none"> Location and type of road 	<ul style="list-style-type: none"> SCO Local GA on Public Works, Transport Regional Road Offices Local community 	Monthly Incidental
<i>Domestic housing and public infrastructure</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil Landscape 	iii and vi	<ul style="list-style-type: none"> Construction conforms to zoning regulation Advance written permission Incentive for conservation of vernacular architecture Regular site patrol Construction development includes clean water and waste management 	<ul style="list-style-type: none"> Establish HIA methodology Establish design guidelines Conduct community outreach programmes Formalize Architectural and Environmental Design and permits to construct buildings 	<ul style="list-style-type: none"> Location, size, type, quantity, style, and material of construction 	<ul style="list-style-type: none"> SCO Local GA on Housing, One-stop Permit Services, Environment, and Agriculture Local community 	Monthly Incidental
<i>Site susceptibility</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil Landscape 	iii and vi	<ul style="list-style-type: none"> Advance written permission to conduct assessment on privately owned area Implementation of most effective and efficient landscape conservation and rehabilitation method Stabilize slope and maintain adequate water contain 	<ul style="list-style-type: none"> Conduct assessment on site susceptibility, including mapping potential landslide and flood area Establish coordination team between Sangiran Conservation Office and concerned local government agency/organisation Recruit, train, and establish quick response team Conduct inventory count and procure DRM facilities Implement recommendation 	<ul style="list-style-type: none"> Location, area, and number of incidents 	<ul style="list-style-type: none"> Regency GA on Agriculture Provincial GA on Forestry and Estate Crops Bengawan Solo Agency for Regional Development of the Surabaya-Madura SCO Regional Disaster Management Agency Local community 	Annually Incidental

			<ul style="list-style-type: none"> Coordination of field work with concerned parties 	from site susceptibility assessment			
<i>Visitor numbers</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil Landscape 	iii	<ul style="list-style-type: none"> Controlled recreational mass Small group tourism Restricted visitor access Controlled visitational activities Optimized and procure visitation amenities Increased human resource competency Regular maintenance of visitation amenities Regular site security patrol 	<ul style="list-style-type: none"> Determine maximum visitor number Regulate visitation time Map and establish areas for visitation support facilities Conduct visitor satisfaction survey 	<ul style="list-style-type: none"> Number of visitor Tourist attractions Duration of visit 	<ul style="list-style-type: none"> SCO National Development Planning Agency Ministry of Public Works Local GA on Tourism and Youth and Sport Regency GA on Education 	<p>Monthly</p> <p>Incidental</p>
<i>Waste management</i>	<ul style="list-style-type: none"> Land stratigraphy Landscape 	iii and vi	<ul style="list-style-type: none"> Adoption of waste disposal system Promotion of responsible visitation and being a responsible visitor 	<ul style="list-style-type: none"> Establish waste disposal system Conduct activities to help implement reduce, reuse, recycle (3R) system Build garbage dump for the 3R system 	<ul style="list-style-type: none"> Volume and type of waste 	<ul style="list-style-type: none"> Local GA on Waste and Environment SCO Local community 	Monthly
<i>Transportation infrastructure</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil 	iii	<ul style="list-style-type: none"> Traffic control Parking space management Increased quality of access for international visitation 	<ul style="list-style-type: none"> Map environmental carrying capacity limits and site-safe parking space Implement Integrated Accessibility Plan (<i>Rencana Aksesibilitas Terintegrasi, KSPN Sangiran dan Sekitarnya</i> 2016) Develop Government Work Plan concerning accessibility 	<ul style="list-style-type: none"> Volume density Type of vehicles 	<ul style="list-style-type: none"> Regency GA on Transport National Development Planning Agency Ministry of Finance Ministry of Tourism 	Monthly

<i>Private to public use conversion (visitor facilities)</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil 	iii	<ul style="list-style-type: none"> Controlled development of facilities, especially those of tourism and industry Standardized quality of the tourism amenities Quality attraction, accessibility, amenities, and environment 	<ul style="list-style-type: none"> Establish regulation and standard procedure Conduct community empowerment programmes on the provision of high quality tourism attractions, accessibility, and amenities. Revamp Sangiran's overall environment to have it ready for visitation 	<ul style="list-style-type: none"> Quantity of supporting facilities Quality/condition of the facilities 	<ul style="list-style-type: none"> Regency GA on Housing and Permit 	Monthly Incidental
<i>Information and site interpretation</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil Landscape 	iii and vi	<ul style="list-style-type: none"> Increased competency of guides through capacity-building Procurement and improvement of the quality of text on signages Interpret site as open-air museum, including integrating the tourist attraction on Sangiran National Tourism Strategic Area Plan 	<ul style="list-style-type: none"> Provide multi-language information text Recruit, train, and license museum guides Schedule object display rotation Disseminate information of the site value and significance through various media platforms Establish heritage trails Conduct tourism activities that focus on local wisdom and intangible value Conduct training for local tourism industries on the international hospitality standard 	<ul style="list-style-type: none"> Level of understanding Quantity, location, and quality of information boards 	<ul style="list-style-type: none"> SCO Ministry of Tourism Regency GA on Communication and Information Local community 	Annually Incidental
<i>Research</i>	<ul style="list-style-type: none"> Land stratigraphy, artefact, fossil 	iii	<ul style="list-style-type: none"> Advance written permission to research International applications conform to the strategy and engage Indonesian scholars Standardized research methodology Joint research publication 	<ul style="list-style-type: none"> Develop and establish SOP and standard research methodology Formalise international research collaboration procedure Increase cooperation with other and concerned parties Open access to publications and results of research in Sangiran site, in collaboration with local libraries Convene conferences on the Early Man and its Environment under 	<ul style="list-style-type: none"> Quantity compatibility between approved permits and received reports Quantity of publications on Sangiran 	<ul style="list-style-type: none"> SCO Regency GA on Research and Development Regency GA on Local Library and Education Regency GA on Environment Ministry of Research, Technology, and Higher Education 	Monthly Incidental

				the auspices of CHEADSEA and the Ministry of Education and Culture			
<i>Education and information for local community</i>	<ul style="list-style-type: none"> • Land stratigraphy, artefact, fossil • Landscape 	iii and vi	<ul style="list-style-type: none"> • Ease access to education • Increased educational level and quality • Strengthened role of local community as guardians of the site • Educational incentive for local community 	<ul style="list-style-type: none"> • Map out students/productive-aged community members to receive education • Provide and/or improve educational facilities • Conduct non-formal education for local community on the value and importance of Sangiran • Disseminate information through various media platforms • Include the history of Sangiran into local school curriculum 	<ul style="list-style-type: none"> • Number of participants • Level of understanding 	<ul style="list-style-type: none"> • Local GA on Education, Communication, and Information • SCO • Indonesian Agency for Creative Economy • Micro, Small, and Medium Scale Business 	Per term
<i>Community engagement</i>	<ul style="list-style-type: none"> • Land stratigraphy, artefact, fossil • Landscape 	iii and vi	<ul style="list-style-type: none"> • Engagement of community members in conservation activities (protection, development, and utilization) • Engagement of members of the police/security forces in the protection of the site 	<ul style="list-style-type: none"> • Provide training for local community and recruit docents • Procure necessary amenities and facilities for the docent system to work • Establish reporting set and mechanism • Disseminate information on regulations and requirements to become docents 	<ul style="list-style-type: none"> • Number of volunteers • Number of entrepreneurship activities • Number of reported illegal activities 	<ul style="list-style-type: none"> • Local GA on Culture • Police and army force • SCO • Local community 	Annually
<i>Site utilization by local community</i>	<ul style="list-style-type: none"> • Land stratigraphy, artefact, fossil • Landscape 	iii and vi	<ul style="list-style-type: none"> • Work priority given to local community • Appreciation on land ownership and limitation to utilize • Free certification to land within the heritage area • Tax reduction incentives for land owner within the World Heritage property 	<ul style="list-style-type: none"> • Provide entrepreneurship training • Conduct mentoring activities for the local community • Provide direct employment whenever possible according to the applied terms and conditions • Provide appreciation to community members who support the site conservation and management 	<ul style="list-style-type: none"> • Number of available employment • Number of people working in such activities 	<ul style="list-style-type: none"> • Regency GA on Manpower, Education, and Land • Ministry of Spatial Planning • Indonesian Agency for Creative Economy • Micro, Small, and Medium Scale Business • Ministry of Village, Development of Disadvantaged Regions, and Transmigration • SCO 	Annually

VIII. 2 Outcome Table

Factor to Manage	Actions	Short Term	Medium Term	Long Term	Outputs	Outcome
		(1-5 years)	(5-10 years)	(10-15 years)		
<i>Man-made topographical changes</i>	Map areas where topographical changes are still acceptable				Zoning map where topographical changes are still acceptable	Preserved attributes, which are the land stratigraphy and landscape, of the property
	Establish Heritage Impact Assessment (HIA) methodology				Guidance to conduct HIA	
	Determine guidance for topographical changes activities, including the appropriate tools				Guidance for topographical changes activities	
	Assemble trained team to conduct HIA				Decree in determining team members for HIA	
	Disseminate information				Quantity of community members receiving information	
	Stipulate rights and responsibilities in Memorandum of Understanding (MOU)				Regulation concerning management of man-made topographical changes on site	
<i>Land conversion</i>	Map both converted and original agricultural land				Zoning map of both original and converted agricultural land	Preserved agricultural land which makes up for the landscape of the property
	Establish HIA methodology				Guidance to conduct HIA	
	Agree upon the provisions of land conversion (Zoning Provision) and technical requirements				Regulation concerning area zoning	
	Stipulate detailed criteria and limitations on cultural heritage area zoning				Regulations concerning land conversion	
	Determine guidance on land conversion requirements, including the appropriate tools				Guidance for land conversion	
	Assemble trained team to conduct HIA				Decree in determining team members for HIA	
	Disseminate information				Quantity of community members receiving information	
	Stipulate rights and responsibilities in MOU				Regulation concerning management of land conversion on site	
<i>Irrigation system</i>	Establish HIA methodology				Guidance to conduct HIA	Optimised use of the existing irrigation system
	Assemble trained team to conduct HIA				Decree in determining team members for HIA	
	Disseminate information				Quantity of community members receiving information	
<i>Road network</i>	Document current/existing road network				Zoning map of the existing road network	Preserved landscape and the fossils and artefacts within the land stratigraphy
	Establish HIA methodology				Guidance to conduct HIA	
	Assemble trained team to conduct HIA				Decree in determining team members for HIA	
	Establish joint development plan				Master plan on the road network development	
<i>Domestic housing and public infrastructure</i>	Establish HIA methodology				Guidance to conduct HIA	Clear vista of the property
	Determine design guidelines				Guidance for housing and infrastructure design	
	Conduct community outreach programme in order to disseminate information				Quantity of community members participating and receiving information	
	Formalize Architectural and Environmental Design and permits to construct buildings				Regulation concerning design and building construction	
<i>Site susceptibility</i>	Conduct assessment on site susceptibility, including mapping potential landslide and flood area				Regulation concerning prevention and response to flood and landslide in order to prevent damage to the site's attributes	Preserved long history of scientific investigation of the fossil record
	Conduct inventory count and procure necessary disaster risk management (DRM) facilities				Master plan for disaster risk management	
	Establish coordination team between Sangiran Conservation Office and concerned local government agency/organisation				Decree in determining coordinating team members	
	Recruit, train, and establish disaster response team				Decree in determining team members	
	Implement recommendation from site susceptibility assessment				Regulation concerning site susceptibility	

Visitor numbers	Map out and determine areas for tourism supporting facilities		Zoning map of tourism supporting facilities	Controlled and managed visitation to the property
	Determine maximum number of visitor		Regulation concerning maximum number of visitor	
	Regulate visitation time		Regulation concerning visitation time	
	Conduct visitor satisfaction survey		Regulation concerning tourism facility expediency	
Waste management	Determine waste disposal system		Master plan for waste disposal system	Responsible visitation to the property and clean environment
	Conduct activities to facilitate the implementation of reduce, reuse, recycle (3R) system		Quantity of community members participating	
	Build garbage dump for the 3R system		Garbage/waste free environment	
Transportation infrastructure	Map environmental capacity limits and parking space		Zoning map of site carrying capacity	Congestion-free area that does not exceed the carrying capacity limit
	Implement Integrated Accessibility Plan (<i>Rencana Aksesibilitas Terintegrasi, KSPN Sangiran Dsk 2016</i>)		Programme implementation of the Integrated Accessibility Plan	
	Develop Government Work Plan concerning accessibility		Programme implementation of the Government Work Plan	
Private to public use conversion	Establish regulation and standard procedure		Regulation concerning building use conversion	Good quality tourism facilities
	Conduct community empowerment programme on the provision of adequate tourism attraction, accessibility, and amenities.		Programme implementation on community empowerment in providing adequate tourism attraction, accessibility, and amenities	
	Revamp Sangiran's overall environment to have it ready for visitation		Well-formed educational tourism ecosystem	
Information and site interpretation	Provide multi-language information text		Signage in multi languages is available	Well-communicated correct and factual information of the property
	Recruit, train, and license museum and site guides		Certified museum and site guides	
	Schedule object display rotation		Updated object display	
	Disseminate information regarding the site's value and significance through various media platform		Quantity of publications regarding Sangiran	
Research	Establish Sangiran heritage trail		Available tourist attraction	Protected areas of high research potential and highest scientific standard of research methodology utilised
	Conduct tourism activities that focus on local wisdom and intangible value		Site and environmentally friendly tourism services	
	Conduct training for local tourism industries on the international hospitality standard		Quantity of community members working on the hospitality industries participating	
	Develop and determine Standard Operation Procedure (SOP) and standard research methodology		Guidance to conduct research in Sangiran	
	Formalise international research collaboration procedure		Guidance to conduct international research collaboration	
	Increase cooperation with other and concerned parties		Cooperative research and conservation activities	
	Open access to publications and results of research in Sangiran site, in collaboration with local libraries		Open information system	
	Convene conferences on the Early Man and its Environment under the auspices of CHEADSEA and the Ministry of Education and Culture		Result and relevance of research are delivered to a wide audience	
Education and information for local community	Map out students/productive-aged community members to receive education		Implementation of educational programme for the community members	Capacity-building activities on the conservation of the property conducted
	Provide and/or improve educational facilities		Master plan on the educational facilities	
	Conduct non-formal education to local community on the value and importance of Sangiran		Quantity of community members receiving non-formal education	
	Disseminate information through various media platforms		Quantity of community members receiving information	
Community engagement	Include the history of Sangiran into local school curriculum		School curriculum on the history of Sangiran	Established community-based
	Provide training for local community and recruit docents		Quantity of community members working as docents	
	Procure necessary amenities and facilities for the docent system to work		Master plan for the docent system amenities and facilities	

*Site utilization
by local
community*

Establish reporting set and mechanism for docents on chance find or illegal activities		Guidance on the reporting set and mechanism for docents	management system
Disseminate information on regulations and requirements to become docents		Quantity of community members receiving information	
Provide entrepreneurship training		Quantity of community members receiving training	Community members received benefits derived from the heritage value of the property
Conduct mentoring activities for the local community		Quantity of community members mentored	
Provide direct employment whenever possible according to the applied terms and conditions		Master plan on work opening and employment	
Provide appreciation to community members who support the site conservation and management		Quantity of appreciation given to the community members	

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Laws and Legislation

National Protection Designation

Law No. 11/2010 on Cultural Heritage, a revision from Law number 5/1992

Government Regulation No 10/1993 on the Implementation of Law No. 5/1992 on Cultural Heritage Property

Ministry of Education and Culture Decree No. 019/M/2015 on Stipulation of Integrated Geographical Area of Sangiran as National Level Cultural Heritage Area

Provincial Protection Designation

Regional Regulation of Central Java No. 6/2010 on Central Java Province Spatial Planning Year 2009-2029

Regional Regulation of Central Java No. 10/2013 on Conservation and Management of Cultural Heritage

Central Java Gubernatorial Decree No. 430/197/2014 on Stipulation of Sangiran Integrated Geographical Area as Central Java Province Cultural Heritage Area

Regency-Level Protection Designation

Sragen Regency Regulation No. 11/2011 on Spatial Planning of Sragen Regency 2011-2031

Karanganyar Regency Regulation No. 1/2013 on Spatial Planning of Karanganyar Regency 2013-2032

Memorandum of Understanding / Cooperation Agreement

MOU between Ministry of Education and Culture, Central Java Governor, Sragen Regency, and Karanganyar Regency No. 105620/MPK.F/CB/2014; No. 32/2014; No. 019.6/213.A/001/2014; No. 100/59/2014 on Protection, Development, and Utilization of Sangiran Area as World Cultural Heritage

Cooperation Agreement between the Directorate General of Culture Ministry of Education and Culture, Central Java Provincial Office of Culture and Tourism, and Local Office of Tourism, Culture, Youth, and Sport of Sragen Regency No. 382/F/CB/2014| No. 556/1410; No. 556/2050/023/2014 on the Improvement of Services for Sangiran Early Man Museum Visitors in Sragen Regency

Cooperation Agreement between the Directorate of Heritage Conservation and Museum Ministry of Education and Culture, Central Java Provincial Office of Culture and Tourism, Local Office of Tourism, Culture, Youth, and Sport of Sragen Regency, and Local Office of Tourism, Culture, Youth, and Sport of Karanganyar Regency No. 1097/F.2/DN/2015; No. 432/1634/2015; No. 556/28/002/2015; and No. 556/215/2015 on Conserving Sangiran Cultural Heritage Area as World Cultural Heritage



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OFFICIAL RECORD

On this day, Wednesday, the Twenty-Second of November Two Thousand Seventeen, the following parties:

NO	NAME	INSTITUTION	SIGNATURE
1	Taviv Suhendra	Office of Youth, Sports, and Tourism of Central Java Province	
2	Danang Jati	Office of Education and Culture of Central Java Province	
3	Wiwin Widiastuti	Planning, Research and Development Agency of Central Java Province	
4	Tri Atmoko Ari Cahyono	Office of Public Works and Spatial Planning of Karanganyar Regency	
5	Suhartono	Planning, Research and Development Agency of Karanganyar Regency	
6	Teguh Haryono	Office of Tourism, Youth, and Sports of Karanganyar Regency	
7	Hastutiningdyah	Office of Education and Culture of Karanganyar Regency	
8	Andjarwati Sri Sajekti	Office of Education and Culture of Sragen Regency	
9	Wibowo Endriatono	Office of Youth, Sports, and Tourism of Sragen Regency	
10	Dian Suharningsih	Office of Public Works and Spatial Planning of Sragen Regency	
11	Sukronedi	Conservation Office of Sangiran Early Man Site (SCO)	
12	Anton Wibisono	Directorate of Heritage and Cultural Diplomacy	

have participated in the drafting of the State of Conservation Report of Sangiran Early Man Site 2017 in response to the issues given in the UNESCO World Heritage Committee Decision 40 COM 7B.36 of 2016 concerning the completion of the 2017 Sangiran Early Man Site Management Plan together with comprehensive conservation and tourism management plans.

This Official Record has been truly written

Officially recorded in : Surakarta

Date

: 22 November 2017

