



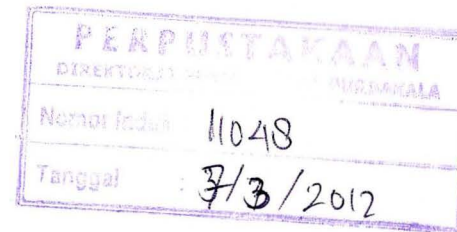
MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



**Project for Conservation and Development of
Archaeological Property and Museums 2004
MINISTRY OF CULTURE AND TOURISM**

5609
SOE
m.

MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



**DIRECTORATE OF ARCHAEOLOGICAL HERITAGE
DIRECTORATE GENERAL OF HISTORY AND ARCHAEOLOGY
MINISTRY OF CULTURE AND TOURISM
2008**

Master Plan Drafting Committee

Chairman

Drs. Soeroso MP, M.Hum.

Steering Committee

1. Drs. Hari Untoro Dradjat, M.A.
2. Prof. Dr. Mundardjito
3. Dr. Daud Aris Tanudirdjo, M.A.
4. Dr. Risman Musa, M.A.
5. Dr. Harry Widiyanto
6. Drs. Lutfi Asiarto
7. Dr. Tony Jubiantono
8. Drs. Teguh Djoko Rahardjo, M.Si.
9. Drs. Sudibyo Triatmodjo

Compilers

1. Drs. Suyud Winarno, M.M.
2. Drs. Bambang Sulistyanto, M.Hum.
3. Ismijono
4. Ir. Yoesoef BA
5. Dra. Priyanti, M.Si.
6. Dra. M.M. Rini Supriyatun
7. Drs. Yunus Arbi, M.A.
8. Winarni, S.S.
9. Dra. Sri Patmiarsi, R.M.Hum
10. M. Natsir RM, S.T.
11. Drs. Waluyo Agus Priyanto
12. Drs. Rusmulia Tjiptadi Hidayat
13. Bambang Sumedi

Contributor:

1. Drs.. Joko Suyanto, M.M.
2. Ir. A. Haryoto W.A., M.M.
3. Dra. Koos Siti Rochmani, M.A.
4. Dra. Hardini Sumono
5. Drs. Dani Wigatna
6. Drs. Endjat Djaenuderadjat
7. Sri Intiati N, S.H.
8. Dra. E.M. Triwahyuni, M.T.
9. Drs. Aris Wardono
10. Drs. Sujarwo
11. Bambang Siswanto, S.Sos.
12. Yusmanto, S.Sos.
13. Anjarwati Sri Sajekti, S.S.
14. Desse Yusubrasta, S.S.
15. Judi Wahjudin, S.S.

Layout and Visualisation:

Centre for Documentation and Architecture



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM





Preface

Our praises and thanks to the One Supreme God, for by His mercy and grace this Master Plan for Sangiran Early Man Site Conservation and Development could be compiled and published in book form. This Master Plan for Sangiran Early Man Site Conservation and Development Book is a guide to management in accordance with the principles of conservation and utilization.

The masterplan book details the site potential, problems, vision and mission, as well as policy, strategy and program.

It is by the collaboration and good support of all parties, especially the experts who have assisted by bringing to bear all their expertise and thoughts, that this Master Plan for Sangiran Early Man Site Conservation and Development book could become manifest. We hope that this book will be useful for the community and also for related institutions as a guide in executing the management of the Sangiran Early Man Site.

In this connection, we express our deepest thanks to the following parties:

- Coordinating Minister for People's Welfare
- State Minister for Optimalization of the State Aparatus
- Central Java Provincial Government
- Sragen District Government
- Karanganyar District Government
- Academics (University of Indonesia and Gajah Mada University)
- NGO's and Public Figures
- All parties who have assisted in completing the compilation of this book entitled Master Plan for Sangiran Early Man Site Conservation and Development

We are aware that this masterplan may still be imperfect, and may thus be in need of corrections and improvements. However, as a first step, this master plan may serve as a guidebook for the managers of the Sangiran site. For this purpose, this book should be distributed among the community, related institutions, interested persons and parties responsible for the management of the Sangiran site.

Jakarta, December 2004

Deputy for History and Archeology

Drs. Hari Untoro Dradjat, MA
NIP. 131253365



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM





Foreword by the Minister of Culture and Tourism

Sangiran has become known all over the world as one of the most complete and important among the sites of prehistoric man from the Pleistocene Era. This site can provide us with an extended illustration of human evolution over the past million years through the evolution of *Homo erectus*. Besides providing us with a picture of physical human evolution, the site also depicts the evolution of culture, flora and fauna and environment. World attention upon the wealth of cultural heritage of the Sangiran site has been manifested in the form of the declaration of Sangiran as a World Cultural Heritage Site by UNESCO in 1996, under register No. 593. Declaration of Sangiran as World Cultural Heritage requires that the site be managed in a way which is systematic and focussed on an ongoing basis. Therefore, before this management is implemented, we first require that a Master Plan for Sangiran Early Man Site Conservation and Development be drawn up.

This Master Plan for Sangiran Early Man Site Conservation and Development serves as a guide for both the government and the community in managing the Sangiran Early Man Site in accordance with the principles of conservation and utilization, so that both government and community may use the same mould in carrying out the management of the site.

This Master Plan for Sangiran Early Man Site Conservation and Development is the final crystalization of the results of a long series of phased discussions, and describes in detail the site potential, problems, vision and mission as well as policy, strategy and program.

I hope that this Master Plan for Sangiran Early Man Site Conservation and Development book can be utilized as a basis at every step in carrying out the management of the Sangiran Early Man Site. Besides this, this book may also be used as a pattern by those compiling Masterplans for Conservation and Development of other sites, especially in the field of archeology and museums.

I hope that this Master Plan for Sangiran Early Man Site Conservation and Development book can be distributed among the general public, and especially among related government institutions, interested persons, and parties responsible for the management of the Sangiran Site.

Jakarta, December 2004
Minister of Culture and Tourism,

Ir. Jero Wacik, S.E.



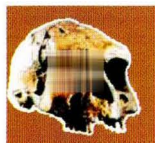
MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Table of Contents

Master Plan Drafting Committee	i	Ch. IV Vision and Mission	13
Preface	ii	Ch. V Policy, Strategy and Programme ...	14
Foreword by the Minister of Culture and Tourism	iii		
Table of Contents	iv	Organisation of Management	15
	1	Site and Environment Management	17
Ch. I Introduction	1	Management of Research	21
Background	1	Management of Tourism	24
Aims	2	Management of Facilities & Infrastructure	27
Objectives	2	Community Empowerment	30
		Management of Information Presentation	32
Ch. II Present Condition of the Sangiran Heritage Site	3	Mechanism of Monitoring and Evaluation	42
Environment	3		
Research History	5	Bibliography	44
Archeological Resources	5		
Community	6		
Site Management	10		
Important Value of the Sangiran Site	11		
Ch. III Principal Problems	12		



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



CHAPTER I - INTRODUCTION

Background

- Sangiran Site is located ± 17 km north of the city of Solo, at the foot of Mt. Lawu. Administratively, part of the site lies within Sragen District, while the rest is part of Karanganyar District. The geographical coordinates of the site are $110^{\circ}48'56''$ - $110^{\circ}53'00''$ East Longitude and $07^{\circ}24'22,50''$ - $07^{\circ}30'22,90''$ South Latitude (Fig. 2)
- The Sangiran Site has been declared a World Heritage Site by UNESCO on 5th December 1996, as "The Early Man Site" under Decree No. C 593 (World Heritage List).
- Sangiran holds important values in the geological history of Indonesia, for it includes stratigraphic layers from 2 million – 200,000 years ago. This is most important data for revealing the process of evolution of prehistoric man, along with his culture and environment. (Fig. 1)
- The potency of Sangiran as a World Cultural Heritage Site is in the form of discoveries of hominid fossils of more than 70 individuals of the type *Homo erectus* spanning an evolutionary period of more than one million years, and more than 170 artefacts and fossils of animals, tracks and plants discovered in the strata on this land. (Fig. 3a and Fig. 3b)
- The potency of this site is threatened by natural activities and human activities.

Fig. 1. Prehistoric Man
(Photo Collection of
Samiran Museum)

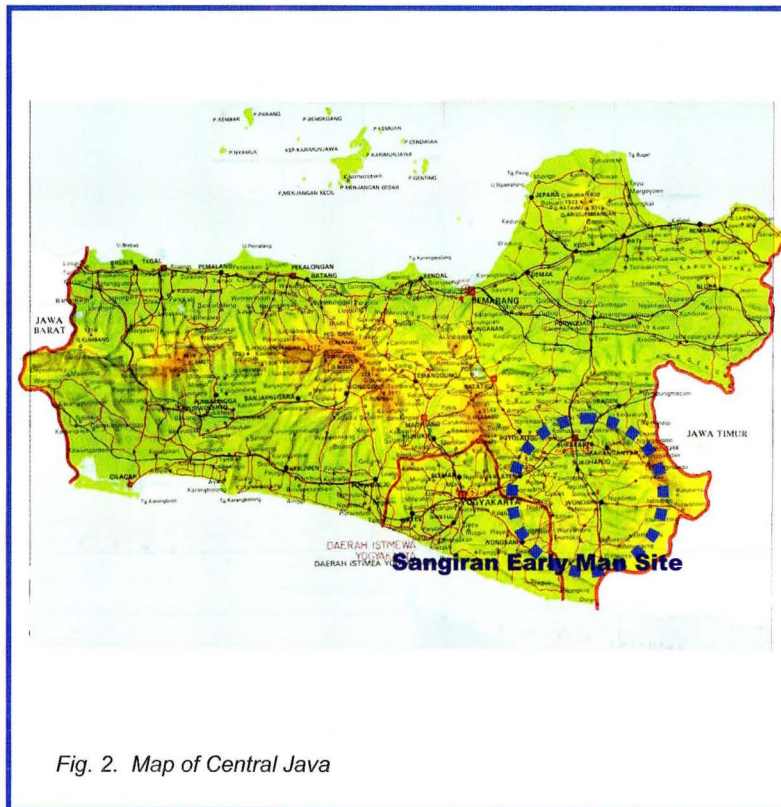
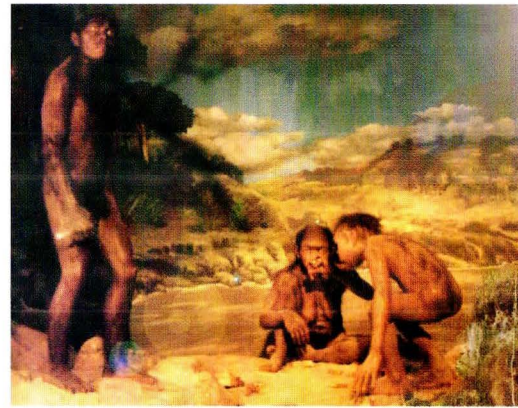
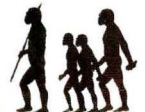


Fig. 2. Map of Central Java

- The area of this site needs to be managed in an integrated manner in order to guarantee maximum conservation and utilization.
- A Master Plan for Sangiran Heritage Site Conservation and Development needs to be drawn up.
- The legal basis for the Master Plan for Sangiran Heritage Site Conservation and Development is as follows:
 - Republic of Indonesia Law No. 5 of 1992 regarding items of Cultural Property.
 - Republic of Indonesia Law No. 24 of 1992 regarding Area Arrangement
 - Republic of Indonesia Government Regulation No. 10 of 1993 re. Execution of Republic of Indonesia Law No. 5 of 1991 re. Items of Cultural Property.
 - Republic of Indonesia Ministerial Decree No. 063/U/1995 re. Protection and Maintenance of Protected of Cultural Property.
 - Decree of the Minister of Education and Culture No. 070/O/1977 re. Declaration of the Sangiran Site as a Site of Protected Cultural Objects with an Area of 46,5 km²,
 - Decree of the Minister of Education and Culture No 173 of 1998 regarding Revision of Decree No. 070/O/1977 regarding Expansion of the Sangiran Site.
 - Provincial Regulation No. 21 of 2003 regarding Area Arrangement Plan for Central Java Province.
 - Joint Decree of the Director-General of Geology and Mineral Resources and the Director-General of Culture Nos. 646/K/12/060000/85 and 4277/F.1/J/85 of 1985 regarding Management of and Research on Vertebrate and Prehistoric Human Fossils.



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



Aims

- To organize efforts for conservation and protection of cultural and natural resources
- To organize research in the matter of interpreting the important values of the Sangiran site in the interests of history, science and culture (Fig. 4a and Fig. 4b)
- To present important values and knowledge regarding the Sangiran site in Indonesia to the public
- To increase the participation of the community in order to involve them directly in the conservation of the Sangiran site
- To develop tourism activities having a concept of conservation of the Sangiran site (Fig. 4c & 4d)
- To plan infrastructure development
- To develop collaboration among stakeholders

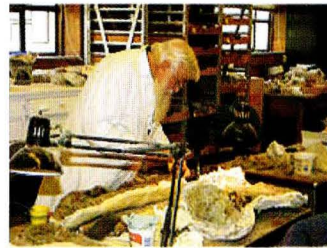


Fig. 3a. Natural Landscape of Sangiran (Semah, et al, 1990, *They Discovered Java Island*)

Fig. 3b. Natural Landscape of Sangiran
(Photo of Dayu Site)



(4a)



(4b)

Figs. 4a & 4b.
Research efforts to
interpret important
values of the site



(4c)



(4d)

Figs. 4c & 4d.
Developing tourism
activities having a
concept of
conservation

Objectives

- To know the potential and important values of Sangiran site
- To identify human and natural activities which result in negative impacts on the site
- To identify tourism potential
- To draw up a conservation oriented research work plan
- To create a framework to be used as a joint basis for government, academic, private, community and other parties who show interest in conducting activities in the site area
- To establish broad guidelines for the direction of management of the site
- To prepare a guide for evaluation and monitoring



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



CHAPTER II – PRESENT CONDITION OF SANGIRAN EARLY MAN SITE

Environment

- Natural landscape is in the form of a hilly area, through the centre of which flow 2 tributaries, ie. the Cemoro and Brangkal rivers, which have eroded the Sangiran Dome to become concave (Fig. 6a and Fig. 7)
- Generally seen as an arid area, with exposed soil easily subject to landslides seen in various places (Fig. 5a and Fig. 8).
- Having very special geographic and stratigraphic features, consisting of Kalibeng Formation – Pucangan Formation – Grenzbank – Kabuh Formation – Notopuro Formation and Riverbank Sediments (Fig. 9)
- Most of the land is used for agriculture; however, the intensity of land use is generally still low (Fig. 5b)
- The ownership status of most of the land is private ownership, but certain parts of the land are owned by the government. (Fig. 6b. Land use pattern)



Fig. 5a. :Arid Area



Fig. 5b. Agricultural Land

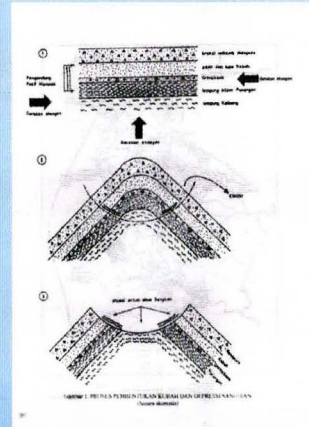


Fig. 6a. Process of formation of the Dome and Erosion (Widiyanto, Harry, at al, 1996: Berita Penelitian Arkeologi No.46, p. 110, 1996)

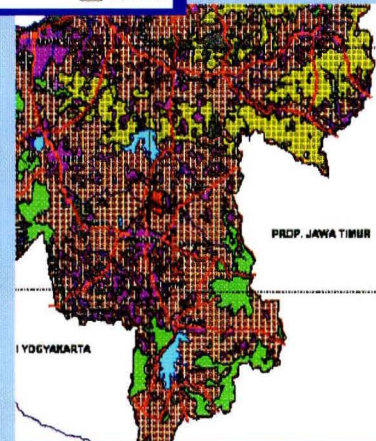


Fig. 6b. Land Use Pattern Plan

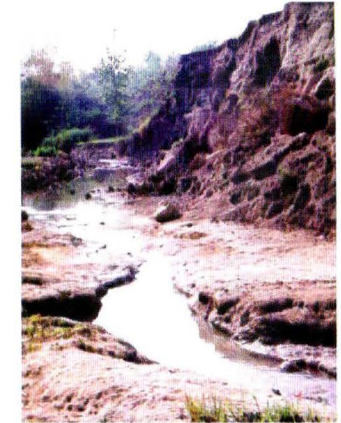


Fig. 7. Cemoro River (Photo @ Semenanjung)

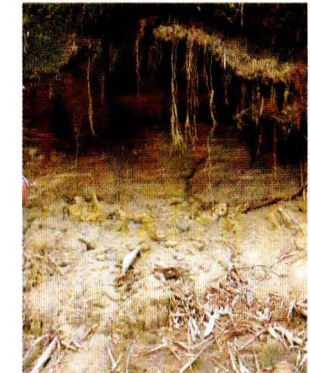


Fig. 8. Soil exposed due to landslide



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Sangiran Stratigraphy

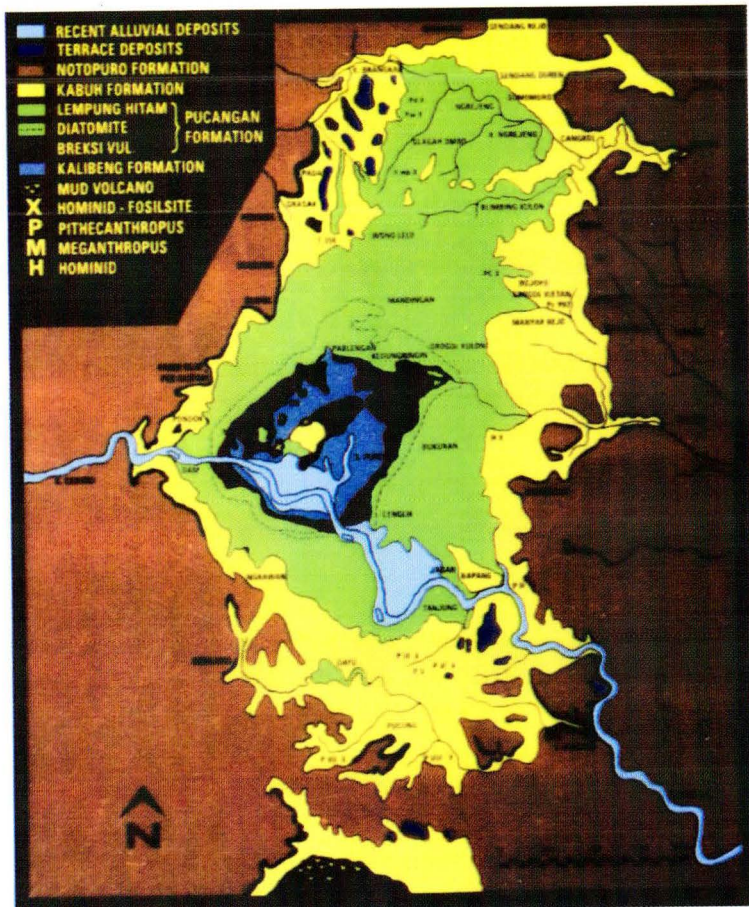
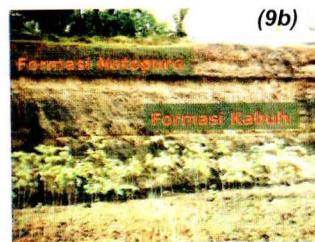


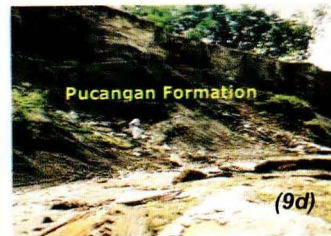
Fig. 9a. Stratigraphy Sucessioni (Sangiran Museum Collection)



(9b)



(9c)



(9d)



(9e)

Fig. 9b,c,d, and e. Notopura, Kabuh, Grenzbank, Pucangan, dan Kalibeng Formations (Sragen District Government Photo Collection and @Semanjung)

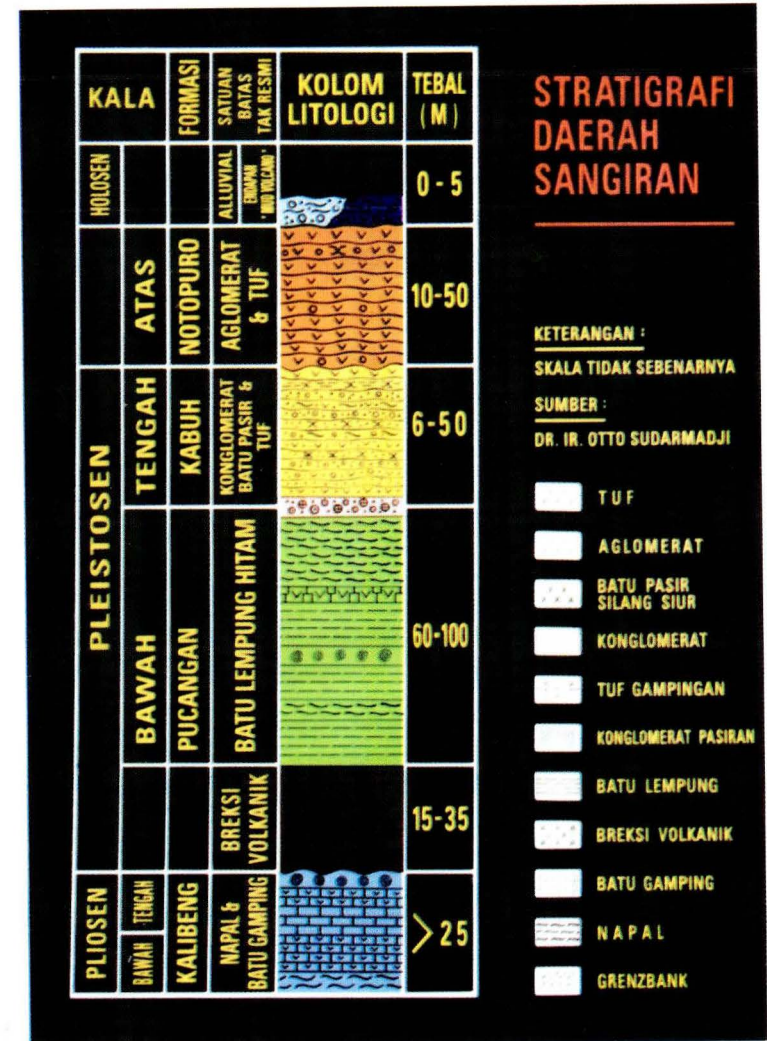


Fig. 9f. Stratigraphy of Sangiran district according to Otto Sudarmadji (Sangiran Museum Photo Collection)



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Research History

- Sangiran began to be known among scientists from the late 19th Century, after Eugene Dubois conducted a brief survey in 1893
- In 1932 LJC van Es succeeded in mapping the Sangiran area in a map at a scale of 1:20.000. Using this map, in 1934 GHR von Koenigswald, conducted a survey at Sangiran, and in 1936 discovered the first prehistoric man, now known as *Homo erectus* and *Meganthropus palaeojavanicus*.
- Assisted by the local residents, in 1937, 1938, 1939, and 1941 von Koenigswald succeeded in discovering fossils of prehistoric man, *Homo erectus*.
- After Indonesia's independence, research was carried on by Indonesians themselves, such as Prof. Teuku Jacob (UGM), Sartono (ITB), and others, who succeeded in discovering fossils of important significance for science.
- In 1969, the most complete *Homo erectus* fossil in Indonesia, and the only one discovered in Asia complete with its face, was found (Fig. 10).
- The National Archeological Research Centre and Yogyakarta Archeological Research Office of Yogyakarta have been conducting intensive research since 1977 until now, and have discovered human fossils in the Pucangan and *Grenzbank* Formations. Besides this, hominid molar teeth and animal fossils located in the Kabuh Formation in the context of several massive and flint rocks were also discovered.

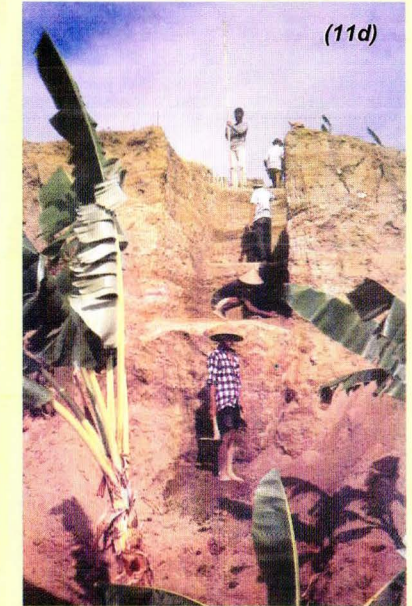
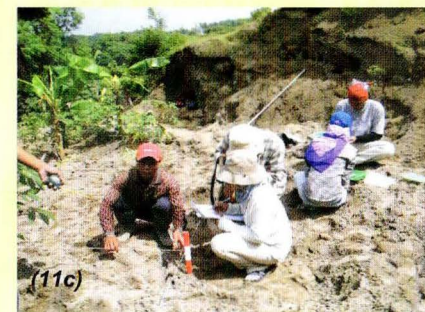


Fig. 11a. Von Koenigswald and local residents (Department of Library Science, American Museum of Natural History)
 Fig. 11b, 11c, 11d, 11e. Excavation Activities (Photo@Semenanjung & Sangiran Museum Photo Collection)

Fig. 10a. *Homo erectus* ((Photo@Semenanjung)
 Fig. 10b. Bovidae Fossil (Sangiran Museum Collection)
 Fig. 10c. *Homo erectus* Skullcan (Photo @Semenanjung)



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
 DEPARTMENT OF CULTURE AND TOURISM



Archeological Resources

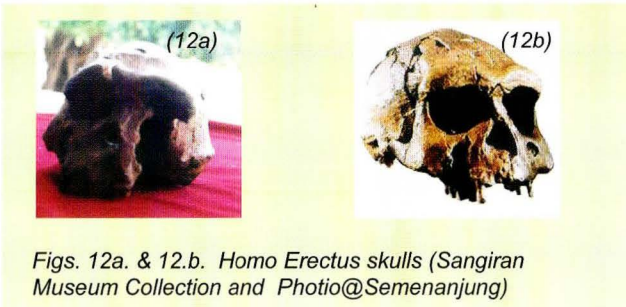
Human and Animal Fossils

Human fossils of more than 70 *Homo erectus* individuals, or 50% of those discovered in the entire world, have been found. These fossils represent the two early phases of the three levels of evolution of *Homo erectus* which had taken place in Indonesia; namely,

- **Archaic *Homo erectus***
- **Typical *Homo erectus***

The other level, namely **Progressive *Homo erectus***, has not been found as Sangiran, but has been discovered at Ngandong, Sambung Macan, and Ngawi (Fig. 12)

Animal fossils are found in all rock strata, including land animals, reptiles, and vertebrates (Fig. 13)



Figs. 12a. & 12b. *Homo Erectus* skulls (Sangiran Museum Collection and Photo@Semenanjung)

Artefacts

During excavations in August-September 2004, a spectacular discovery was made of *Sangiran Flake Industry*, believed to be the culture of *Archaic Homo erectus arkaik* from the lower Pleistocene Age (Fig. 14)

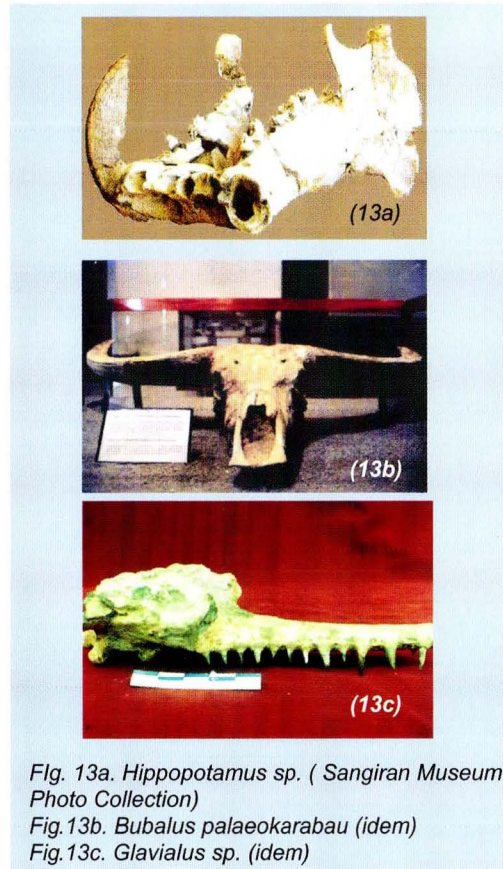
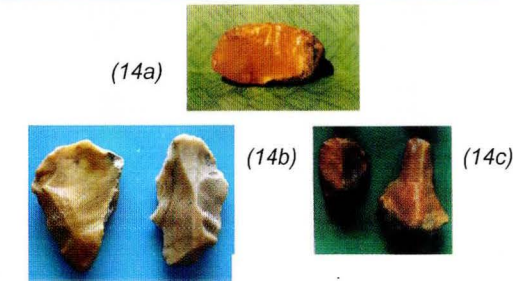


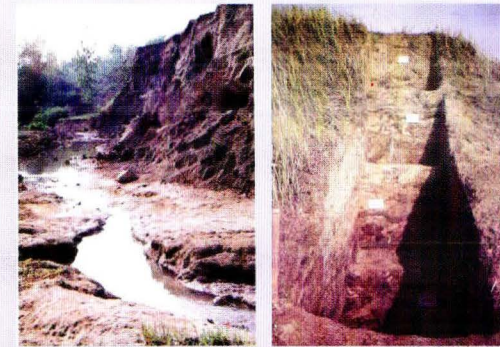
Fig. 13a. *Hippopotamus* sp. (Sangiran Museum Photo Collection)

Fig.13b. *Bubalus palaeokarabau* (idem)

Fig.13c. *Glavialus* sp. (idem)



Figs. 14a,b,c. Sangiran Flint Blade Industry



(15a)

(15b)

Fig. 15a. Cemoro River (Photo@Semenanjung)

Fig. 15b. Excavated Hole (Photo @Semenanjung)

Discovery Distribution

a. Lateral Discovery Distribution

Archeological remains discovered spread over a wide area, including almost the entire Sangiran dome surface, though with differing densities (Fig. 15a).

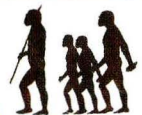
b. Vertical Discovery Distribution

The existence of human fossils dominating three prehistoric strata; namely, Pucangan, Black Clay, Grenzbank, and Fluvatile Kabuh Sand Strata Formation.

Artefacts are found beginning from the Pucangan Black Clay up to the Notopura Formations. There is dense vertical distribution of animal fossils in the lower parts of the Pucangan Black Clay, Grenzbank, all the Kabuh Series up to the Notopuro. (Fig. 15b)



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



Community

Sangiran Community Condition & Situation

- Population Composition of the Sangiran Site Area in Sragen and Karanganyar Districts according to Sex

Sub-district	Male	Female	Number of Families	Number of Persons	Density (heads/Km ²)
Kalijambe	22,709	22,392	12,283	45,101	960
Plupuh	22,069	22,834	13,516	44,903	929
Gemolong	21,756	22,326	11,726	44,082	1,096
Gondangrejo	17,767	18,106	9,249	35,873	1,137
Total	84,301	85,658	46,774	169,959	(Av.) 1,031

Source: Sragen District in Figures 2002 and Karanganyar District in Figures 2004

- Religious Congregations of Sangiran Area in Sragen and Karanganyar Districts

Sub-district	Islam	Catholic	Protestant	Buddhist	Hindu	other	Total
Kalijambe	45,051	20	17	0	5	0	45,093
Plupuh	44,656	75	27	0	1	1	44,760
Gemolong	43,645	258	188	5	8	2	44,106
Gd.Rejo	31,096	189	1,948	22	14	8,104	41,373
Total	164,448	542	2,180	27	28	8,107	175,332

Source: Sragen District in Figures 2002 and Karanganyar District in Figures 2004

- Population Composition of Sangiran Area in Sragen and Karanganyar Districts by Level of Education

LEVEL OF EDUCATION	Kali Jambe Subdist.	Plupuh Subdist.	Gemolong Subdist.	Gd.Rejo Subdist.	Total
< Elementary	4,684	4,678	6,709	6,372	22,443
Elementary	23,677	13,289	16,279	11,675	64,920
Junior High School	7,411	5,668	6,401	5,625	25,105
Senior High School	3,634	2,759	5,121	3,639	15,153
Academy/University	611	414	1,018	410	2,453
TOTAL	40,017	26,808	35,528	27,721	130,074

Source: Sragen District in Figures 2002 and Karanganyar District in Figures 2004

Mobility of Population

Permanent Migration, from 1993 till 1997 residents of Krikilan Village transmigrated to Sumatra and Kalimantan

Non-Permanent Migration is at a relatively high level of activity. This activity is caused by factors of education and work.



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

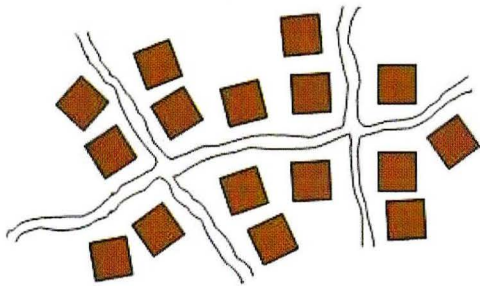
Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



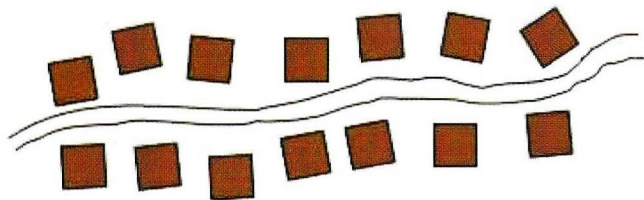
Residential Area Condition

In general, we find two patterns in the residential areas of Sangiran, as follows:

(1) **nucleated agricultural village** (grouped residential pattern) visible in rather remote villages, and



(2) **line village community** (residences lining roads) clearly evident in the middle part of the research village, especially along main roads.



(16a)



(16b)



(16c)



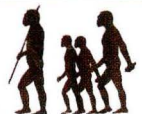
(16d)

Figs. 16a, 16b, 16c, 16d. Population residential patterns



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Community

Bodies of Social Interaction

In managing archaeological resources, the government and the community must go hand in hand in conservation efforts, such as in taking an approach which shows more concern for the aspirations of the local community. This can be done in two ways, namely by a participatory approach involving social bodies and NGOs and by empowering the community (Figs.17,18)



Fig. 17. Socialisation and Community Participation

Community Perception

Before 1930

People referred to fossils as *balung buto* or giant bones, believed to have magical religious powers.

1930 – 1940

People began to understand that these *balung buto* had an incentive or exchange monetary value, which stimulated them to seek fossils on a mass scale .

Present

People have realized that fossils possess quite a high economic value.

Fig. 18. Socialisation and Community Participation

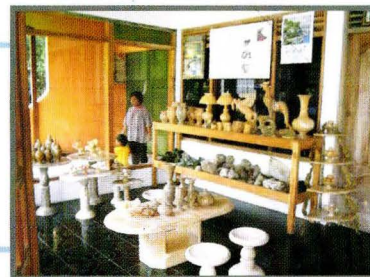


Fig. 19. Handicrafts (Sangiran Museum Photo Collection)

Community Activities Impact

Negative Impact such as the loss of archaeological data having great importance regarding human history in Indonesia, damage to the natural environment and loss of national identity

Positive Impact such as the creation of employment for some of the population who exploit fossils to support their necessities of life, and increase in people's living standard through fossil handicrafts. (Fig. 19)



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



Site Management



Fig. 20. Entrance Portal
(Sragen Dist. Gov. Photo)



Fig. 21. Ticket Booth



Fig. 22. Parking Area



Fig. 23. Signposts

Fig. 24a . Front View
Sangiran Museum in the
future (DED Sangiran
Development)

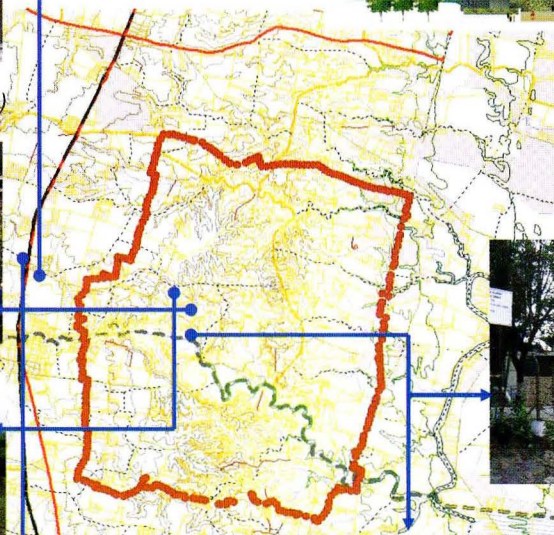
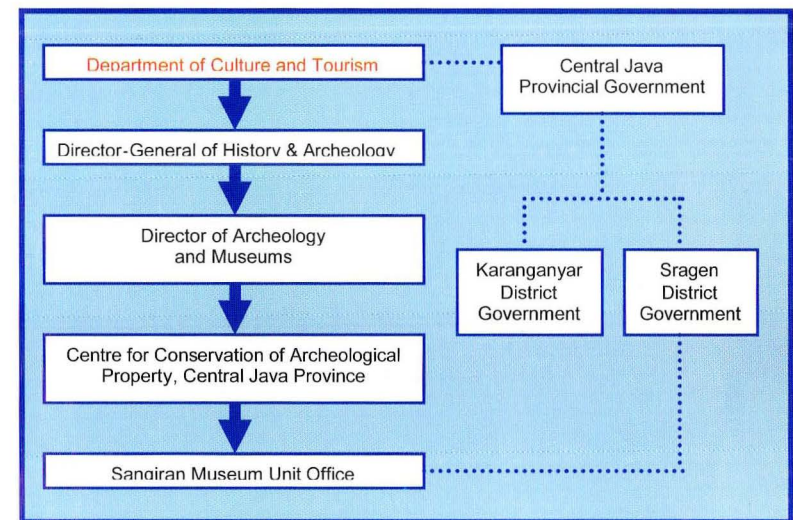
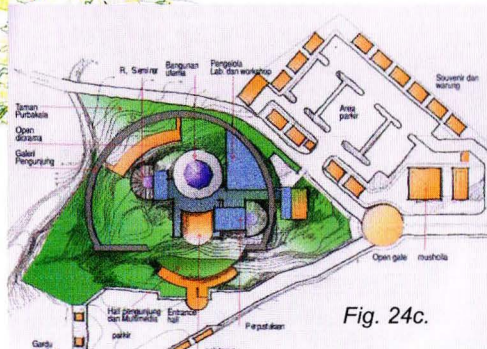


Fig. 24b. On going Construction
of the Museum

Fig. 24c. Sangiran Museum
Future Block Plan (DED
Sangiran Museum
Development)



Management of the Sangiran Site is presently carried out by the Centre for Conservation of Archeological Property of Central Java Province, which is a Technical Executive Unit of the Department of Culture and Tourism, having as its main duty to carry out efforts towards protection and conservation of cultural heritage sites in Central Java Province, including Sangiran.

In carrying out its duties, in coordination with Sragen and Karanganyar District Governments, the Centre's activities are centred in the Sangiran Museum in Krikilan Village, Kalijambe Subdistrict, Sragen.



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Important Value of the Sangiran Site

- Is the most complete and important site of prehistoric man from the Pleistocene Age for Indonesia and for the world.
- Provides a long illustration of human evolution spanning over 1 million years represented by *Homo erectus* evolution.
- *Homo erectus* fossils discovered sporadically and continuously in the site area of 56 Km² from 1936 until the present.
- Provides an illustration not only of physical human evolution, but also of the evolution of culture, fauna and the environment.
- Is a natural and cultural tourist destination visited by tens of thousands of tourists, both domestic and international, each year.



Fig. 25 . Sangiran Museum as a place for education (Sangiran Museum Photo Collection)

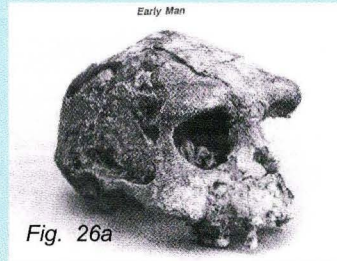


Fig. 26a

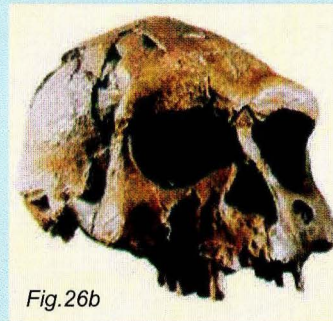


Fig. 26b



Fig. 26c

Fig. 26a,b,c. *Homo erectus*

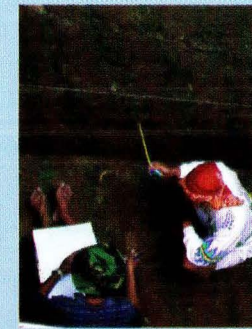
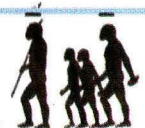


Fig. 27. Cultural and natural resources for the interests of science

- **Important Scientific Value:** Cultural and natural resources at Sangiran have the potential to be further researched in answering the problems of human, cultural and environmental evolution (study of archaeology, anthropology, geology, geography and biology) (Fig. 27)
- **Important Historical Value:** Sangiran Site was once the place of research of the famous paleoanthropologist G.H.R von Koenigswald and is noted as an important site in the history of research on prehistoric man and human evolution (Fig. 26)
- **Important Cultural Value:** Sangiran benefits the world community as a place of education, a place of tourism, and a place with potential for increasing economic ability. (Fig. 25)



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



CHAPTER III- PRINCIPAL PROBLEMS



Fig. 28. Field changes due to natural factors

- Changes in the field due to natural factors; Geological and geomorphological incidents result in erosion and landslides, which have an impact on formation changes and transformation of archeological relics.
- Field changes due to human activities; intensification and extensification of agriculture, sand and diatome excavation which has negative effects on conservation of the field formation (Fig. 28)



Fig. 29. Impact of Development

- Low level of understanding in the community regarding the regulation of laws regarding Items of Cultural Property, and increased land needs (residential, roads, bridges, irrigation canals, etc.), resulting in infringements in land utilization. (Fig.29)
- Discoveries are easily movable, making efforts at conservation difficult.
- Lack of publication of the results of research conducted by researchers to the community resulting in the community not knowing of the important value of research results.

- The threats of theft, smuggling and trading of fossils by individuals, groups and fossil trading syndicates having a negative impact on conservation of the site. (Fig. 31)
- Consideration of the hereditary ownership status of the land by the residents and the large area of the site (56 Km²), causing difficulties in site conservation.
- Low level of participation of the community in efforts to conserve the Sangiran Site.



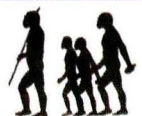
Fig. 31. Fossils are very susceptible to theft and trading

- Tourism development plans are not yet coordinated between the Provincial Government of Central Java, and the District Governments of Sragen and Karanganyar.(Fig. 30)
- A guide to monitoring and evaluation of natural factors and human activities which can result in damage to the site has not yet been made.

Fig. 30. Uncoordinated Tourism Development Plans



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



CHAPTER IV – VISION AND MISSION



Fig. 32. Landscape, source: Semah, et al.



Fig. 33. Tourist Forest Plan

Vision

“Conservation of the Sangiran Area as a centre for research on prehistoric man capable of providing the maximum benefit to the community on world, regional, national and local levels.”

Mission

- To conserve the natural landscape, natural and cultural heritage in the Sangiran Area which are unique and very important to the interests of science, history and culture.
- To create a collaborative network among the stakeholders from government elements, the private sector, academics and the community in the matter of conservation and development of the Sangiran Area.
- To create efforts for economic development to increase the prosperity of the community.
- To conduct ongoing research to interpret important values of the Sangiran Area in order to develop history, science and culture.
- To present the results of research in the Sangiran Area to the community, both in whole and in part.
- To make the Sangiran Area a centre for information and study of data on prehistoric man in Asia.
- To present important values and knowledge regarding the Sangiran Site to the public, both in whole and in part.
- To develop educational and special interest tourism that is especially environment friendly, and which can thus increase the prosperity of the community.



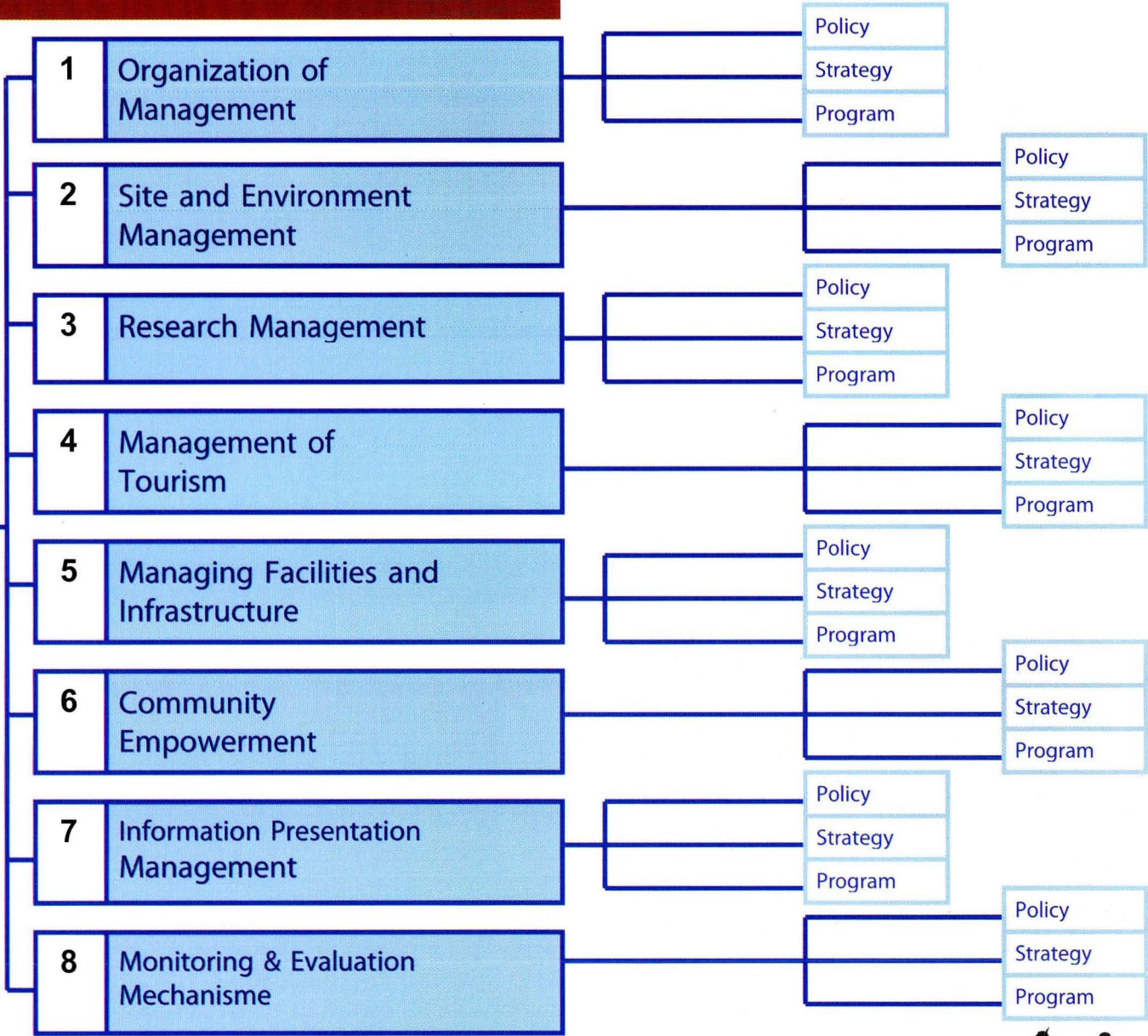
MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



CH. V – POLICY, STRATEGY AND PROGRAM

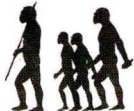
Eight Basic Elements of the Master Plan in the Process of Conservation & Development



Gbr 34. Scheme of Eight Basic Elements of Master Plan



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



1. Organization of Management

Important values of Sangiran Early Man Site can form character building of the nation, based on evidence that at Sangiran have been discovered artefacts from 1.2 million to 100,000 years old, which bear resemblance to artefacts all over Nusantara and the world. Sangiran's important values consist of science, history and culture, and thus Sangiran has been declared as a *World Cultural Heritage Site*.

Policy

The need for special management in dealing with Sangiran, both from the aspect of conservation (protection, development and utilization) as well as the aspect of research

Strategy

To establish a management body and draw up an organizational structure for management of the Sangiran site and fix the location of the office of this body in Sangiran with direct responsibility to the Directorate General of History and Archaeology as is the case with the National Museum

Program

Short Term

- identification of authority
- study the extent of duties and function
- study the institutional work load to be borne
- study the present institution as a comparison (Fig. 35a and 36).

Mid Term

- recruitment of human resources as needed
- preparing facilities and institutional infrastructure
- preparing a work plan

Long Term

Solidifying the position, duty and function of the Sangiran Study and Conservation Centre as a centre for information and study of prehistoric man, his culture and environment.



Fig. 35. Institutional study and work plan



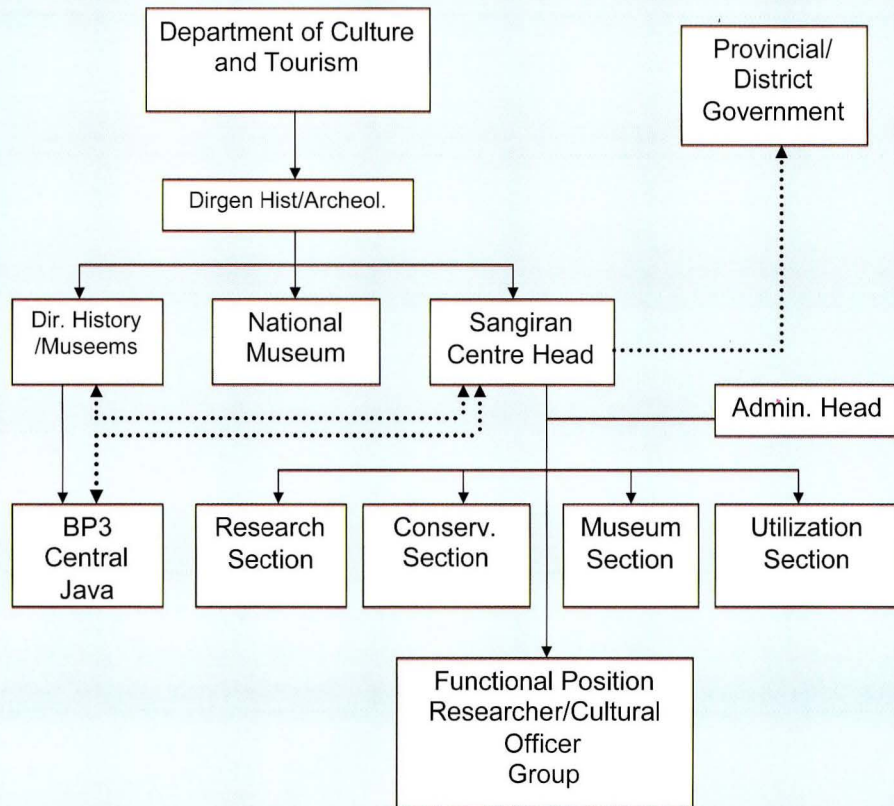
Fig. 36. Institutional study and work plan



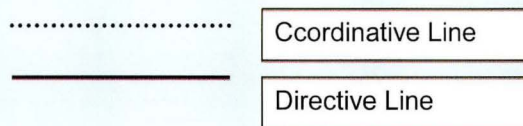
MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



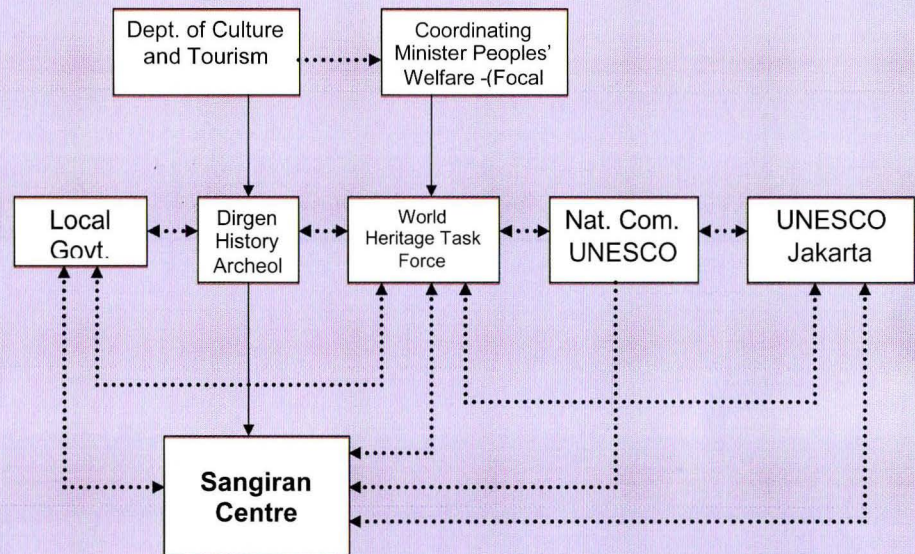
Institutional Structure



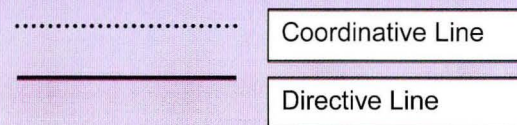
Explanation



Working Network for Sangiran Site Management



Explanation



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
 DEPARTMENT OF CULTURE AND TOURISM



2. Site and Environment Management



Fig. 37. Dayu Site

Policy

Management Principles:

- To avoid or reduce to a minimum impacts which do not benefit the local population
- Minimise changes to site natural and cultural landscape
- To acquire land in locations considered to have potential but susceptible to damage, to guarantee presentation of information for the general public.
- Make jointly agreed upon rules to regulate activities of the population in land utilization which may have a negative impact on conservation of the site and what it contains. (Fig. 37)

Strategy

Dividing Sangiran Area into zones

Carrying out zoning of the site area based upon geological, stratigraphic, paleoanthropological and archaeological potential.

(a) Core Zone (Zone I)

The function of this zone is to control the site area and the discoveries it contains which have the highest potential and thus require absolute protection.

Zone I area includes the entire exposed stratigraphy of the **Sangiran Dome**, comprising the Kalibeng formation, part of the Pucangan Formation, and part of the Notopuro. In accord with the 1996 zoning study, the exposure of the Kabuh and Notopuro Formations in the valleys of the Padas and Kedungdowo Rivers is added to the nucleus zone in the north, and the exposure of the Kabuh and Notopuro foundations in the valley of the Pohhajar River as far as the Apit River is added to southern side of the nucleus zone.

The limit of zone 1 is fixed based on an arbitrary closest limit line from the outer edge of the stratigraphic exposure which is visible. (Fig. 40).

The area of the Core zone, 57,4032 km² (Fig. 38 and Fig. 41)

(b) Buffer Zone (Zone II)

This zone is a buffer zone for the nucleus zone with a lower level of protection than the nucleus zone, which can thus have the function of a green belt. Use and utilization of Zone II is controlled by regulations appropriate to the character of the site. This zone may be changed to become part of the nucleus zone if proven to contain archeological remains of a high value.

The Zone II A area includes the entire Notopuro Formation outside Zone I up to the outer boundary of Sangiran Protected Cultural Area. (100 meter from the outer line of core zone)



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



Strategy

(c) Limited Development Zone (Zone III)

This zone is an area estimated to not contain many archaeological remain, which thus may be used as a location for establishing public facilities and facilities supporting the activities of conservation, research and utilization of the site.

The area includes the entire exposure of volcanic breksia in the Lower Pucangan Formation situated in the centre of the Sangiran dome.

The area of Zone III is 1,8064 km² (Fig. 39 and Fig. 42 and 43)

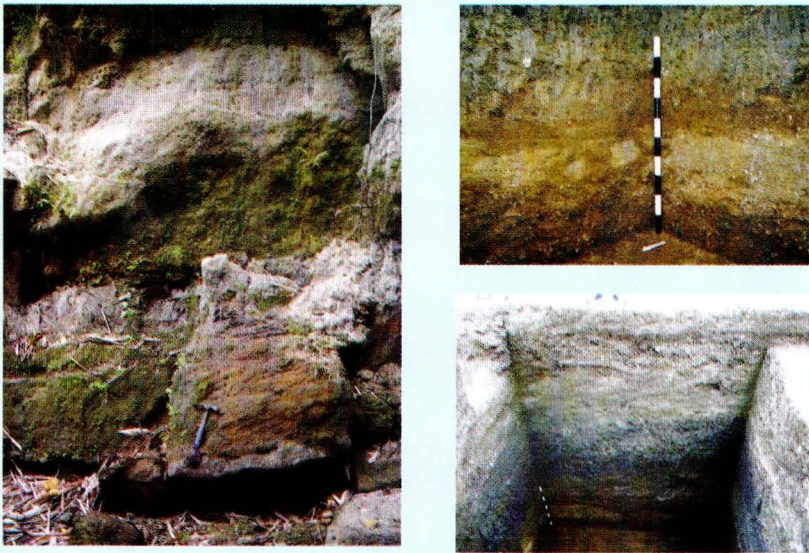


Fig. 38. Site with stratigraphic formation in the Core Zone



Fig. 39. Conservation supporting facilities in the Development Zone



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



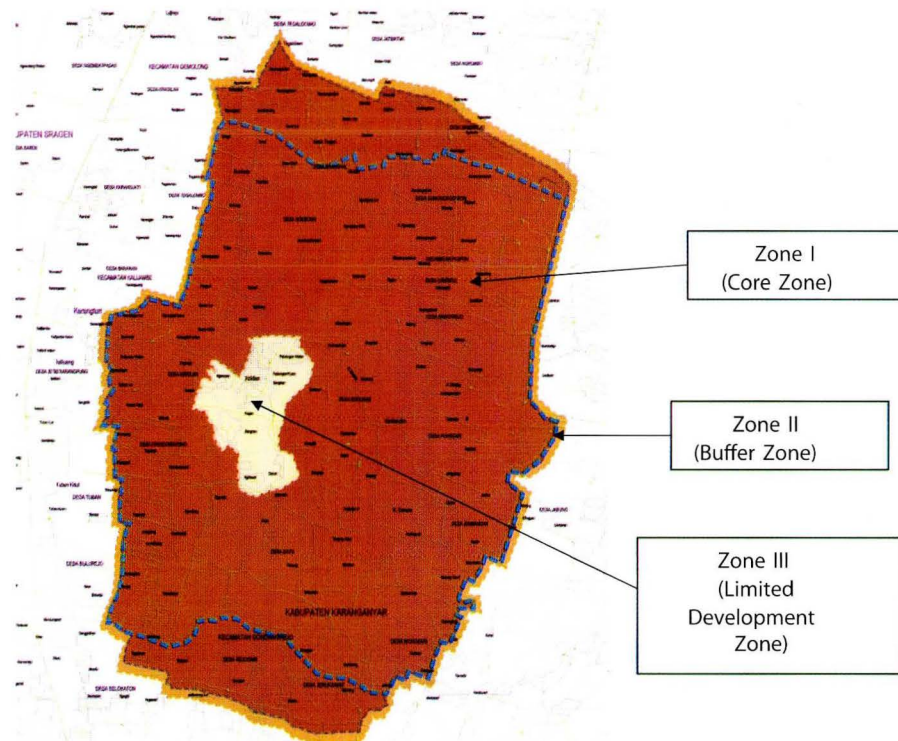


Fig. 40. Zoning Map

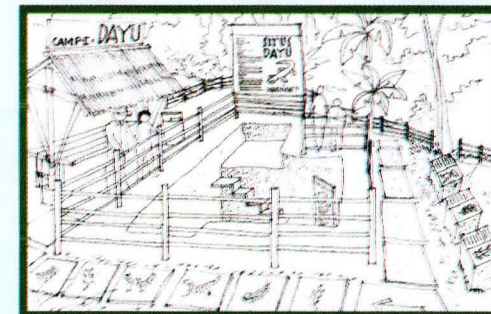


Fig. 41. Zone I



Fig. 42. Zone III



Fig. 43. Zone III

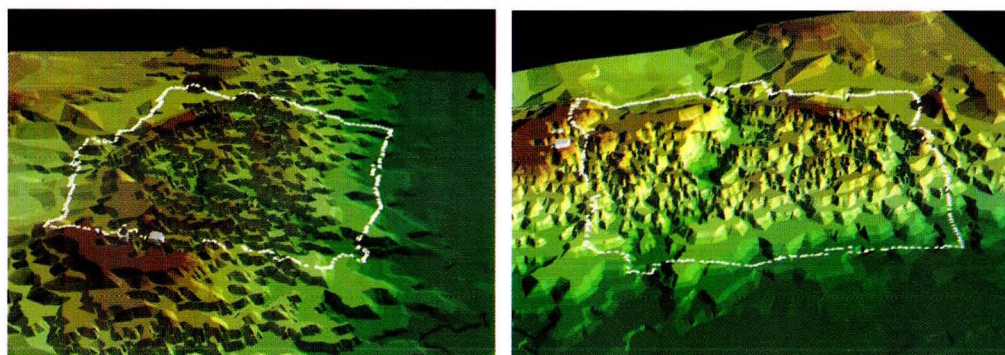


Fig. 40a. Sangiran in 3 Dimensions



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Program

- Making of technical guidelines for carrying out regulation of land-use and utilization in each zone.
- Socialization among the community in Sangiran area and to related institutions and other government agencies. Execution of the socialization program must be a priority before other physical activities are to be carried out in the field.
- Refixing of the established boundary markers fixed by Decree of the Minister of Education and Culture No. 070/O/1997.

For this purpose, the boundaries in accord with 2002 Decree of the Minister of Culture and Tourism must immediately be designated by marker stones.

Futhermore, there must be periodic control of the boundary markers, to ascertain changes which have taken place due to natural or human causes.

- Land protection in important and sensitive locations.

- Important locations and those susceptible to landslide must be acquired in stages.
- Acquired locations must be made into nuclear cells with green belt buffers.
- Residents living around the cell locations should be involved in site conservation efforts.
- Important locations proposed for axquisition are:
Gondangrejo: Dayu, Tanjung Lor, Kayen, Bojong.
Kalijambe : Ngebung, Pagerejo, Ngampon,
Sangiran, Bukuran.
Gemolong : Brangkal
Plupuh : Pungsari.

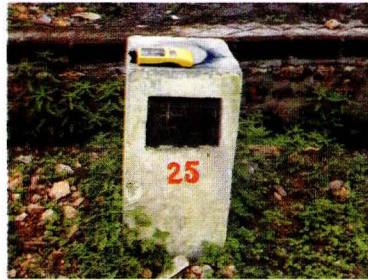


Fig. 44a. Site Boundary Marker



Fig. 44b. Site Boundary Marker



Fig. 44c. Fossil discovery location

LAND CONSERVATION PROGRAM/ EROSION PREVENTION

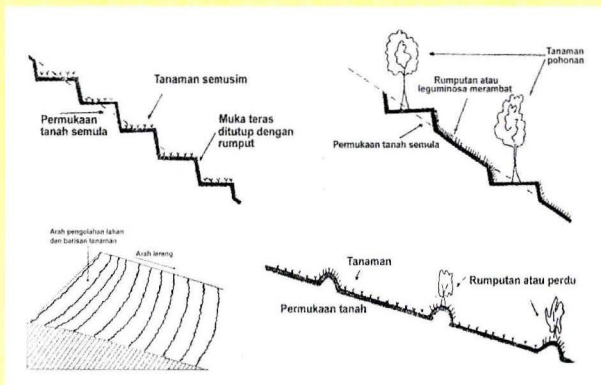


Fig. 45. Land Conservation

- Vegetative Method:** using plants and their residues to protect land and watercourses from landslides.
- Mechanical Method:** physical mechanical treatment given to land, and creating physical infrastructure to reduce surface flow and erosion and increase supporting power of land, including, (a) making water control and flow networks (waterways), (b) making terraces or *sengkedan*



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



3. Management of Research

Policy

- Research at the Sangiran Site is directed towards revealing:
 - (a) Man's past since the formation of the site 2.4 million years ago up till the sedimentation, folding and erosion of the Notopuro strata some 100,000 years ago..
 - (b) Human evolution in Indonesia and in the world related to man's physical, cultural and environmental evolution, at least from the Pleistocene Era.
 - (c) Cultural processes as a consequence of human adaptation to the environment which has motivated innovations towards the creation of their culture in the form of paleolithic having various technology and typology.
- Research is conducted through a multidisciplinary and interdisciplinary approach including conservation and preservation of movable archeological property (Fig. 47 and Fig. 48)
- Research is conducted with a conservation and problem-oriented consciousness.



Fig. 46. Multidisciplinary research



Fig. 47. Multidisciplinary research



Fig. 48. Laboratory Research



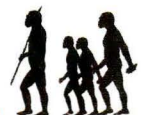
Fig. 49. Storage of Research Discoveries

Strategy

- The theme of research stresses the problems of human evolution and cultural and environmental evolution (nature and fauna). Field research is balanced with laboratory and analytical research.
- Research is conducted selectively by a special commission comprised of experts (Fig. 46).
- Research produces new scientific interpretations, presented to various sectors, so that the community can obtain dynamic and actual information.
- Research results in the form of movable heritage are stored and preserved (conservation) as part of the site museum. (Fig. 49).



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



Research Priorities for 2005

Research Centred on the Following Issues:

1

The Archeological Research Centre and the Yogyakarta Centre for Archeology have conducted research since 1994 revealing new information regarding the life of prehistoric man from:

- Discovery of new human and animal fossils, discovery and improvement of artefact chronology and *Homo erectus*, fossils, reconstruction of paleo-ecology of the beginning period of the Middle Pleistocene around 800.000 – 700.000 years ago, especially in the northern and southern parts of Sangiran Dome.
- Collection of "insitu" artefacts from the lower parts of the Notopuro Formation, the entire Kabuh Formation, in the Grenzbank strata, and finally in the Pucangan Formation in Dayu.

The above artifacts represent the culture of typical and archaic *Homo erectus* with an age of up to 1.2 million years found in Dayu, the only site related to data on archaic *Homo erectus* tools in Sangiran. Similar research is still required in other parts of the Sangiran Site, for archaic *Homo erectus* is found in the northern, southern, eastern and western parts of the Sangiran dome.

2

There are problems regarding the order of lithological strata which do not follow the Law of Superposition. Kabuh formation fluvio-volcanic sandy strata which should be more recent compared to the Pucangan Formation are sometimes found underneath the black Pucangan clay. Research is also needed on the process of environmental evolution (paleoecology) in a more general way regarding the explanation of lithological sedimentation in the southern area of the dome, to interpret the environmental evolution.

3

More than 13.000 fossil animal fossils have been discovered and are collected in the Sangiran Museum

Some Operational Steps in Urgent Need of Formulation:

a.

Cultural Evolution: to carry out excavation in the upper part of the Pucangan clay to obtain artifactual data of archaic Sangiran Homo Erectus, besides the data collected from Dayu. (Fig. 50)

b.

Environmental Evolution: to carry out geological-stratigraphic research on the ancient sediment at the boundary between the Lower Pleistocene and Middle Pleistocene, especially with regard to the Lithological sedimentation system of the Kabuh Sand, Grenzbank Conglomerate Gravel and Pucangan Clay.

c.

Fauna Evolution: to carry out identification of the collection of animal fossils discovered.



Fig. 50. Research and Excavation



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



Short Term 5 years

1. Identification of surface data processed in the form of maps of surface discoveries and their relation to both lateral and vertical lithological distribution,
2. To collect data and research results regarding the life of prehistoric man in Sangiran and hominid sites in Indonesia,
3. To produce theoretical conclusions regarding the life of man and his culture.

Work Plan

1. To make a stratigraphic section regarding the process of sedimentation and formation of the Sangiran Site from the Notopuro, Kabuh, Grenzbank, Pucangan clay up to fluvio volcanic sand which is the oldest culture in Sangiran.
2. Conduct a surface survey of similar sites around Sangiran, to learn their stratigraphic relations, and to map discoveries.
3. Identify terrace sediments containing discoveries in the Brankal, Cemoro and Pohjar River and their tributaries.
4. Excavate terrace sediments having findings concentrations.
5. Determine the relative age of findings concentrations (in terrace/non-terrace sediments) through sedimentation and stratigraphic analysis.
6. Do analysis of sedimentation and petrology on Grenzbank and caliche/calcrete in the Notopuro series to learn of the paleoecological condition at the beginning and end of the Middle Pleistocene.
7. Determine the stratigraphic/chronostratigraphic position of hominid fossils through stratigraphic sequence & correlation..
8. Identification of all findings in Sangiran Museum.
9. Technological, typological and chronostratigraphic study of artefact findings to learn the process of cultural evolution..
10. Integrate data and research results regarding the life of prehistoric man.
11. To Increase researcher human resources

Intermediate Term 10 years

1. Compile a comprehensive database for long term research.
2. Reconstruct the life of Pleistocene Age man in Indonesia according to hominid fossil study results and their relation to chronostratigraphy involving phases of evolution (Kekar group = **archaic**, Trinil/Sangiran group = **typical**, and Ngandong group = **progressive**).
3. Explanatory research on the process of Pleistocene Age physical and cultural human evolution from the most archaic Homo erectus down to Homo sapiens and their distribution down to the present.

Work Plan

1. Conduct research orientation based on recommendations of the results short term research.
2. To record data on computer as a database of the life prehistoric man in Indonesia.
3. Determine chronostratigraphy by stratigraphic sequence study and correlation for non-Sangiran hominid fossils.
4. Morphological and biometric study of hominid fossils discovered in Indonesia based on their stratigraphic series (Pucangan, Grenzbank, and Kabuh for Sangiran fossils) or their relative chronology (Lower and Middle Pleistocene for fossils from outside Sangiran).
5. Paleoecological study on all hominid sites in Indonesia during the Pleistocene Age, including flora and fauna evolution.
6. Study of Pleistocene Age cultural evolution in Indonesia.
7. Morphological and biometric study of archaic Homo sapiens fossils in Indonesia and the surrounding area.
8. To recommend long term research.
9. To increase researcher human resources.

Long Term 15 Years

1. Complete reconstruction of the life of Pleistocene Age prehistoric man at the Sangiran Site and hominid sites in Indonesia.
2. Explanation of physical and cultural evolutionary processes which took place during the Pleistocene and early Holocene Ages in Indonesia.

Work Plan

1. Field research in accord with the recommendations of intermediate term research results.
2. Synthesis of physical, cultural and environmental human evolutionary processes during Pleistocene to Early Holocene Ages in Indonesia.
3. Reconstruction of the life of Pleistocene Age prehistoric man at Sangiran & hominid sites in Indonesia
4. Increase researcher human resources.



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



4. Management of Tourism

Sangiran Site has a great potential to become a tourist object and attraction which could bring a multiplier effect for the community. It is feared, however, that this may result in an unbeneficial impact upon conservation of the site.

Policy

- Based upon a concept of conservation
- Cultivating community appreciation of the important value of Sangiran Site and love of one's country from an early age.
- Organized with respect for cultural values and communal rights of the people.
- Enjoyable for visitors by enrichment with cultural attractions, in order that they may feel the important value of the site and what it holds (Fig. 51)
- Targetted towards special interest tourism which is environment friendly. (Fig. 52 and Fig. 53)



Gbr.51. Cultural attractions as media for information



Gbr.52. Special interest tourists



Fig. 53. Environment-friendly tourism



Fig. 54. Information tools and supporting facilities for visitors



Fig. 55. Prevention of theft and ongoing monitoring



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Strategy

- To avoid the appearance of negative impacts as a result of activities or excessive numbers of visitors, and avoiding the providing of facilities or programmes which are not environment-friendly.
- To prevent theft and trade in fossils and artifacts (Fig. 55)
- Part of income to be allocated for conservation efforts at the site.
- Regulation of visitors to avoid negative impact on the conservation of the site.
- Establishing regulations and socializing execution of tourism.
- To build collaboration between agencies and all stakeholders, to guarantee conservation and development of sustainable tourism.
- To provide tools and facilities to convey information for visitors, in the interests of quality of experience and knowledge.
- To use local materials. local architectural style and elements of local traditions. (Fig. 56)
- To develop methods of ongoing periodic monitoring and evaluation of the value of organizing tourism at the site and its environment.



Fig. 56. Buildings in local architectural stylet

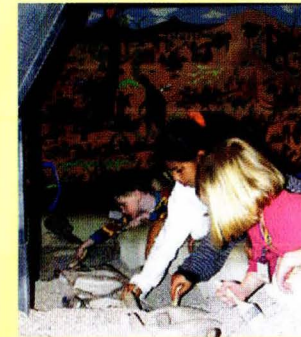


Fig. 57. Programs of edu-tainment and early age appreciationi

Program

- Planning of long term (15 years), intermediate term (10 years) and short term (5 years) site management as implementation of the Master Plan for Sangiran Heritage Site Conservation and Development.
- The establishment of a Consultative Board, comprising representatives of community, government and academic elements, to control the development of tourism..
- Drafting of a tourism programme and distribution of tourism information (Fig. 54).
- Survey identification of potential for establishing standing points of the site for organizing *edu-tainment* which enable visitors to join in research. (Fig. 57)



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Program

- Planning and execution of a community empowerment program involving training, education and focus group discussion (Fig. 58 and 60)
- Making signposts for tourist tracks and information boards (Fig. 54)
- Development of the museum to be more informative, interactive and representative (Fig. 59).
- Organizing periodic cross-sectoral meetings.

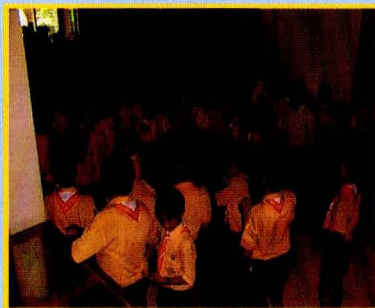


Fig. 58. Edu-tainment for school students

Fig. 59. The Museum as a facility for education



Fig. 60. Community empowerment program among students



Fig. 61. Information distribution



Fig. 62. Tourist attraction development based on community traditions



- Tourist attraction development based upon community traditions, architectural values, customs and local culture. (Fig. 62).
- Increasing the quality of human resources by increased training and giving of awards.
- Dissemination of information and promotion through printed and electronic media. (Fig. 61).



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



5. Management of Facilities and Infrastructure

Policy

- Building of facilities and infrastructure should avoid or minimize as far as possible the impact of land use change which does not benefit conservation of the site.
- To compile a Detailed Area Scheme Plan (1:10.000 scale) and a Scheme Plan for Buildings and Environment (1:1000 scale).
- To stress enhancement of the quality and efficiency of existing facilities.
- Development of facilities and infrastructure in the site area to be carried out in an integrated and systematic manner centred in the development zone. (Fig. 64,65,66,67)
- Development of accessibility infrastructure in the site area must be capable of increasing appreciation and visualization of the natural landscape and cultural heritage of Sangiran. (Fig. 63 and 72)
- Each facilities and infrastructure development must be accompanied by analysis of impact on the environment and archeological research.



Fig. .64. Facility construction



Gbr. 66. Parking Facilitiesr



Gbr.65. Roads as transportation facilities



Fig.. 67. Guard Post Facilities



Fig.63. Facility of a field museum for education and research must be capable of increasing appreciation of the natural landscape

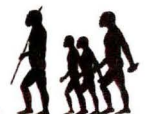


Fig. .68. Development must be accompanied by Environment Impact Analysis and archeological research



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Strategy

- To build facilities in accord with the results of most recent archeological research.
- Development with a potential to change the land should be done in the development zone (zone III)
- Development of facilities and utilities for tourism (special interest) as a form of service to the public and to visitors and at the same time as a control of changes in the land and landscape of the site. (Fig. 69)
- Drawing up detailed regulations and guidelines for physical development and socializing the same.

Program

- To compile regulations and guidelines for general construction both public and private, in collaboration with stakeholders, in order to control physical development. (Fig. 71)
- To reconsider programs of physical construction so that their execution does not clash with the established regulations.
- To make an Area Scheme Plan and an Area Building and Environment Plan, and accessibility between the two administrative areas (Sragen and Karanganyar) and places which are important for visitors. (Fig. 70)
- To plan the development of utility networks including networks of clean water, sewerage, lighting and telecommunication. (Fig. 73)
- To socialize regulations and guidelines regarding physical construction.
- To increase the quality and quantity of facilities for conservation and development of the site.



Fig. .69. Parks as a facility for public service

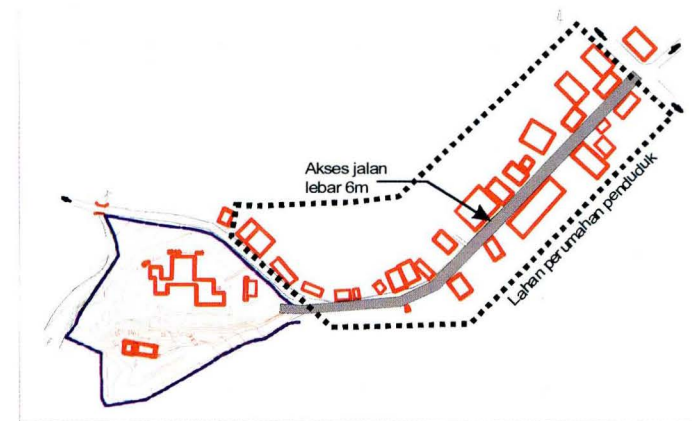


Fig. 70. Circulation and accessibility facilities between places in the area.

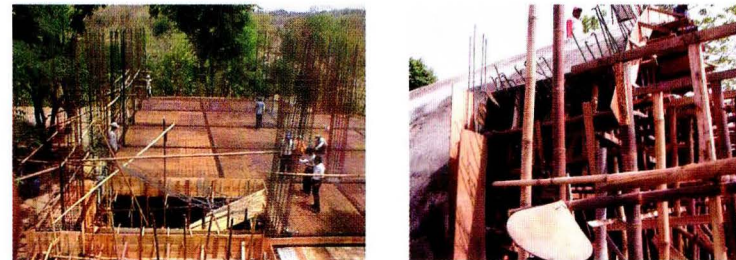


Fig. .71. Physical development must be controlled



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



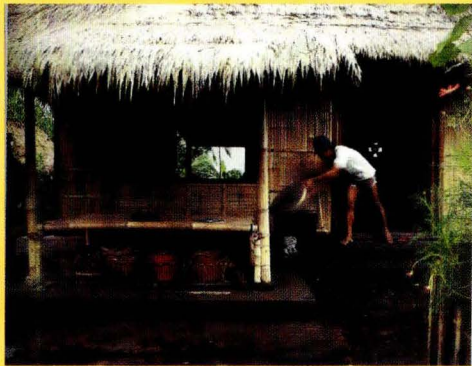
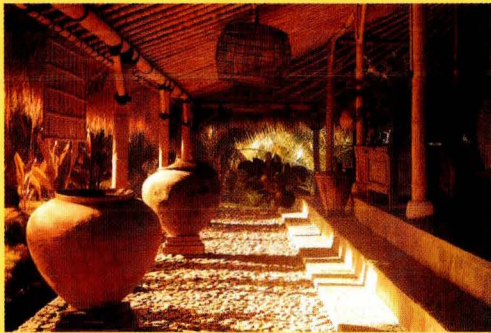


Fig. 72. Development of facilities must be capable of appreciating the natural landscape and special characteristics of local traditions.

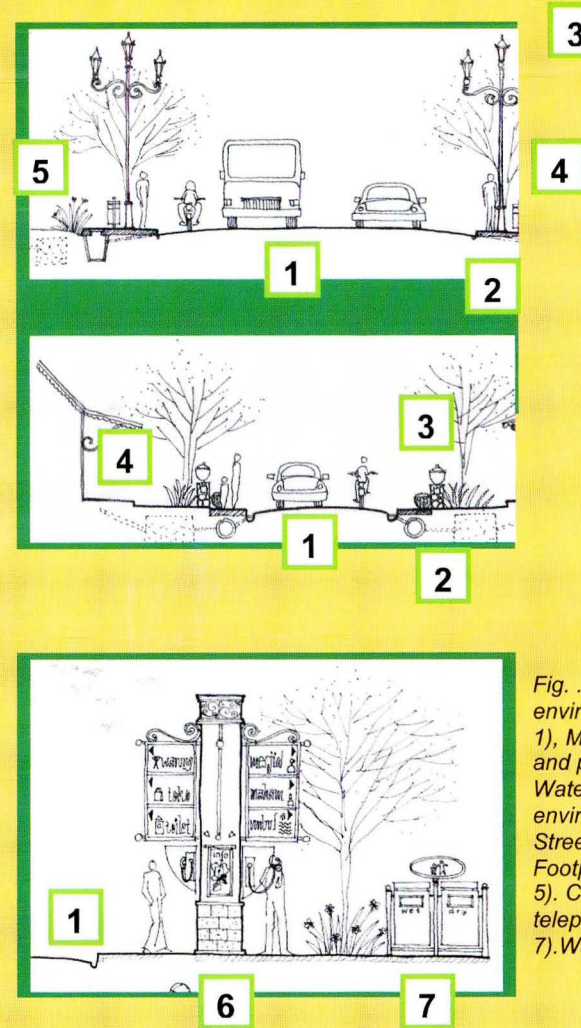
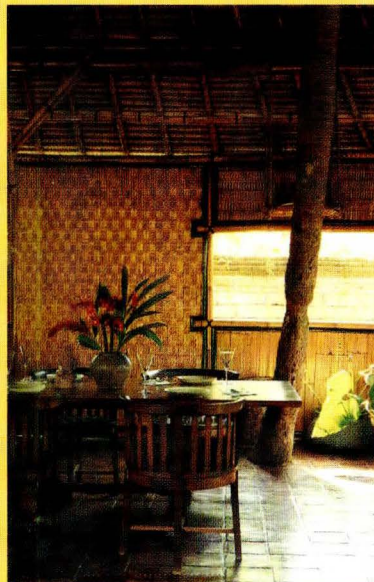


Fig. 73. Development of environment utility facilities. 1). Main roads for public and private transport, 2). Water supply and environment drainage, 3). Street lighting, 4). Footpaths for pedestrians, 5). City parks, 6). Public telephones and signposts, 7). Waste bins



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Policy

- To increase community knowledge and ability to participate in efforts of conservation, research and development of the Site, including willingness to be involved in tourism. (Fig. 75)
- Guidance towards cultivation of interdependence between the community and the site in a positive meaning.
- Direction towards increasing community income through development of a spirit of enterprise and skill or change of professions, especially change from fossil seeker and fossil craftsman to other sectors which do not damage protected cultural objects. (Fig. 76)

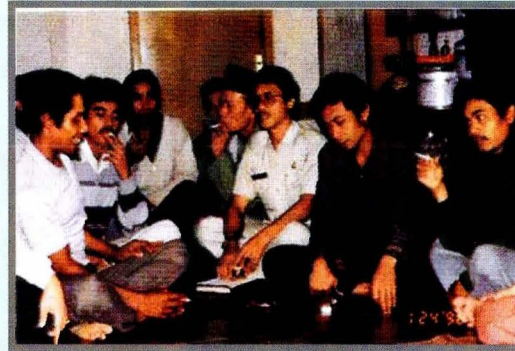


Fig. 75. Empowerment on a micro level

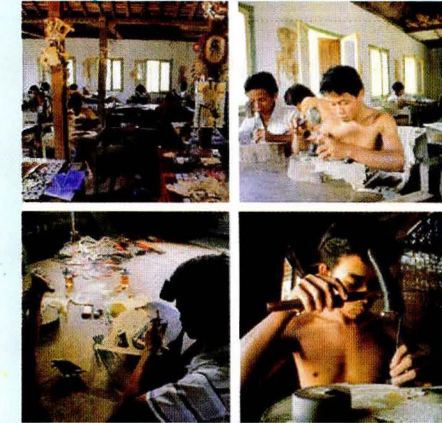


Fig. 76. Social or group guidance to increase enterprising spirit.

Strategy

- Carried out on a micro level—personal, family, or community group, and on a macro level—community members or organizations. On the micro level, intervention is carried out through the method of social guidance for persons and groups, by presenting “opportunities which can be won by participating in the process of conservation, research and development of the Sangiran Site”, without having to damage the Site. (Fig. gbr.75)
- The process of community empowerment must be based upon the results of research into the needs of the local community.
- Appreciating customs of the local community and prevailing social values, in order to avoid causing social wounds.

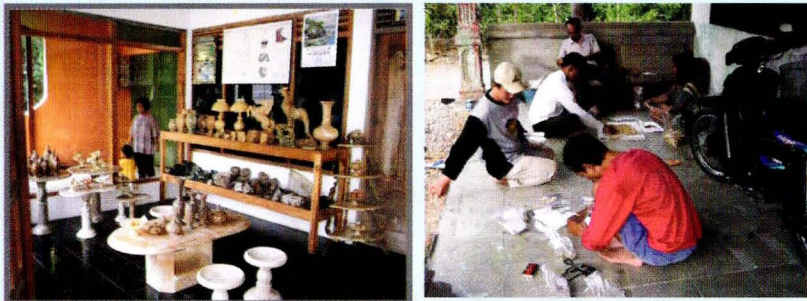


Fig. 74. Increase in skill to increase prosperity



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



- To conduct participatory research involving the community and social workers, or other concerned parties.
- Empowerment programme through social guidance on a personal and group level (micro) as well as a community and organization level (macro) (Fig. 79)
- Collaboration with selfmotivated social organizations, universities, the private sector and the government to formulate and carry out social activities, arts and culture carrying messages regarding Sangiran site conservation, including the possibility of including study materials about the Sangiran site as local content in school curricula. (Fig. 78 and 81).
- Coordinative meetings to establish social policies in the form of legal rules and regulations regarding the form of service rewards for finders of fossils, compensation for land aquirement and tax relief. (Fig. 82)
- Integration and capacity building through skills training in accord with local resources. (Fig. 77)
- Increasing community appreciation through educationalists (teachers), public figures and religious figures.

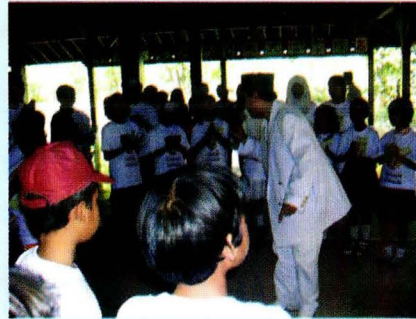


Fig. 77. Capacity Building



Fig. 78. Collaboration with various parties



Fig. 79. Empowerment



Fig. 80. Local content materials



Fig. 81. On a macro level



Fig. 82. Coordinative meeting



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT



7. Management of Information Presentation

Policy



Fig. 83. Facility Signs

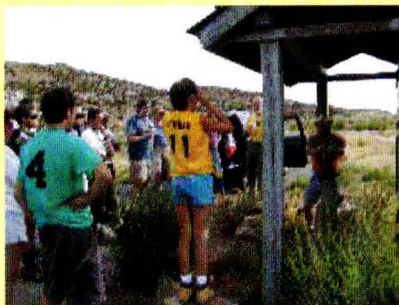


Fig. 84. Presentation of information is open for the community



Fig. 85. Collection Signs

- Collection of data and information at the Sangiran Site as the centre for information regarding prehistoric human, cultural and environmental evolution including all sites of prehistoric man in Indonesia.
- Management and presentation of information is open for the community (Fig. 84)
- Presentation of information at the Sangiran site can be understood by various strata of society and can provide a popular interpretation. Presentation of information is always updated in accordance with research development. (Fig.83, 85, 87)
- Information regarding science is the result of multidisciplinary and interdisciplinary study and includes knowledge of the local community.
- Information also includes legal policy and social aspects of the site, so that the community understands its legal protection and regulation of conservation, utilization and development having social functions.
- Information fulfills the standards of various international conventions.
- Presentation of information is centred in the indoor and outdoor museums. Information is presented in an easily accessible and understandable, accurate, relevant and interactive format. (Fig.91).



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Strategy

- Establishing the Sangiran Early Man Site Museum as the centre for study and information regarding the life of prehistoric man, culture and environment in Indonesia. The system of presentation of information in the museum will be carried out in the following forms. (Fig. 87)
 - inventory data of the collection and catalogues
 - archives of pictures, research photographs, writings and publications.
 - information at the museum and at strategic locations in the site facility zone.
- To collaborate with research institutions and other researchers to obtain information from other sites outside Sangiran.
- To create mechanisms for information management to ensure a flow of information which is always new.
- To establish a Sangiran Museum Curators Board from various disciplines and practices to guarantee expert judgement, national and international networking and continuation of the programme, in every decision taken regarding the activities and movement direction of the collection.
- To develop a systematic, easily accessible database based on information technology regularly updated (Fig.86 and 89)



Fig. .87. Examples of Information Presentation



Fig. 88. Examples of Information Presentation

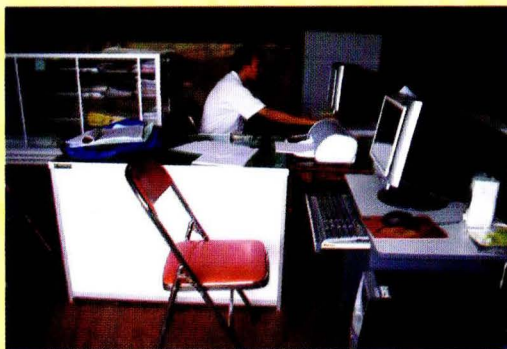


Fig. .86. Developing a systematic and easily accessible database

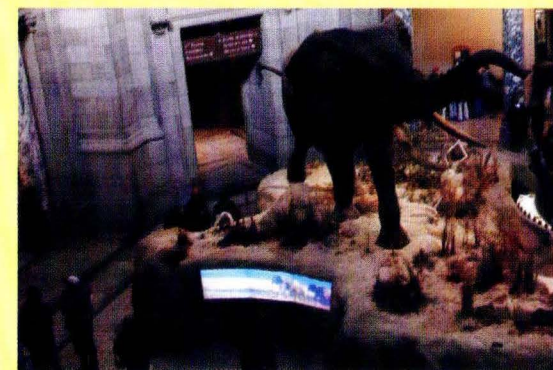


Fig. 89.
Examples of
Information
Presentation
based on
information
technology
complete with
audio visual



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Program

- Compilation of a database of archeological discoveries and information regarding the various sections of the site using Geographic Information System (GIS) which is also used to monitor the conditions of the sections of the site in the future.
- Providing all facilities and infrastructure for both the indoor and outdoor museums.
- Contacting parties keeping information or discoveries from Sangiran site, in order that such information or discoveries may be collected in the Sangiran Museum.
- Creating a website with the latest information.
- Carrying out research on visitors to Sangiran as material for consideration in planning the development of information presentation.
- Compiling study packets in conservation of cultural heritage with a concept and method in accord with the condition of the local community. (Fig. 92)
- Periodically organizing temporary and travelling exhibitions.
- Making landmarks or portals at the entrance gates. (Figs. 90,93 and 94)



Fig. 90. Portals or Landmarks

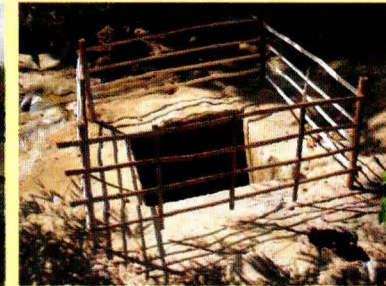
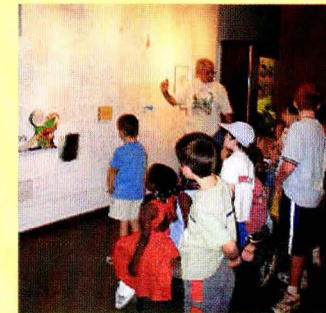
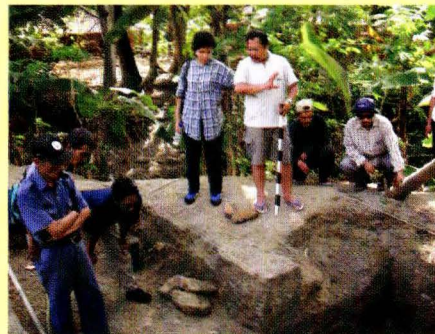


Fig. 91.
Open Site
Museum



Gbr.92. Study
packets in cultural
heritage



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



1. Guide information on tourist locations at the main entrance

2. Name and tourist location information must be clear and informative

4

2

3

4. Facilities for the handicapped

3. Landscaping enhancing the beauty and attractiveness



Fig. 93. The photo on the left shows the present condition with buildings which do not harmonize with the surroundings. The sketch above indicates how the main gate must be free from other unsupporting buildings, with clear tourist guidance, enhanced with landscaping to increase the attractiveness

Fig. 94. The photo on the right shows the present condition of the entrance booth, while the sketch below indicates the proposed future entrance booth with a design contextual with the main entrance portal.



1. Tourist location information at the booth and portal

2. Clear, informative information on name and tourist locations

1

2

3

1

3. Landscaping enhancing the beauty and attractiveness



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Detailed presentation of the program and direction of information presentation and the museum.

- Placing of the Portal, Map and Information Centre at the Entrance Gate (Fig. 96, 93, 94)
- Completing the information at the Observation Point (placing of discovery location points visible from the observation tower and addition of a location map).
- Printing of a leaflet describing existing facilities
- Review Engineering Details of Museum Development for execution the following year (2005 – onwards)
- Preparation of exhibition arrangement according to themes
- Signposts indicating location points to be visited by tourists (Fig. 93).
- Providing of signposts to Public Facilities
- Completing the information at five meeting points (Ngebung, Bukuran I and II, Sendangbusik, and Bubak)

- Construction of Karanganyar and Gemolong Entrance Gates
- Development of Dayu (Karanganyar), Ngebung, and Ngampon (Sragen) Open Site Museums
- Rearrangement of the Permanent Exhibition of Sangiran Site Prehistoric Man Museum
- Compilation educative cultural programme packets (Fig.95).
- Preparation of audio visual presentation appropriate for various levels of education



Fig. 95. Development of sites as open museums with various activities

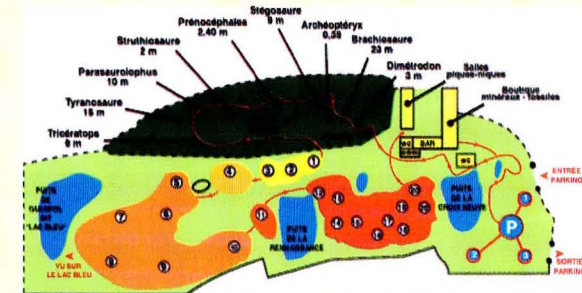


Fig. 96. Easily understandable information map for visitors

- Arrangement and Information Presentation at Mud Volcanoe Nature Tourist locations in four places (Fig. 97)
- Arrangement and Information Presentation at Salty Water Spring Nature Tourist location
- Arrangement and Information Presentation at Tourist Forest as Pleistocene Park Educational Recreation area.
- Arrangement and Information Presentation at Archaeological Excavations in Ngledok, Bukuran, and Brangkal as Open Site Museums
- Making walking tracks connecting the sites and rest shelters (Fig. 97).



Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM

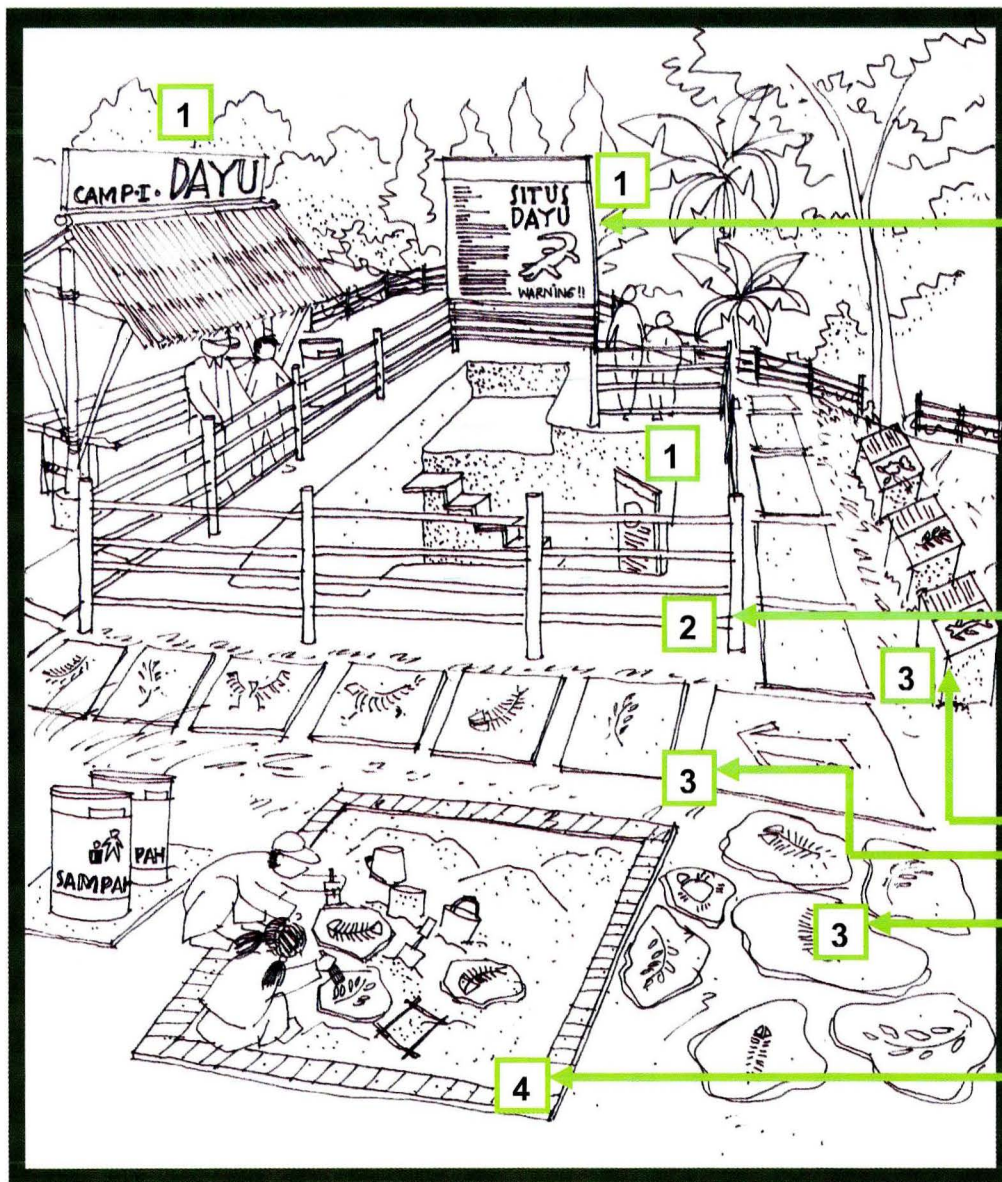


Fig. 97. The photo on the right shows the Dayu site in its present condition, while the sketch on the left shows development of the site as an open museum complete with exhibition presentation facilities as well as supporting facilities for educating children on location



1. Site information must be clear and informative

2. The security fence and security signs must be clear but harmonious with the surrounding natural environment (not more prominent than the site itself).

3. Landscaping supporting the beauty and attractiveness, and also functioning as attractive and educational information for children.

4. Educational supporting facilities for children making the site more attractive and making direct learning possible.



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Detailed Museum Program

a. Establishment of the following areas in the museum:

- **public area**, permanent and temporary exhibition halls, complete with studios for hands on activity and a discovery room for cultural educative activities, open and interactive laboratory, library and study room. (Fig. 100)
- **non-public area**, including offices, collection registration, collection storage warehouse, collection loading bay. The non-public area is only accessible by visitors with special permission. (Fig. 99 and 103)

b. Emergency preparedness of the building in case of natural or manmade disasters. A mitigation study is needed as a preventative step, and an action plan, emergency equipment and Standard Operational Procedures need to be prepared. Especially for the area close to the collection, there must be careful consideration regarding the placement of water pipes, electrical cables and air-conditioning installations which might endanger the collection. Electrical and mechanical installations in the building must fulfill ISO 9000 Standard.

Preparedness is required to save the collection and its documents, including by off-site storage of copies of documents as a precaution in case the museum suffers a disaster, as per Management Guidelines for World Cultural Heritage Sites, ICCROM 1993).



Fig. 98a. Information sign in the Public Area



Fig. 98b. Sign for the disabled

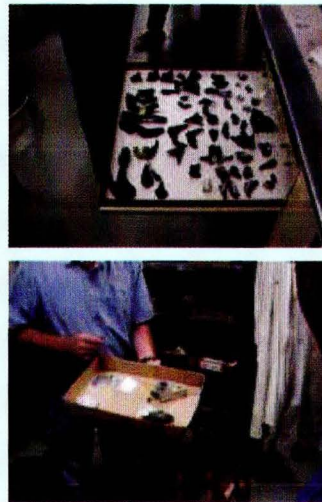


Fig. 99.
Rooms for
storage and
registration of
the collection

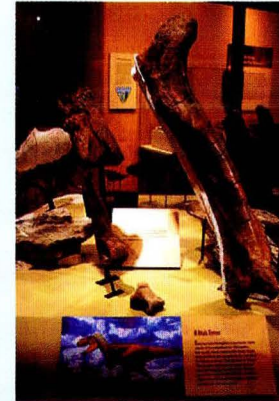


Fig. 100. Permanent and temporary
exhibition halls

- c. Providing of special facilities for the disabled (Fig. 98a and b.)
- d. Providing a room for introducing the vision and mission of the museum as an introduction.
- e. The exhibition is divided into permanent and temporary displays. The presentation of the permanent collection is generally not changed for 5-10 years, but may be developed each year. (Fig. 100).
- f. Presentation of the collection must take into consideration the use of materials which might cause damage to the collection. Acid-free materials must be chosen.

Aspects which require consideration are:

- Minimum size of display cases, bases and panels.
- Light, color and sound arrangement
- Security arrangement
- Labeling
- Supporting photographs, pictures and maps

A workshop is needed for preparation in the exhibition installation section.



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



In presenting the material, efforts should be made so that visitors are not always moving in a linear direction for too long. (Fig. 101 and 102)

The Permanent Exhibition will be arranged following a chronological and thematic flow. The following themes are suggested:

1. Formation of the Universe and the Appearance of Human Beings
2. Theories of Evolution and Human Distribution
3. The Century of Discovery
4. History of the Nusantara Archipelago
5. Natural Environment of Sangiran
6. Prehistoric Man Homo Erectus
7. Life in the Lower Pleistocene Age
8. Life in the Middle Pleistocene Age
9. Life in the Upper Pleistocene Age
10. Life during the Final Pleistocene – Beginning Holocene Period.
11. Who, from Where, and to Where are We?
12. The Process of Research

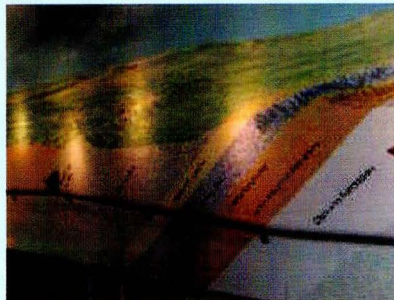


Fig. 101. Chronological and Thematic Presentation Model

Fig. 102. Chronological and Thematic Presentation Model

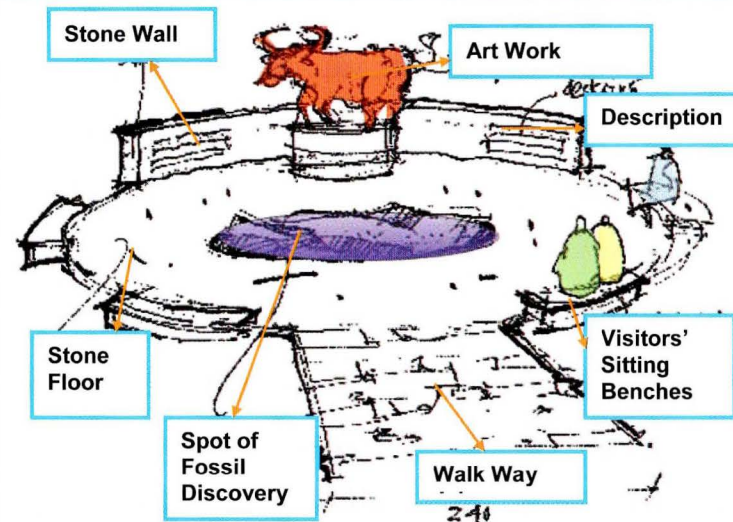
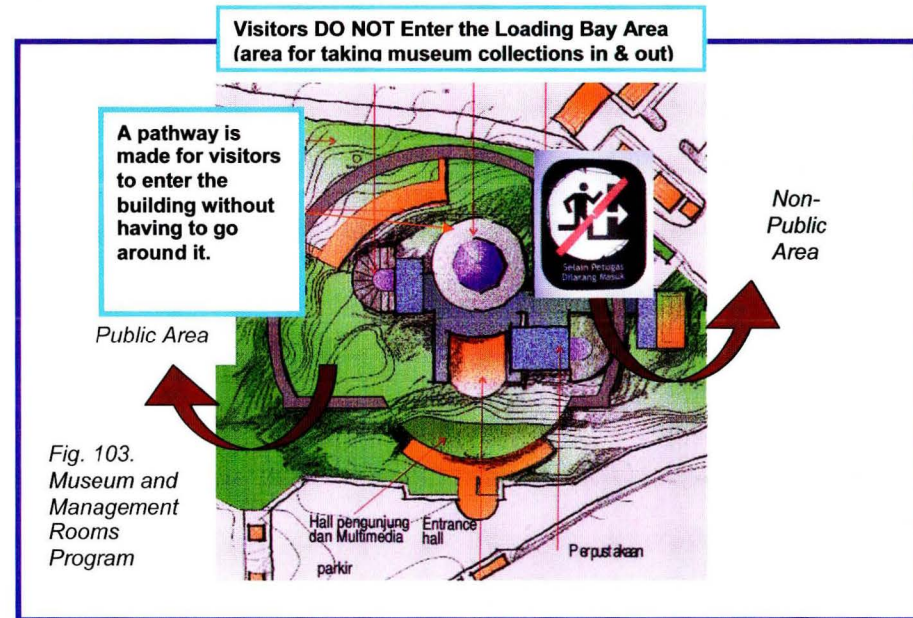


Fig. 104. Placement of Masterpiece Prehistoric Man Statue from Indonesian sculptors'/artists' appreciation



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



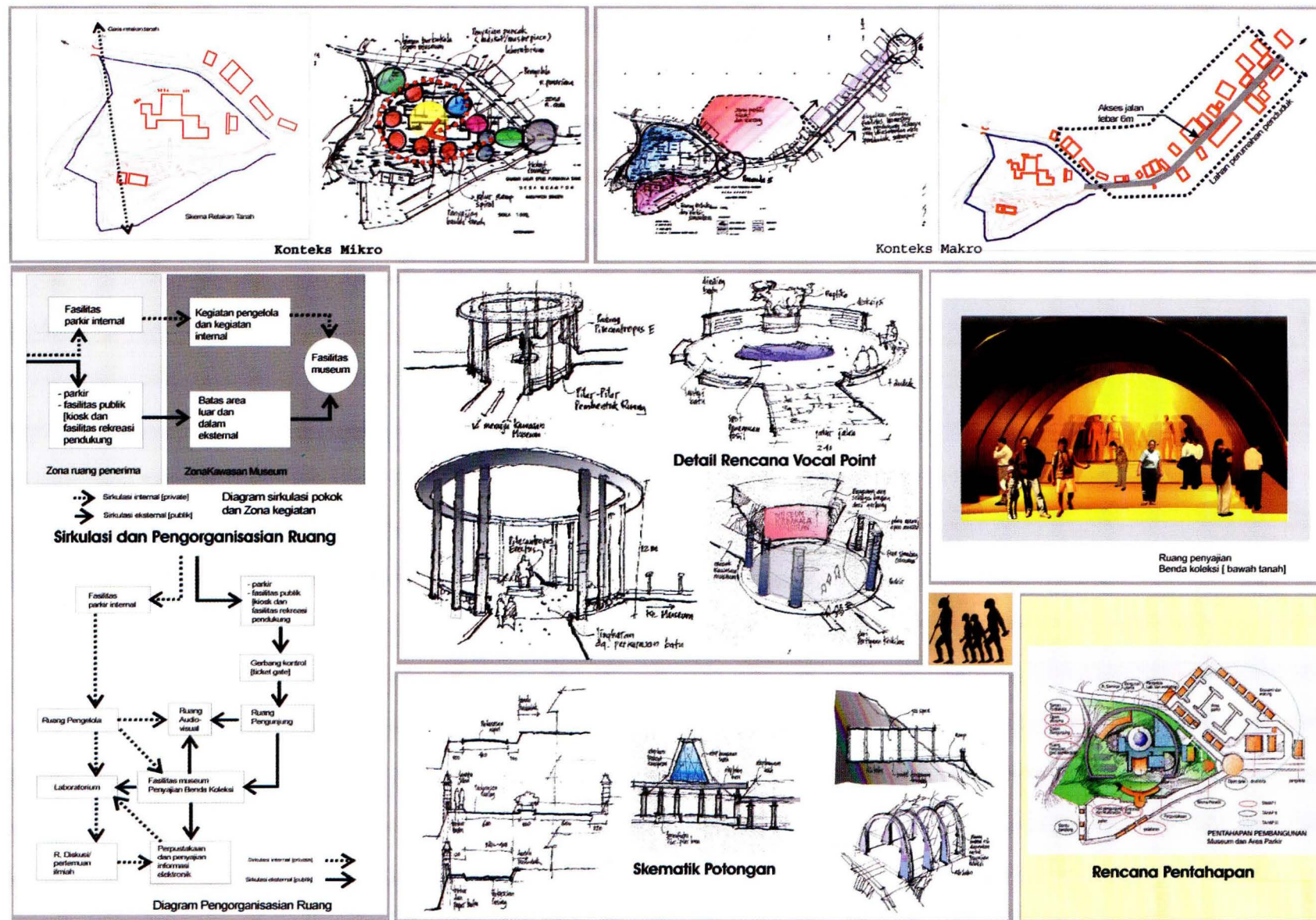


Fig. 105. Development Concepts



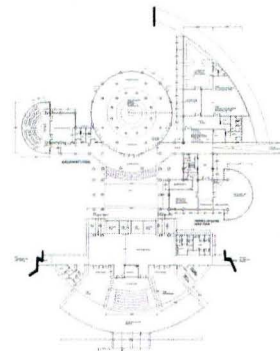
MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM

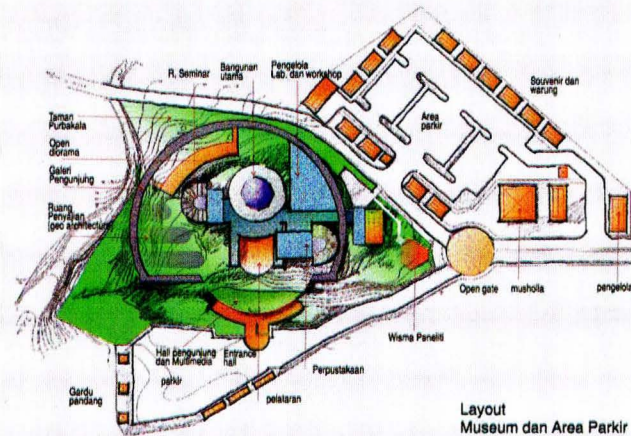




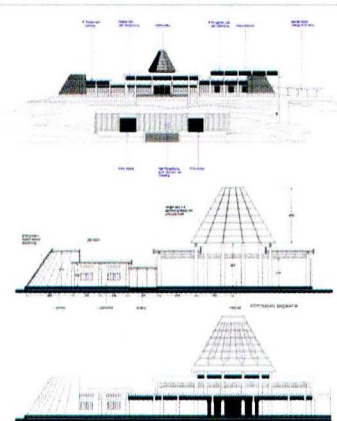
TAMPAK DEPAN



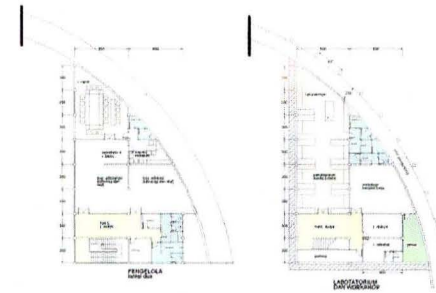
DENAH KESELURUHAN



Layout Museum dan Area Parkir

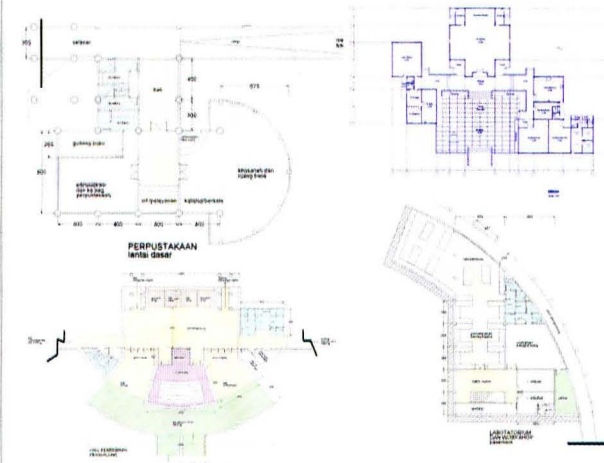


TAMPAK & POTONGAN

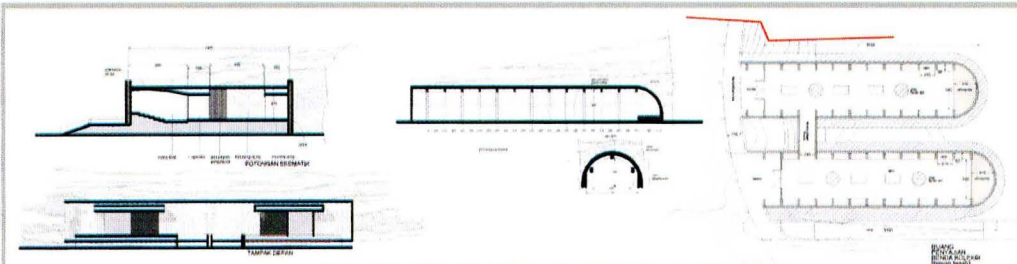


BANGUNAN UTAMA

BANGUNAN UTAMA
SEBAGIAN MENGGUNAKAN ELEMEN
BANGUNAN LAMA



DETAIL DENAH



GEO-ARCHITECTURE PUBLIC GALLERY [R. PENYAJIAN]
DI BAWAH TANAH [GEO-SPACE]

Gbr. 106. Detailed Plan Drawings



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



8. Mechanism of Monitoring and Evaluation

In order to measure the success of policies, strategies and programs for conservation and development of Sangiran in their entirety, monitoring and evaluation are very much required.

Policy

To carry out evaluation and monitoring of planning, execution and work results of all programmes and activities executed (Fig. 107 and 108).

Strategy

Preparation of standards materials for conducting evaluation and monitoring including ratification of the evaluation and monitoring from UNESCO

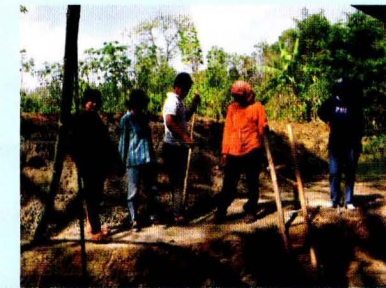


Fig. 108 Creating mechanisms of overall evaluation and monitoring

Program

1. Preparation of an instrument which can be used as a tool for evaluation and monitoring of work loads, duties and functions, authority and ranking
2. Monitoring the progress of institutional formation
3. Conducting evaluation and feasibility study on institutional existence including ranking within 2 years
4. Carrying out monitoring and evaluation of:
 - Management of the administration
 - Impact felt by the community from Sangiran as a World Heritage Site
 - Needed protection and security of the existence of the site against all kinds of threats from human, natural or animal sources
 - Numbers of visitors to the site
 - Forms of landscaping containing archaeological, geological and geomorphological information must be maintained in accordance with the principle of originality.

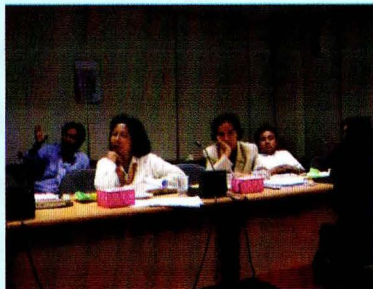


Fig. 107. Creating mechanisms of overall evaluation and monitoring



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM





Fig. 109. Creating mechanisms of overall evaluation and monitoring



Fig. 110. Site Monitoring Commission



Fig. 111. Monitoring and evaluation

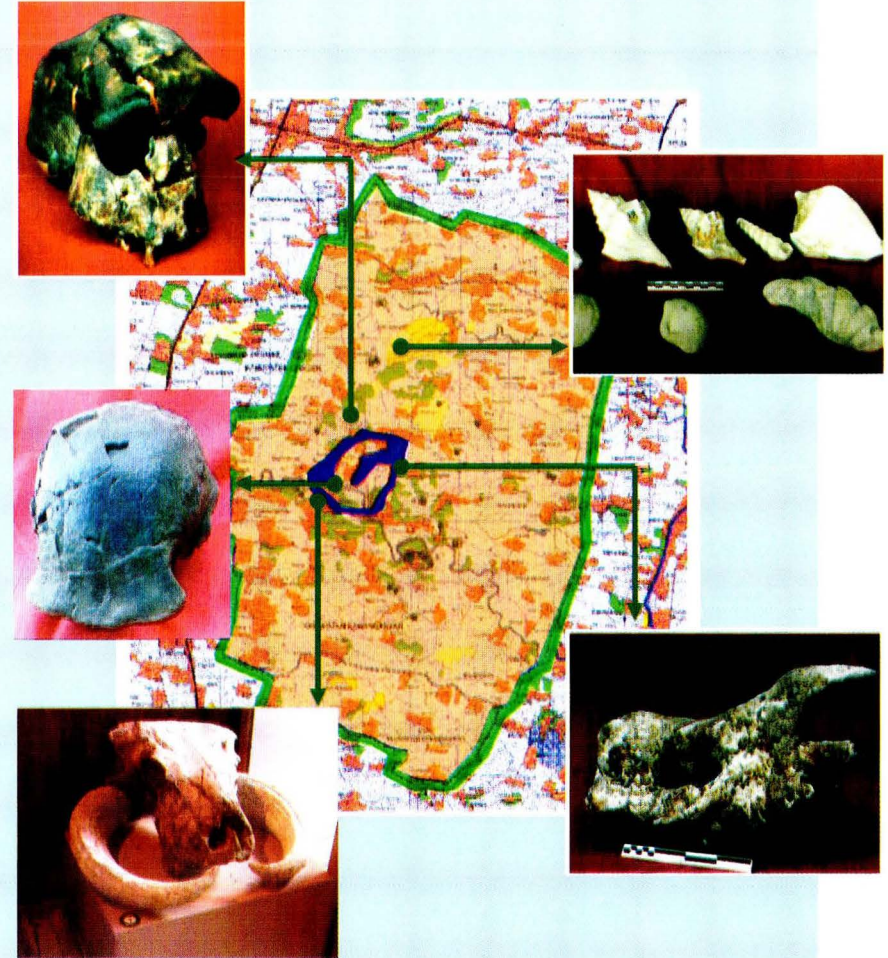


Fig. 112. Mapping as a mechanism for monitoring



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Bibliography

- BADAN PUSAT STATISTIK SRAGEN, *Sragen Dalam Angka Tahun 2003*, Pemda Sragen.
- BADAN PUSAT STATISTIK KARANGANYAR, *Karanganyar Dalam Angka Tahun 2004*, Pemda Karanganyar.
- BAPPEDA KABUPATEN SRAGEN, 2001, *Revisi Rencana Tata Ruang Kabupaten Sragen 2002-2012*, Sragen.
- BARTSTRA, G.J dan BASOEKI, 1989. Recent work on the Pleistocene and the Palaeolithic of Java, *Current Anthropology*, vol. 30, no. 2 : 241 – 244.
- BEMMELEN, R.W van, 1949. *The Geology of Indonesia and Adjacent Archipelagoes*, vol. IA, Martinus Nijhoff, Den Haag.
- DEPDIKNAS, 1992, Undang-undang Nomor 5/1992 tentang Benda Cagar Budaya, Jakarta
- DE TERRA, H., 1943. Pleistocene geology and early man in Java, *Trans. Of the Americ. Phil. Soc.*, vol. XXXII : 437 – 466.
- DE VOS, J. , F. AZIZ, P.Y SONDAAR, 1933. Les faunes quaternaire de Java, *Les Dossier d' Archeologie*, no. 184 : 56 – 61.
- Dinas Pariwisata Tk I Jateng, 2002, Laporan Akhir Penyusunan Detail Engineering Museum Purbakala Sangiran, CV Rekayasa Jati Mandiri, Semarang
- DIRJEN KEBUDAYAAN, 1995/1996, Laporan Hasil Studi Rencana Induk (Masterplan) Pengembangan Situs Sangiran di Solo 11-13 September 1995, Bagian Proyek Pembinaan Peninggalan Sejarah dan Kepurbakalaan Konservasi Candi Borobudur, Depdikbud.
- DUYFJES, J., 1936. Zur geologie und stratigraphie des kendenggebietes zwischen Trinil und Soerabja (Java), *De Ingenieur in Nederlandsch Indie*, 8, pp. 136 - 149
- DUYFJES, J. , 1938. Geologisch Kaart van Java, Blad 115 (Soerabaja), *Dienst Van den Mijnbown in Ned. Indie*, 70 p.
- ITHARA, M. SUDIJONO, D. KADAR, T. SHIBASAKI, H. KUMAI, S. YOSHIYKAWA, F. AZIZ, T. SOERADI, WIKARNO, A.P KADAR F. HASIBUAN, Y. KAGEMORI, 1985. Geology and Stratigraphy of the Sangiran Area, *Quaternary Geology of the Homonid Fossil-bearing Formations in Java*, pp. 11-44.
- KOENIGSWALD, G.H.R von. , 1936. Early Palaeolithic stone implements from Java, *Bull. Raffles Museum-Singapore*, 1 : 52 – 62.
- KOENIGSWALD, G.H.R von. , 1940. Neue Pithecanthropus funde 1936-1938, Ein beitrage zur kenntnis de praehomoniden, *Wetensch. Medel.* , 28 : 1 – 205.
- KOENIGSWALD, G.H.R von. , 1950. Fossil hominids from the pleistocene of Java, *International Geological Congress, Report of the 18th Session*, Part 9 : 59 – 61.



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



Bibliography

- LUMLEY, M.A. de, SEMAH, dan H.T. SIMANJUNTAK, 1993. Les outils du Pithecanthrope , *les Dossiers d'archeologie*, no. 184.
- MARKS, P. , 1953. Eliminary note on the discovery of a new jaw of Meganthropus von Koenigswald in the lower-Middle pleistocene of Sangiran, Central Java, Indon. , *Jour. Natur. Sci.* 109 : 26 – 33.
- PEMERINTAH KABUPATEN SRAGEN, 2004, *Rencana Pengembangan Kawasan Sangiran, Sragen*.
- SEMAH, F., 1984. The Sangiran Dome in the javanese Plio-Pleistocene chronology, . *Cour. Forsch. Inst. Senckenberg*, 69: 242 – 252.
- SEMAH, F. , S. SARTONO, Y. ZAIM, T. DJUBIANTONO, 1980. Premiers resultats concernant 1'etude paleomagnetique de la partie Sci. Paris, 290 ; 477 – 480.
- SEMAH, F. , A.M. SEMAH, T. DJUBIANTONO, dan H.T. SIMANJUTAK, 1992. Did they also make stone tools? *Jurnal of Human Evolotion*, 23 : 439 – 446.
- SEMAH F, dkk, 1990, Mereka Menemukan Pulau Jawa
- WIDIANTO, H. , 1993. Unite et diversite des hominides fossiles de Java : Presentation de restes humains fossiles inedits, Disertasi Pada Museum National d'Histoire Naturelle, Institut de Palaeologie, Humaine, Paris. , 302 pp.
- WIDIANTO, H. dan A.M. SEMAH, 1993. Le puzzle Hanoman 1, *Les Dossiers d'Archeologie*, no. 184.
- WIDIANTO, H. , D. GRIMAUD-HERVE, 1993. Le Crene de Nawi, *Les Dossiers d'Archeologie*, no. 184.
- WIDIANTO, H. A.M. SEMAH, T. DJUBIANTONO, F SEMAH, 1994. A Tentative Rekonstruktion of Humam Cranial Remains of Hanoman 1 from Bukuran, Sangiran, Indonesia, *Cour. Forsch. Inst. Senckenberg*, No. 171, 13 pp.
- WIDIANTO, H., T. SIMANJUNTAK, BUDIANTO TOHA, 1995. Penelitian Tentang Munusia Purba, Budaya, dan Lingkungannya, Laporan Penelitian Sangiran Jilid I, Pusat Penelitian Arkeologi Nasional.
- WIDIANTO, H, dkk, 1996, Berita Penelitian Arkeologi No. 146, Pusat Penelitian Arkeologi Nasional
- WIDIANTO, H., SAMIDI, GATOT GHAUTAMA, GUTOMO, 1996, Laporan Studi Pemintakatan Situs Sangiran, Bagian Proyek Pembinaan Peninggalan Sejarah dan Kepurbakalaan Jawa Tengah.
- WIDIASMORO, 1977. Penyelidikan Pendahuluan Proses Sedimentasi Fossil Pithecanthropus sp. Di Daerah Sangiran, Jawa Tengah. Laporan untuk Proyek Pelestarian dan Pengembangan Peninggalan Purbakala, tidak diterbitkan.



MASTER PLAN FOR SANGIRAN EARLY MAN SITE CONSERVATION AND DEVELOPMENT

Project for Conservation and Development of Archaeological Property and Museums, 2004
DEPARTMENT OF CULTURE AND TOURISM



PERPUSTAKAAN
Perpustakaan
Jenderal K

56
S