

2-2-4 Implementation Plan

2-2-4-1 Implementation policy

(1) Drainage System

The open drain on the mountainside for rainwater coming from outside the site (from the mountain behind Vat Phou) and the culvert for rainwater falling downstream of the open drain will be built according to the following policy.

- There should be no damage to the cultural relics.
- There should be no destruction of the surrounding natural environment.
- The safety of tourists should be ensured.
- The safety of workers should be ensured.
- The cost of temporary works should be low.
- Execution should be completed within the term of work.
- The local climate and culture should be taken into consideration.
- Excavation work during construction should be regarded in the same light as digging for cultural relics, and the presence of an archaeologist should be requested.

(2) Equipment for Restoration

The basic policy of procurement for equipment is as follows:

- A Japanese firm that has experience with the similar projects in Lao PDR or neighboring countries, and can deliver equipment and materials completely within the time schedule should be selected.

(3) Repository for Archaeological Artefacts

The repository building should be constructed according to the following principles:

- No archaeological ruins are to be damaged
- Assurance of the safety of the visitors
- Assurance of the safety of the workers
- Construction shall be completed within the time schedule
- Consideration of the local climate and culture
- An archaeological specialist should be requested to be present to record the situation of the ruins while excavation works are carried out.

2-2-4-2 Implementation Conditions

(1) Drainage System

The method of executing the work based on this policy is described below.

1) Transport of materials and equipment

To avoid damaging the relics and to ensure the safety of tourists, no materials or equipment shall pass through the temple site, but they shall be conveyed along roads built outside the site (outside the existing fence). This road, which is big enough to take vehicular traffic, will be adequate for small dump trucks to pass along, and other access can be done by the monorail system. The road will be made of crushed stone and be about 2.00m wide. To protect the surrounding natural environment, no cutting will be performed.

The monorail system should be built taking care not to have much impact on the surrounding environment. The platform will be built on the top terrace using pipe scaffolding. As well as ensuring safety, the platform of pipe scaffolding will contribute to the preservation of the relics as they will have the effect of preventing the workers from directly touching the relics.

The sheer cliff rises to a height of about 30m behind the temple, making the transportation of materials and equipment extremely difficult. As there is a need to assure the safety of workers, economical efficiency and the appropriateness of the work term, transportation of materials and equipment at the cliff should be by a lift system.



Figure 2-9 Plan of Temporary Transporting Route

2) Construction of the drain on the mountainside

All construction of the open drain on the mountainside is performed by manpower because it is difficult to transport heavy machinery up to the top of the cliff.

On the work site there are many huge rocks (approximately 1-2m diameter) necessary to be crushed for the construction of the drain.

Crushing is carried out using both of chemical method and physical breakers connected by pipe to the compressor installed on the ground. Since the surface of the open drain was designed with concrete and natural stone, some of the huge rocks crushed at the site can be used as lining material of the drain.

Surplus soil from excavation activities should be taken down outside the site by lift, monorail and vehicles.

During construction of the drain, a specialist in archaeology from MIC side should be present at the site, taking notice and recording whether ruins are buried in the ground or not, and necessary measures should be discussed promptly with MIC if ruins or artefacts are discovered.

3) Construction of pipe culvert

As it will be difficult to transport the heavy machinery close to the temple and the work is of small scale, the pipe culvert should be constructed entirely by manpower.

As there are many relics buried in the ground in the area of the site, the presence of an archaeological expert should be sought from MIC and the position of the relics should be carefully checked during the laying of the pipe culvert.

Care should be taken to ensure the necessary gradient when constructing the culvert.

4) Aspects related to the construction period

Work is due to start in July 2002, but as the rainy season lasts from July to October, construction work at the site will be difficult. During the rainy season, therefore, only the erection of temporary structures and the transportation of materials and equipment can be carried out, and the main construction work will start when the dry season comes in November.

(2) Equipment for Restoration

The site for equipment and materials delivery is located in the Champasak District about sixty km south of Pakse at the opposite bank of the Mekong River.

There are two ways to transport equipment and materials to the site:

Thailand national border → national highway No. 4 → fine gravel road → site

Thailand national border → crossing Mekong River (Pakse bridge) → Pakse → to the other side of Champasak → crossing the Mekong River (ferryboat) → Champasak → site

It is difficult for vehicles to pass both routes (1) and (2), especially in the rainy season. Consequently, the local conditions during the rainy and dry seasons should be taken into consideration when planning a route for the transport of equipment and materials.

(3) Repository for Archaeological Artefacts

1) About safety arrangement

The site for the repository will be located at the entrance to Vat Phou Monument site. Therefore, during the construction period, the many tourists who come to see the monument will be near the construction site. To assure the safety of the tourists and workers, the appropriate measures should be adopted, such as ensuring that construction machines and workers do not disturb the tourists. Notice boards and a temporary fence should be installed in order to inform visitors of the construction of the repository.

2) Protection of buried ruins

During the construction period, the presence of a specialist in archaeology from MIC should be requested, taking notice of whether ruins are buried there or not. In the case that ruins or artefacts are discovered, recording, and necessary measures should be taken with MIC immediately.

3) Aspects related to the construction period

Construction will start in July of 2002. However, the rainy season is from July to October so it will be difficult to carry out the construction of the main parts of the repository building. Consequently, during the rainy season only installation of temporary structures and the transportation of machines and materials for construction can be carried out. The main part of the structure will be built from November in the dry season.

2-2-4-3 Consultant Supervision

(1) Drainage System

The main duties of supervision are the followings:

- Inspection and approval of construction drawings and materials
- Confirmation of the undertakings of the Laos side
- Supervision of work progress
- Supervision of the finishing work of all facilities
- Reporting of the work progress to both countries' agencies concerned
- Completion inspection
- Payment approval and other procedures

The construction of the drains will be carried out through all periods in parallel with the

construction of the repository building. During construction, due care of the existence of buried artefacts should be taken, and in the event of discovering archaeological objects, the corresponding consultation should be carried out with MIC. For that reason, a Japanese specialist in engineering and architecture has to be stationed at all times in the site to supervise the construction work. The stationed supervisor needs to be an experienced engineer, well-informed about Japan's grant aid scheme, so that he can execute the tasks smoothly. MIC is requested to dispatch to the site a specialist in archaeology during the period of the construction.

The arrangement and assigned periods of required people, consultant and the contracted firm are as follows:

Table 2-14 Arrangement Plan of Required People for Drainage System Construction

Person in charge	Field of responsibility	Required number	Assigned period
MIC, PDIC, VPMO	Project supervision	1	Full period
	Civil engineering work	1	Full period
	Archaeology specialist	1	5 months
Consultant	Project supervision	1	As the need arises
	Civil engineering work and building work	1	Full period (8.5 months)
Contractor	Construction supervision (civil works)	1	Full period (7.5 months)

(2) Equipment for Restoration

Supervision of equipment procurement should be executed according to the followings:

- Inspection before shipping
- Confirmation of shipping materials
- Confirmation of concerned execution matters to be implemented by the Lao side (tax free measures, B/A, etc.)
- Control of delivery progress
- Reporting of work progress to agencies concerned in both sides
- Inspection before turning over of equipment and materials
- Cooperation concerning procedures for payment approval

(3) Repository for Archaeological Artefacts

The main duties concerning supervision are the followings:

- Inspection and approval of construction drawings and materials
- Confirmation of undertakings of the Lao side
- Supervision of work progress
- Supervision of finishing work of all facilities

- Reporting of the work progress to agencies concerned on both sides
- Completion inspection
- Cooperation for procedures like payment approval and so forth

The construction of the repository building will be carried out through all periods in parallel with the construction of the drains. During the execution, due care should be taken of possibly existing buried artefacts, and in the event of discovering archaeological objects, the corresponding consultation should be carried out with MIC. For that reason, a Japanese specialist in engineering / architecture needs to be stationed at all times on the site to supervise the works. The stationed supervisor needs to be an experienced engineer, well-informed about Japan's grant aid scheme, so that he can execute the tasks smoothly. MIC is requested to dispatch to the site a specialist in archaeology during the period of excavation.

The arrangement and assigned periods of the required people, consultant and the contracted firm are as follows:

Table 2-15 Arrangement Plan of Required People for Repository Construction

Charge	Responsibility field	Required number	Assigned period
MIC, PDIC, UPMO	Project supervision	1	Full period
	Building work, plumbing and mechanical work,	1	Full period
	Archaeology specialist	1	2.0 months
Consultant	Project supervision	1	As the needs arise
	Civil works and building work	1	Full period (8.5 months)
Contractor	Construction supervision (civil works)	1	Full period
	Building work	1	Full period (8.5 months)

2-2-4-4 Quality Control Plan

The complete plan and specifications of the construction should be examined thoroughly before beginning of the construction.

Weigh control of the concrete shall be carried out in particular. The contractor shall supervise daily work and record all data concerning the quality of the concrete. Since it is difficult for the contractor to get ready-mixed concrete around the site, the contractor shall be take care in checking the quality of the concrete produced by them. If the quality of the concrete is poor, the contractor should take proper steps.

During construction, inspections of the quality of the concrete should be carried out at the appropriate times. If some defects are found, they should be repaired according to the construction plan and specifications.

The person in charge of each item of construction and a supervisor should be assigned for quality control. They should keep records of all data concerning quality control of construction.

2-2-4-5 Procurement Plan

(1) Drainage System

In this project, construction materials and equipment should be procured in principle within the country of Lao PDR.

(2) Equipment for Restoration

Comparing prices (including transport expenses), cheaper equipment and materials should be provided in principle. However, the final decision should be made taking into consideration future repairs, spare parts acquisition and burden capability, etc.

1) Equipment for survey

Equipment for survey is to be procured in Japan.

2) Equipment for moving stones

Equipment for moving stones is to be procured in Japan owing to the durability.

3) Equipment for recording and registration

A PC, a printer, a plotter, a digital video camera and a digital camera should be selected in accordance with the compatibility and their range of use.

4) Equipment for educational use

The laptop personal computer and the video projector should be compatible. The video projector and screen for it should be mobile.

5) Vehicles

Most of the pickups and trucks loaded with crane running in Pakse city are manufactured in Japan and there are repair shops which can provide spare parts for them. Therefore, basically vehicles made in Japan should be supplied taking into consideration future repair and procurement of spare parts.

6) Equipment for excavation

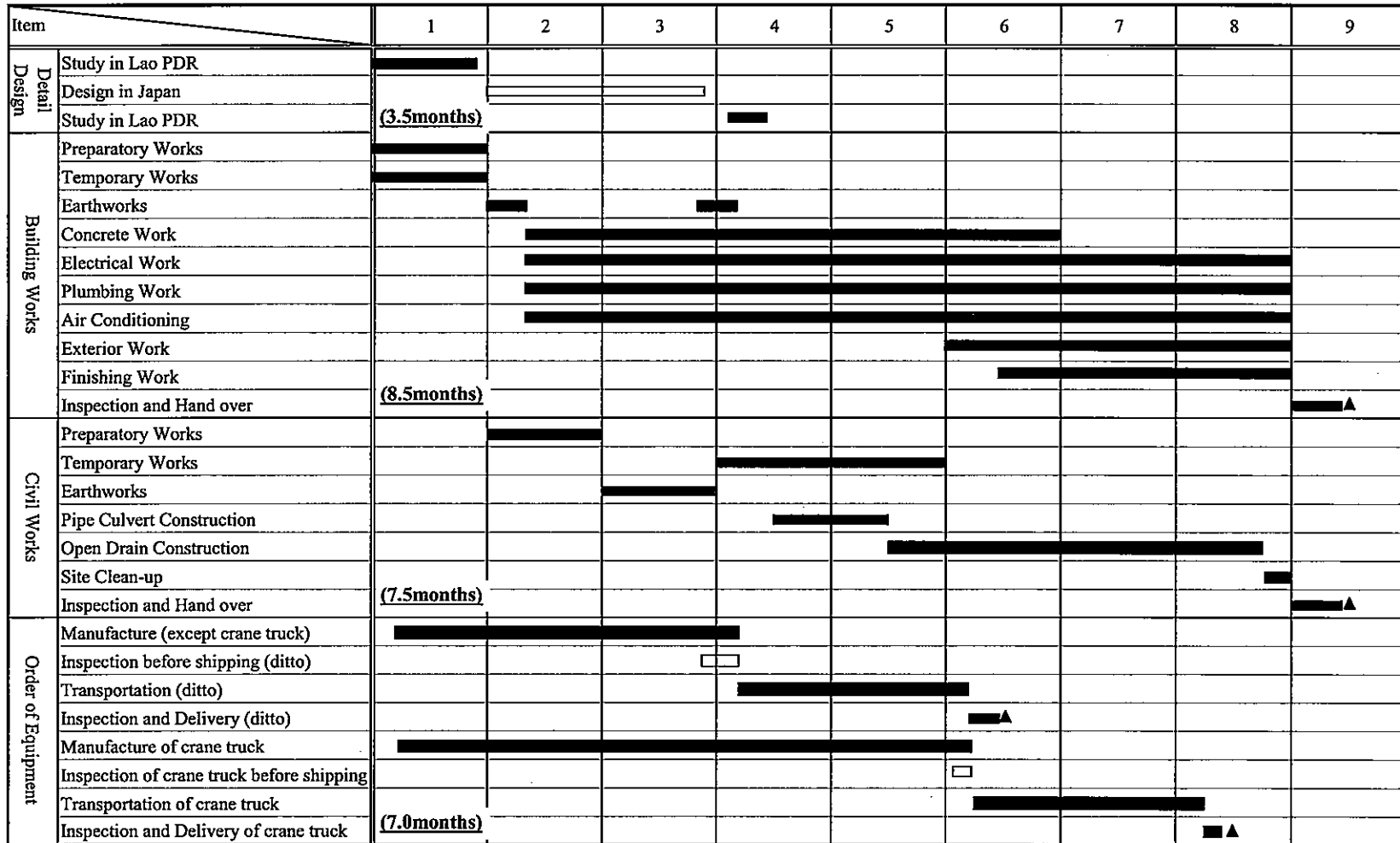
Durable equipment made in Japan should be procured so that gravel and stones as well as sand can be removed and carried away.

(3) Repository for Archaeological Artefacts

In this project, construction materials and equipment should be procured in principle within the country of Lao PDR.

2-2-4-6 Implementation Schedule

Study Schedule



2-3 Obligations of Recipient Country

2-3-1 Drainage system

The scope of work to be undertaken by the Lao side relating to the construction of drainage facilities shall be as follows.

- The presence of an archaeological expert during excavation work
- An archaeological excavation survey of the site for the pipe culvert

(1) Presence of archaeological experts

Excavation for construction of the drainage system must be carried out carefully to ensure that no relics are damaged. If any cultural structures are found in the course of the excavation work, their value must be assessed by archaeological experts and the steps to deal with them has to be examined. As the archaeological expert is expected to be sent from the Ministry of Information and Culture in the capital of Vientiane, the necessary budget for airfare, accommodation and local transport etc. must be secured.

Airfare: 2 roundtrip	0.8 mil. kip per person
<u>Personnel:</u>	<u>3.4 mil. kip per person</u>
Total	4.2 mil. kip per person

(2) Archaeological excavation

As there are many relics buried in the ground of the site of the pipe culvert, construction of the culvert might not be finished on schedule if a noteworthy artefact is found. Therefore, the Lao side shall carry out an archaeological excavation survey prior to construction work and confirm whether there are some artefacts in the site or not by the end of January 2002.

Expert:	1.92mil. kip
<u>Workers:</u>	<u>2.40 mil. kip</u>
Total	4.32 mil. kip

2-3-2 Equipment for Restoration

The scope of work to be undertaken by the Lao side relating to the procurement of restoration equipment shall be as follows.

- Employment of two persons to be in charge of measuring
- Construction of shed for equipment

(1) Reinforcement of organization

There are only three employees capable of engaging in restoration activities at the Vat Phou

Management Office. Furthermore, there is only one employee who has any specialist skills. Consequently, it is essential that two engineers be employed and trained in measuring and recording skills prior to restoration. This must be completed by the end of November 2002.

150,000 x 2 persons x 12 months = 3.6 mil. kip

(2) Construction of shed for equipment

The recording equipment and equipment for educational use can be stored in the data room of the repository, but the measuring instruments, stone-moving equipment, vehicles, etc., must be kept near the Vat Phou site. The Laos side plans to build a shed by the side of the water tower in the festival square. In any case, a building with, at the least, a roof and walls should be erected by the November 2002.

Construction cost of shed (earthwork and construction) : 107.4 mil. kip

2-3-3 Repository for Archaeological Artefacts

The scope of work to be undertaken by the Lao side relating to the construction of the repository shall be as follows.

- Presence of an archaeological expert during excavation
- Transfer of private houses and cultivated land, and preparation of ground
- Installation of electricity and water
- Planting
- Selection of artefacts to be exhibited and layout of exhibition

(1) Presence of an archaeological expert

Excavation for the construction of the repository building must be carried out carefully to ensure that no artefacts are damaged. If any cultural structures are found in the course of the excavation work, an archaeological expert must assess their value. The archaeological expert is should be sent from the MIC in Vientiane city.

Expert: 1.84 mil.kip

(2) Transfer of private houses and cultivated land, and preparation of ground

There are private houses and privately owned cultivated land on the site of the repository. Unless they are moved, it will be difficult to build the repository. According to the plan for construction of a heritage park drawn up by Champasak Province, private houses and cultivated land will be moved from the planned site of the repository to somewhere else, and the ground filled with soil to a height of about 1m from the present level. As construction will start around July 2002, the moving and filling work must be completed at least by the end of March 2002.

Compensation for cultivated lands:	4.8 mil. kip
Acquisition of new lands:	4.8 mil. kip
Moving of houses:	4.31 mil. kip
<u>Earthworks:</u>	<u>100 mil .kip</u>
Total	113.91 mil. kip

(3) Installation of electricity and water

The supply of electric power to the transformer and the supply of water to the site must be completed at the responsibility of the Lao side by the end of July 2002, when construction of repository starts.

<u>Works for electricity and water:</u>	<u>3.3 mil. kip</u>
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(4) Planting

Trees or lawn is planted in the zone planned around the repository.

(5) Selection of artefacts to be exhibited and layout of exhibition

On the base of the draft plan of tables and partitions devised by the Study Team, the Lao side shall select artefacts to be exhibited and complete the final display plan by the middle of May 2002, when the detail design is complete. The Lao side shall then set up an organization for the formulation of a layout plan and produce panels, photographs and pictures, and finally complete the basic display by the middle of March 2003.

Expert:	0.9 mil. kip
Airfare 2 persons x 2 roundtrip:	1.6 mil. kip
<u>Office expenses:</u>	<u>2.4 mil. kip</u>
Total	4.9 mil. kip

Year	2002												2003		
Month	Feb	Mar	Apr	Ma	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
Display plan															
Production of panels															
Exhibiting															

Table 2-16 Cost for Obligations of Lao PDR

Component	Obligation of Lao PDR side	Cost (mil. kip)
Drainage System	Presence of archaeological expert at excavation for open drain on the mountainside	4.2
	Archaeological excavation for pipe culvert	4.3
	Supervision of construction (Transportation)	0.8
Repository	Presence of archaeological expert	1.8
	Moving of houses and cultivated land, and earthwork	113.9
	Supply of electricity and water	3.3
	Planting	
	Selection of Artefacts and planning of display	4.9
	Supervision of construction(Transportation)	0.8
Equipment	Construction of a shed	107.4
Training	Employment of two staffs	3.6
Total		245.0

2-4 Project Operation Plan

2-4-1 Drainage System

To fully benefit from the drainage system and maintain the effectiveness of the Project, continued maintenance is essential. The Vat Phou Management Office must assign four of its current employees to the job of maintaining the drainage facilities and establish an organization composed of residents and high school students and make them join the activities of cleaning and maintaining and recognize the importance of preserving their of cultural heritage.

(1) Open Drain on the mountainside

To fully benefit from the effects of the open drain on the mountainside, the following maintenance is necessary.

Stones, earth, sand, leaves, and other refuse must be removed from the drainage channel immediately before the rainy season starts. If there are any cracks in the channel, they must be promptly repaired.

The condition of the drainage channel must be checked at least twice a month in the rainy season and the channel must be cleaned.

Any vegetation or unfixed stones in the vicinity of the drainage channel must be removed (approx. 1-2m on either side). In particular, bamboo growing near the channel must be uprooted frequently to prevent the channel from becoming blocked.

The earth, sand and refuse that have been removed must be taken to the foot of the mountain

for disposal and not left on the mountainside.

As there is no special road for cleaning or inspecting the condition of the drain, due attention shall be paid to safety when carrying out such cleaning.

If the gabions have slipped out of place or are damaged, they must be fixed (using wood piles, etc.) or repaired. Gabions are used in Laos to protect the riverbanks (the Mekong river) and they are easily obtainable at stores in Champasak.

(2) Pipe culvert

To fully benefit from the pipe culvert, the following maintenance is necessary.

The state of the pipe must be inspected frequently at the beginning of and during the rainy season, any debris on the screens that have been fitted must be removed, and any sand that has accumulated in the sandpit must be removed.

Little earth and sand accumulate inside the pipe culvert, so hardly any cleaning is required. However, as time passes, the flow capacity may be affected. If sufficient earth and sand accumulate to cause a blockage, digging up the pipe, which is buried at a depth of less than 1m, cleaning it and then burying it again, can easily restore the function of the culvert.

If the gabions have slipped out of place or are damaged, they must be fixed (using wood piles, etc.) or repaired.

2-4-2 Equipment for Restoration

At the present time there are not enough staff to be trained in the measuring and recording skills that are required prior to restoration. At least two more engineers must be employed in the restoration division of Vat Phou Management Office. The staff of five must master a range of skills including the handling of measuring instruments, and the input, processing, drafting and output of the acquired data, through a 2.5 month technical training course from January 2003. A supervisor, architect and civil engineer shall be sent from MIC in connection with restoration techniques.

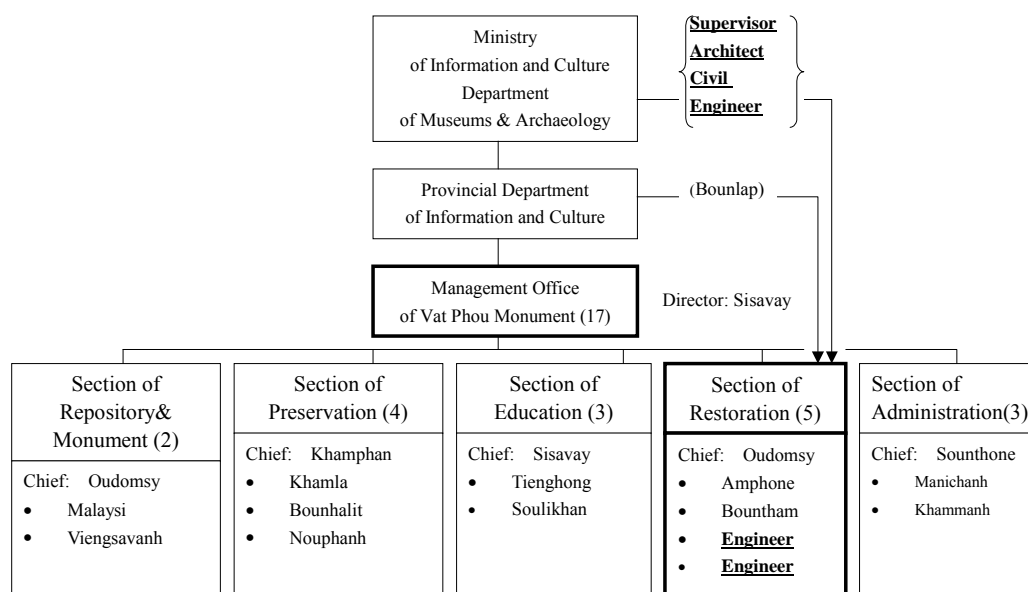


Figure 2-10 Organization for Implementation of Project

The table below shows the daily work to be undertaken using donated equipment for restoration. As this is the first time for nearly all the staff of the Vat Phou Management Office to perform such work, they must receive adequate technical training. In particular, they must be properly trained in the use of the chain block and truck crane for moving heavy stones as any mis-operation could lead to damage to the cultural remains or injury to the person concerned.

Of the restoration equipment, only the pickup truck and the truck with crane require fuel to run. Electric power, ink and printing paper are required for the recording equipment.

Table 2-17 Daily Work for Restoration

Items	Equipment	Daily work
Measurement	1.Total Station 2.Reflecting mirror 3.Small reflecting mirror 4. Tripod 5.Level 6.Staff 7.Scale for measurement 5m 8.Scale for measurement 50m 9.Telescopic ladder 10.Metallic scaffolding	<ul style="list-style-type: none"> Measuring and surveying of stone structures by total station Surveying of topography around stone structures by level Measuring of stones' size Setting up and dismantling of scaffolding
Lifting and moving	1.Chain block with tripod	<ul style="list-style-type: none"> Lifting up and down of heavy stones by chain block, round slings and cramp

Items	Equipment	Daily work
Recording	1.Desktop computer 2.Printer 3.Plotter 4.Digital camera 5.Digital video camera	<ul style="list-style-type: none"> • Input of data collected • Processing, calculating, revising • Mapping • Output of tables and drawings • Establishment of data base • Compilation of digital camera and digital video camera
Education	1.Laptop computer 2.Video projector 3.Screen for projector	<ul style="list-style-type: none"> • Preparation of document for education by Power Point • Educational and enlightening activities for local people and advertisement for tourists
Vehicles	1.Pickup 2.Truck loaded with crane	<ul style="list-style-type: none"> • Transportation of equipment and staff • Patrolling of every temple and monument • Lifting, moving and transporting of heavy stones by crane truck • Transportation of stones, equipment and scaffolding by crane truck
Excavation	1.Wheelbarrows 2.Shovels 3.Pickaxes	<ul style="list-style-type: none"> • Excavation by hand necessary for surveying and measuring

2-4-3 Repository for Archaeological Artefacts

Vat Phou is an important part of the heritage of Khmer culture, built before the construction of Angkor Wat. The cultural artefacts discovered at related sites are presently kept locked away in a warehouse where no one can see them. The warehouse is inadequate and lets in rainwater, endangering the cultural properties kept there.

The repository to be erected in the Project is intended not only to provide appropriate storage for these important cultural properties, but to put some of them on display and enable them to be viewed by people from all over the world. Consequently, by building a repository that also serves as an exhibition room, both functions of storage and display of important cultural properties can be met and the essential value of the cultural properties fully demonstrated. Fortunately, the Vat Phou Complex is expected to be certified as a UNESCO World Heritage Site in December this year, bringing with it the possibility of a dramatic increase in the present number of visitors (23,000 in the year 2000). In particular, the repository is expected to play an important role in conveying the historical significance of the temple not only to visitors from neighbouring countries, but from Europe and Japan too.

(1) Admission

A sightseeing route should be laid out so that visitors to Vat Phou see the display in the repository

and learn the historical importance of the heritage before entering the Vat Phou site. It is expected that the same admission fee as for the historical site (500 kip for Laotians and 5,000 kip for foreigners) can be collected at the exhibition room.

The staff of the Vat Phou Management Office should take due care to ensure that visitors to the exhibition room can easily view the displays. Champasak PDIC has included the expenses for employing two English interpreters in next year's budget application to the province, but at the present time it is not known whether it will be approved or not. In future, however, it will be necessary for the office staff to include English speakers so that they can respond to questions from visitors. In any case, consideration must be given to ways of giving first-time visitors a good impression and increasing the number of visitors.

(2) Theft prevention

Extremely valuable artefacts will be displayed in the exhibition room. A security guard is placed on duty by the entrance and constant monitoring is carried out, but consideration must be given to theft prevention not only at night but also during the day.

(3) Analysis of artefacts

The repository includes a data room equipped with equipment to process measurement data. As the room also serves as a place for historical assessment of individual artefacts, it shall have shelves, etc. for sorting and storing the data and artefacts.

(4) Regular cleaning

As areas of the repository will frequently be used by visitors, the exhibition room and toilets shall always be kept clean. It is important that the repository staff checks and cleans the toilets every day.

(5) Preparation of guide for visitors

A guide for visitors can be made using a laptop computer, digital camera, digital video and video projector, and shown to visitors in the rest corner of the exhibition room. It will be particularly effective if past excavation surveys, the main structures of Vat Phou Temple and the cultural heritage of Champasak can be edited into a short film of 10-minutes.

2-4-4 Cost of operation and maintenance

The cost of operation and maintenance is as shown in Table 2-18.

(1) Provincial Department of Information and Culture (PDIC)

1) Drainage system

The cost, based on the assumption that 15m of the mountainside drain, which is equivalent to 10% of total length of the drain, will need to be repaired before the rainy season comes every year, is as follows:

$$15\text{m} \times 0.91 \text{ m}^3/\text{m} \times 16 \text{ US\$} = 218 \text{ US\$}$$

2) Equipment for restoration

Two staff members who will be in charge of restoration activities shall be employed at the Vat Phou Management Office.

$$150,000 \text{ kip} \times 2 \text{ persons} \times 12 \text{ months} = 3,600,000 \text{ kip}$$

- Repayment of vehicles (repayment period 10 years)

$$\text{Pickup: } 2,700,000 \text{ yen} / 10 = 270,000 \text{ yen}$$

$$\text{Truck loaded with crane: } 7,000,000 \text{ yen} / 10 = 700,000 \text{ yen}$$

- Fuel

$$\text{Pickup : } 4 \text{ hours} / \text{day} \times 240 \text{ days} \times 84 \text{ PS} \times 0.041 / \text{PS} \times 0.32 = 1,032 \text{ US\$}$$

Truck loaded with crane:

$$3 \text{ hours} / \text{day} \times 200 \text{ days} \times 180 \text{ Ps} \times 0.041 / \text{PS} \times 0.32 = 1,382 \text{ US\$}$$

- Repair (5 % of repayment)

$$\text{Pickup : } 270,000 \text{ yen} \times 0.05 = 13,500 \text{ yen}$$

$$\text{Truck loaded with crane: } 700,000 \text{ yen} \times 0.05 = 35,000 \text{ yen}$$

3) Repository for Archaeological Artefacts

It is assumed that the power rate is 294 kip/kwh and the water rate is 0.3 US\$ in Lao PDR and the number of days worked are 317 per year because there is only one day off (for example, Monday) per week.

- Power rate:

$$\begin{aligned} & (\text{quantity of electricity for lights and air conditioners}) \times \text{unit price} \times \text{hours/day} \times \text{days/year} \\ & = (10.83 + 40.68) \times 294 \times 8 \times 317 \\ & = 38,405,031 \text{ kip} \end{aligned}$$

- Water rate:

$$\begin{aligned} & (\text{Number of users}) \times (\text{quantity of water})/\text{person/day} / 1,000 \times \text{unit price}/\text{m}^3 \times \text{days/year} \\ & = 120 \text{ persons} \times 40 \text{ ltr.} / 1,000 \times 0.3 \text{ US\$}/\text{m}^3 \times 317 \text{ days} \\ & = 456 \text{ US\$} \end{aligned}$$

(2) Ministry of Information and Culture (MIC)

Three employees, a supervisor, an architect and a civil engineer, shall be dispatched from MIC to the Vat Phou site. According to the restoration plan prepared by MIC, the necessary cost is as follows:

It will be necessary to secure about 122,000,000 kips to cover the cost of three employees. However, if the MIC dispatched a currently employed architect and supervisor, the actual cost will only be about 10,000,000 kips, omitting personnel cost.

- Personnel
 - Supervisor: 6,000 US\$/year
 - Architect: 4,000 US\$/year
 - Civil engineer: 4,000 US\$/year
- Transport
 - Flight/Transportation expenses : 300 US\$/year
- Office cost : 1,000 US\$/year

Table 2-18 Operation and Maintenance Cost

Org.	Project	Items	Cost (US\$, yen, kip)	Budget (kip)
Provincial Department of Information and Culture	Drain	Repair	218US\$	1,745,000
	Equipment	Total		94,858,000
		1.Personnel	3,600,000kip	3,600,000
		2.Vehicle		87,256,000
		Repayment	Pickup: 270,000yen Truck with crane: 700,000yen Total: 970,000yen	64,699,000
		Fuel	Pickup: 1,032 US\$ Truck with crane: 1,382US\$ Total: 2,414 US\$	19,322,000
		Repair	Pickup: 13,500yen Truck with crane: 35,000yen Total: 48,500yen	3,235,000
		3.Data processing	Electricity & expendables Total: 500US\$	4,002,000
	Repository	Operation and maintenance	4,897US\$	42,055,000
		Electricity	38,405,031kip	38,405,000
		Water	456US\$	3,650,000
	Total			138,658,000

Org.	Project	Items	Cost (US\$, yen, kip)	Budget (kip)
MIC		1.Personnel	Supervisor 6,000US\$	112,056,000
			Architect 4,000US\$	
			Civil Engineer 4,000US\$	
			Total 14,000US\$	
		2.Transpotation	Flight/ on land 300US\$	2,401,000
		3.Office supplies	Report, photo, copy etc. 1,000US\$	8,004,000
	Total	122,461,000		
Grand Total				261,119,000

1 US\$ = 120 yen, 1 yen = 66.7kip

2-5 Other Relevant Issues

Soft Component

The restoration plans at the government level on the Laos side, however, are only general and do not constitute concrete plans. There are restoration plans formulated by French experts which are more concrete, but they are based on the premise of direction by foreign experts and are not detailed enough for the people of Laos to be able to start actual restoration work by their own efforts. There is also the serious problem of the lack of engineers in Laos with experience in restoration of stone structures. The Project, therefore, avoids the donation of restoration equipment in full scale and concentrates on measuring and recording equipment required at the stage prior to restoration. The measuring and recording of the stone structures, however, presuppose plans for restoration. Only when details of the restoration work are clarified can the type and form of data to be recorded, structure, etc. be decided. Detailed restoration procedures, including measuring and recording prior to restoration, therefore require to be studied urgently.

France, Italy and UNESCO have carried out various surveys in the past, but at present have no plans for a detailed restoration plan. To ensure effective use of the measuring and recording equipment to be donated in the Project, measuring and recording techniques and techniques for studying restoration procedures must be transferred to Laos.

Also the technology for designing the display of artefacts in the exhibition room and actual display activities before handing over of the repository must be transferred to Laos because there are no experts for exhibition of cultural artefacts in the Department of Museums and Archaeology, MIC.

(1) Purposes

- 1) To enable the measuring of stone structures and the processing and recording of data by staff of the Vat Phou Management Office
- 2) To enable the moving and transportation of stones by staff of the Vat Phou Management Office

- 3) To complete the first stage plan of restoration. That is, to create the conditions in which restoration work can start as soon as restoration equipment is obtained
- 4) To enable the formulation of the second stage of the restoration process by the Lao side according to the methodology acquired through joint work concerning the soft component.
- 5) The display of the main artefacts will be finished when it is handed over and opening of the exhibition room to the general public will be possible if the Lao side continues to do additional work like production of explanatory panels.

(2) Outputs



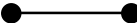
- 1) Formulation of “Stage 1 Restoration Activity Plan” relating to restoration work
- 2) Construction of a “database” of the measured structures

(3) Activities

NO	Activities	Result/Acquisition
1.	Selection of stone structures to be restored	Selection method of stone structures to be restored
2.	Study of database structure	Format of database
3.	Study of method for surveying and recording	Techniques of surveying and recording
4.	Survey /input/data processing/recording /output	Integrated techniques of surveying, data processing and recording
5.	Study of dismantling method	Method of dismantling
6.	Study of reinforcement of structures in danger of collapse	Method of reinforcement
7.	Moving of stones (by chain block, truck loaded with crane)	Utilization of equipment
8.	Formulation of stage 1 restoration activities plan	Method of formulating of restoration plan
9.	Display planning of artefacts and exhibition	Completion of main display

(4) Inputs

N O	Activities	2002			2003		
		Feb.	March	Apr.-Dec.	Jan.	Feb.	March
1.	Selection of stone structures to be restored				— —		
2.	Study of database structure				— —		
3.	Study of method for surveying and recording				— —		
4.	Survey /input /data processing /recording /output				— —		
5.	Study of dismantling method					— —	
6.	Study of reinforcement of structures in danger of collapse					— —	
7.	Moving of stones (by Chain block, Truck loaded with crane)					— —	
8.	Formulation of stage 1 restoration activity plan						— —
9.	Display planning of artifacts and exhibition	● — ●				● — ●	

 Formulation of restoration plan
 Surveying and recording
 Artefact display

Chapter 3

Project Evaluation and Recommendations

Chapter 3 Project Evaluation and Recommendations

3-1 Project Effect

(1) Direct effect

- The collapse speed of stone structures will be decelerated, because the catchment area from where rain water has been flowing onto the Vat Phou site from may be reduced to 70% of the present area.
- The artefacts collected on the site will be classified and stored safely, and the important artefacts will be put on display for the general public.
- A lot of coordinate data obtained by measuring and recording the stone structures and drawings will be accumulated.
- The staff of Vat Phou Management Office will be able to acquire basic techniques concerning the use of restoration equipment while they undergo training. They will learn such skills as hoisting, which is necessary for the dismantling of stone structures and the piling up of stones.

(2) Indirect effect

- Awareness for conservation of cultural heritage is developed while local people take part in the activities for maintenance of the drainage facilities.
- It is expected that the number of tourists will increase due to construction of the repository with exhibition room.
- It is anticipated that the revenue from visitors (admission fee) will increase due to the exhibition of artefacts.
- They can begin to conduct restoration of stone structures, which has never been carried out as of yet.

3-2 Recommendations

There are mainly three problems that need to be dealt with in order to proceed with the Project.

First, the Vat Phou Management Office needs to employ two new members for restoration of the stone structures, making a total of five members who will continue measuring, recording and restoring activities. As measuring entails a series of indoor work like the input, processing and output of data by means of computer, a certain measure of technique is required of the staff. Therefore, the existing three members are not enough to implement work concerned with restoration. At least five members should be secured, two for measurement staff, two for data handling staff and one for reserve, because

of possible changes in staff.

Secondly Ministry of Information and Culture should dispatch three experts, a supervisor, an architect and a civil engineer, to instruct the staff of the Vat Phou Management Office in measuring, recording and restoring. Although Japanese consultants will conduct technical training as a part of the soft component of the Project, the training will be no more than 2.5 months and not enough to acquire complicated techniques. After the Japanese consultants go back to Japan, the experts from MIC should support them technically.

Thirdly it is very important to prepare with certainty the budget for operation and maintenance every year in order to use the facilities constructed and equipment procured in this project effectively. Especially, as the fiscal year, which starts in October 2002, corresponds to the first year of operation, scrupulous preparation is necessary to secure the budget for it. Fortunately, the Japanese consultants could support preparation for a budgetary request because they will be staying at the site to supervise construction for this project.

Appendices

1 . Member List of the Study Team

NO.	Duty	Name	Organization
1	Leader	Yasuyuki Ebata	Cultural Affairs Department, Ministry of Foreign Affairs (~ July 2001)
2	Leader	Yoshiko Endo	Cultural Affairs Department, Ministry of Foreign Affairs (August 2001 ~)
3	Technical Advisor	Tsuyoshi Narita	Waseda University
4	Project Coordinator	Masaru Kozono	Grant Aid Management Department, Japan International Cooperation Agency
5	Project Manager	Shinya Kawada	Kokusai Kogyo Co., Ltd.
6	Archeologist/Equipment Planner	Yoshio Kawasaki	Kokusai Kogyo Co., Ltd
7	Facilities and Utilities Planner1/ Hydrologist	Shigekazu Fujisawa	Kokusai Kogyo Co., Ltd.
8	Facilities and Utilities Planner 2	Masaharu Kina	Kokusai Kogyo Co., Ltd.
9	Surveyor	Shozo Shimoda	Kokusai Kogyo Co., Ltd.
10	Construction Planner/Cost Planner	Naofumi Sato	Kokusai Kogyo Co., Ltd.

2. Study Schedule

(1) Field Study

Code: EOJ: Embassy of Japan in Vientiane JICA: JICA Laos Office
 MIC: Ministry of Information and Culture
 NIMCC: The National Inter-Ministerial Co-ordinating Committee for Vat Phou
 PDIC: Provincial Department of Information and Culture
 NRT: Narita Airport BKK: Bangkok Airport VTE: Vientiane Airport
 PKZ: Pakse Airport CMP: Champasak City VPH: Vat Phou Heritage

- | | |
|-----------------------------------|--|
| 1: Team Leader | 6: Facilities and Utilities Planner 1/ Hydrologist |
| 2: Technical Advisor | 7: Facilities and Utilities Planner 2 |
| 3: Project Coordinator | 8: Surveyor |
| 4: Project Manager | 9: Construction Planner / Cost Planner |
| 5: Archeologist/Equipment Planner | |

No.	Date		Field Study	
			Official Members	Consultant Members
1	6/3	Su		NRT BKK (15:30): TG641 (Member No. 4, 8)
2	6/4	M		BKK (18:25) VTE (19:45): QV425 (Member No. 4, 8)
3	6/5	Tu		Courtesy Call on (EOJ, JICA, MIC, NIMCC) (Member No. 4, 8)
4	6/6	W		Meeting with (MIC, NIMCC) (Member No. 4, 8)
5	6/7	Thr		AM: VTE(06:15) PKZ(07:25):QV301 PM: Courtesy Call (PDIC) (Member No. 4, 8)
6	6/8	Fr		PKZ VPH by car Site Survey VPH Discussion (PDIC) PKZ (Member No. 4, 8)
7	6/9	Sa		PKZ VPH by car Site Survey VPH Discussion (PDIC) PKZ (Member No. 4, 8)
8	6/10	Su	NRT(11:00) BKK(15:30):TG641	NRT BKK (15:30): TG641 (Member No. 5) PKZ Border between Laos & Thailand Ubon Ratchathani BKK (9:30) : TG21 (Member No. 4) Survey at the site (Member No. 8)

No.	Date		Field Study	
			Official Members	Consultant Members
9	6/11	M	AM: Discussion (UNESCO) BKK(18:25) VTE(19:45):QV425	
10	6/12	Tu	Courtesy Call on (EOJ, JICA, MIC, NIMCC)	
11	6/13	W	AM:VTE(06:15) PKZ(08:15):QV201 PKZ CMP by car (2hours) PM: Courtesy Call (PDIC)	
12	6/14	Thr	PKZ VPH by car Site Survey VPH Discussion (PDIC) PKZ	
13	6/15	Fr	PKZ VPH by car Site Survey VPH Discussion (PDIC) PKZ	
14	6/16	Sa	PKZ VPH by car Site Survey VPH Discussion (PDIC) PKZ	
15	6/17	Su	Team Meeting	
16	6/18	M	AM: Discussion (PDIC) PM: PKZ(17:20) VTE(18:30):QV521	Equal to Official Members (Member No. 4) Survey at the site (Member No.5,8) NRT BKK (15:30): TG641(Member No. 6,7,9)
17	6/19	火	Discussion on the Minutes (MIC & NIMCC)	Equal to Official Members(Member No. 4) Survey at the site (Member No.5,8) BKK VTE(9:30):TG690(Member No. 6,7,9)
18	6/20	水	Discussion on the Minutes (MIC & NIMCC)	Equal to Official Members(Member No. 4) Survey at the site (Member No.5,8) VTE(06:15) PKZ(08:15):QV201(Member No.6,7,9)
19	6/21	木	Team leader & Project coordinator AM: Signing on the Minutes (MIC) PM: Report (EOJ & JICA) Technical advisor AM:VTE (10:30) BKK(11:35): TG691 To other mission in Cambodia	Equal to Official Members(Member No. 4) Survey at the site (Member No.5,6,7,8,9)
20	6/22	金	VTE (10:30) BKK(11:35): TG691	VTE(10:00) PKZ(11:00):QV512 (Member No.4) Survey at the site (Member No.5,6,7,8,9)

No.	Date		Field Study	
			Official Members	Consultant Members
21	6/23	土	BKK(10:50) NRT(19:00):TG640	Survey at the site (Member No.4,5,6,7,8,9)
22	6/24	日		Survey at the site (Member No.4,5,6,7,8,9)
23	6/25	月		PM: PKZ(17:20) VTE (18:30) : QV521 (Member No.5) Survey at the site (Member No.4,6,7,8,9)
24	6/26	火		AM:VTE(10:30) BKK(11:35):TG691 (Member No.5) Survey at the site(Member No.4,6,7,8,9)
25	6/27	水		BKK(10:50) NRT(19:00) : TG640 (Member No.5) Survey at the site(Member No.4,6,7,8,9)
26 ↓	6/28	Thr		(12days) 7/09 9:00 Meeting for reporting of field survey
37	7 /09	M		
38	7/10	Tu		PM: PKZ(14:25) VTE(15:35):QV522(Member No.9) Survey at the site(Member No.4,6,7,8)
39	7/11	W		Data collection (Member No.9) Survey at the site (Member No.4,6,7,8)
40	7/12	Thr		PM: PKZ(7:50) VTE(9:45):QV302 Meeting with MIC & NIMCC(Member No.4,5,6,7,8,9)
41	7/13	Fr		Reporting to EOJ and JICA (Member No.4,6,7,8,9)
42	7/14	Sa		Reporting(Member No.4,6,7,8,9)
43	7/15	Su		Reporting(Member No.4,6,7,8,9)
44	7/16	M		AM:VTE (10:30) BKK(11:35): TG691 (Member No.4,6,7,8,9)
45	7/17	Tu		BKK(10:50) NRT(19:00):TG640 (Member No.4,6,7,8,9)

(2) Field Study and Explanation of Draft Report

No.	Date		Leader / Technical Advisor /Consultant	Project Coordinator
1	10/3	We	NRT (11:00) BKK (15:30) :TG641	
2	10/4	Thr	8:30 UNESCO BKK (18:25) VTE (19:45) :QV425	
3	10/5	Fr	9:00 JICA 11:00 EOJ 11:30 Secretariat of MIC 14:00 MIC	
4	10/6	Sa	VTE (6:15) PKZ (7:25) :QV301 10:30 Courtesy Call to PDIC 11:00 PKZ VPH Field Survey	NRT (11:00) BKK (15:30) : TG641
5	10/7	Su	8:30 PKS VPH Field Survey	BKK (08:20) VTE (09:30) : TG 690 PM : Malaria Project
6	10/8	M	9:00 Courtesy Call to Vice Governor of Province 14:30 PDIC	Discussion for M/D
7	10/9	Tu	8:30 Meeting with Province, District , PDIC, VPMO	AM : Signing of M/D for Malaria PM : Report to JICA & EOJ
8	10/10	We	PKZ (08:55) VTE (10:05) : QV202 14:00 MIC 15:00 Courtesy Call to Acting Minister of MIC 15:30 MIC (continue)	AM : Preparation of Report
9	10/11	Thr	8:30 NIMCC 14:00 Discussion of M/D MIC	
10	10/12	Fr	11:30 Signing of M/D 12:30 Report to JICA 15:00 Report to EOJ	
11	10/13	Sa	VTE (10:30) BKK (11:35) :TG691	
12	10/14	Su	BKK (10:50) NRT (19:00) :TG 640	

3 . List of Parties Concerned in the Recipient Country

- Ministry of Information and Culture
 - Director General, Department of Museums and Archeology
 - Mr. Thongsa SAYAVONGKHAMDY
 - Deputy Director General, Department of Museums and Archeology
 - Mr. Bounhon CHANTHAMAT
 - Ms. Chanphone SAYARATH
 - Director, Division of Archaeology
 - Mr. Viengkeo SOUKSAVATDY
 - Chief , Section of Historic Monuments
 - Souraphy VIRAVONG
- Provincial Office of Information and Culture
 - Director
 - Mr. Sipaseut SANSAVATH
 - Deputy Director
 - Mr. Sipan PHUTSADY
 - Chief of Cultural Affairs
 - Mr. Bounlap KEOKANGNA
- Champasak Province
 - Governor
 - Mr. Onneua PHOMMACHANH
 - Vice Governor
 - Mr. Sengham PHOMHE
 - Mr. Sisamuth MAMKHENTHAO
- Champassak District
 - Governor
 - Mr. Bounhieng SOUKSAMLAN
 - Deputy Governor and Director of Vat Phou Management Office
 - Mr. Sisavay ARCHKHAWONGS
- UNESCO
 - Mr. Richard A. ENGELHARD
 - Ms. Beatrice KALDUM
- French Academy of Far East
 - Mr. Pierre PCHARD
- Embassy of Japan

Ambassador

Yoshinori Miyamoto

First Secretary

Kazunori Kawada

Attache

Masahiko Mitsumoto

• JICA

Resident Representative	Makoto Aoki
Deputy Resident Representative	Takahide Wada
Assistance Resident Representative	Norihiro Ikeda
Assistance Resident Representative	Yukiko Okada
Assistance Resident Representative	Miori Ogawa

4. Minutes of Discussions

MINUTES OF DISCUSSIONS
ON THE BASIC DESIGN STUDY
ON THE PROJECT FOR PRESERVATION AND RESTORATION
OF VAT PHOU CULTURAL HERITAGE
IN LAO PEOPLE'S DEMOCRATIC REPUBLIC

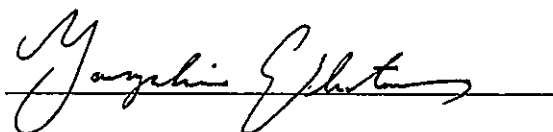
Based on the results of the Preparatory Study, the Government of Japan decided to conduct a Basic Design Study on the Project for Preservation and Restoration of Vat Phou Cultural Heritage (hereinafter referred to as "the Project") and entrusted the study to the Japan International Cooperation Agency (hereinafter referred to as "JICA").

JICA sent to Lao People's Democratic Republic (hereinafter referred to as "the Lao PDR") the Basic Design Study Team (hereinafter referred to as "the Team"), which is headed by Mr. Yasuyuki EBATA, Cultural Policy Division, Cultural Affairs Department, Ministry of Foreign Affairs, and is scheduled to stay in the country from June 4th to July 16th, 2001.

The Team held discussions with the officials concerned of the Government of the Lao PDR and conducted a field survey at the study area.

In the course of discussions and field survey, both parties confirmed the main items described on the attached sheets. The Team will proceed to further works and prepare the Basic Design Study Report.

Vientiane, June 21st, 2001



Mr. Yasuyuki EBATA

Team Leader

Basic Design Study Team

Japan International Cooperation Agency



For Mr. Thongsa SAYAVONGKHAMDY

Director General

Department of Museums and Archaeology

Mr. Bounhom CHANTHAMAT

Deputy Director General

Department of Museums and Archaeology

Ministry of Information and Culture

ATTACHMENT

1. Objective of the Project

The objective of the Project is to support the Lao PDR's efforts to preserve and restore the Vat Phou Cultural Heritage.

2. Project site

The site of the Project is Vat Phou Cultural Heritage, Champassak District.

3. Responsible and Implementing Agency

3-1. The Responsible Agency is National Inter-ministerial Coordinating Committee for Vat Phou (NIMCC).

3-2. The Implementing Agency is Ministry of Information and Culture.

4. Items requested by the Government of the Lao PDR

After discussions with the Team, the items described below were finally requested by the Lao PDR side. JICA will assess the appropriateness of the request and will recommend to the Government of Japan for approval.

(1) Construction of the drainage system

(2) Procurement of the equipment for preservation and/or restoration (Details of items are listed in Annex-1.)

(3) Construction of the archaeological repository (Details are attached in Annex-2)

5. Japan's Grant Aid Scheme

5-1. The Lao PDR side understands the Japan's Grant Aid Scheme explained by the Team, as described in Annex-3.

5-2. The Lao PDR side will take the necessary measures, as described in Annex-4, for smooth implementation of the Project, as a condition for the Japan's Grant Aid to be implemented.

6. Schedule of the Study

6-1. The consultants will proceed to further studies in the Lao PDR until July 16th, 2001.

6-2. JICA will prepare the draft report in English and dispatch a mission in order to explain its contents in October 2001.

6-3. In case that the Government of Lao PDR accepts the contents of the report in principle, JICA will complete the final report and send it to the Government of Lao PDR by February 2002.

7. Other relevant issues

7-1. Budget and personnel allocation

The Team mentioned that it was necessary condition to allocate sufficient budget and/or appropriate personnel for operation and maintenance of the items described in the clause 4 of this documents.

7-2. EIA (Environmental Impact Assessment)

(a) The Lao PDR side shall consult with the concerned authorities if it is necessary to conduct EIA for implementation of the Project. The Lao PDR side will reply the results to the Team by July 16th, 2001.

(b) In the case of conducting EIA for the Project, the Lao PDR side shall undertake all procedures and bear all costs regarding EIA.

7-3. Construction of the drainage system

(a) The Lao PDR side accepted idea to construct drainage system on the Phou Nak Mountain that locates behind the Upper Shrine of Vat Phou Cultural Heritage.

(b) The Team will submit draft design of drainage system to the Lao PDR side by July 6th, 2001.

(c) The Lao PDR side will evaluate the draft design of drainage system, surveying proposed location with the Team as soon as possible.

(d) The Lao PDR side will submit authorization letter to construct drainage system if the draft design of drainage system is acceptable.

(e) The local authorities of Champassak Province and Champassak District manifested that they would organize maintenance group for the drainage system.

7-4. The Lao PDR side will submit the comprehensive restoration plan for Vat Phou Cultural Heritage to the Team by July 16th, 2001. The Team pointed out that the plan needed to contain following subjects.

(1) Restoration method for Vat Phou Cultural Heritage. (2) Schedule of restoration works.

(3) Budget allocation for restoration works.

(4) Personnel allocation for restoration works.

7-5. Securing land necessary for the Project

If necessary, the local authorities of Champassak Province and Champassak District will order the local peoples who live and cultivate in proposed sites (see Annex-2) based on Laotian laws, to remove their house from the proposed site and to abandon their rice field. Also the local authorities will offer them other land and/or refund in compensation for abandoning and house and land immediately according to removal plan that includes time schedule, budget allocation for compensation and so on. The removal plan will be submitted to the Team by July 16th, 2001.

The local peoples who live and/or cultivate in the proposed sites manifested that they agreed to the land policy of Champassak Province and Champassak District during the dialogue with the Team on June 16th, because they wanted more development of the Vat Phou Cultural Heritage area for their next generation.

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[Signature]

7-6. Construction of the repository

(a) The Team pointed out characters of each proposed sites.

No	Position	Zoning in Champassak Heritage Management Plan	Accessibility from the Heritage	Removal of local peoples	Influence on the Heritage	Items to be surveyed and remarks
1	Front of two big Barays (Eastern side of two big Barays)	Archaeological Research Zone (Zone 3)	Good	Necessary	Big	1.Record of inundation from Barays 2.Resistibility of land 3. Easy to control cultural assets 4. Necessary to consult with UNESCO, concerning foreign organization and experts. 5.Necessary to build a bank and/or to fill soil for making same level
2	Front of Festival Plaza (Eastern side of Festival Plaza)	Archaeological Research Zone (Zone 3)	Good	Necessary	Big	1.Record of inundation from Barays 2.Resistibility of land 3. Easy to control cultural assets 4. Necessary to consult with UNESCO, concerning foreign organization and experts.
3	Former military site	Champassak Heritage Cultural Landscape Protection Zone (Zone1)	Poor	Not Necessary (Vacant)	Small	1.Record of inundation from Mekong river 2.Resistibility of land 3.Necessary to construct access road
4	Front of storeroom of monument office	Champassak Heritage Cultural Landscape Protection Zone (Zone1)	Poor The farthest among 4 sites	Not Necessary (Vacant)	Very small	1.Record of inundation from Mekong river 2.Resistibility of land 3.Easy to control cultural assets 4. Necessary to fill soil

(b) The local authorities of Champassak Province and Champassak District manifested that the site No.1 was the first priority and the site No.2 was the second. In the case that any monuments are discovered in the site No.1 and No.2, The Lao PDR side will consider the site No.3 and No.4 as site for repository.

(c) The Lao PDR side will decide one appropriate site for the repository by June 25th, 2001. After the decision the Lao PDR will make an archaeological survey and report to the results to the Team by the end of August 2001.

7-7. Public Relations of Japan's ODA

Both parties consider how to realize Public Relations of Japan's ODA in the Project, and will discuss it more concretely when JICA dispatch another mission concerning the Project.

7-8. The Lao PDR side requested the consultant services for operation and maintenance on the equipment for preservation of Vat Phou Cultural Heritage as one of components of the Grant Aid.

7-9. For the sake of the technology transfer on sustainable operation and maintenance, the Lao PDR side pointed out the need for dispatch of Japanese experts and technical training of counterpart training in Japan. They also understood that another official request on technical cooperation should be submitted through diplomatic channels such as the Embassy of Japan and/or JICA..

MS
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Equipment List

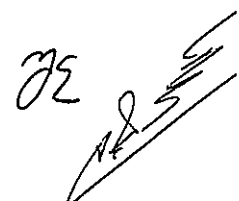
No.	Item	Priority	Quantity
1	Wheel crane (10~20T class) for restoration activities	C	1
2	Wheel loader (80H class)	B	1
3	Track loaded with a crane	B	1
4	Pickup vehicle	B	1
5	Concrete mixer (0.5m ³ class) for restoration activities	C	1
6	Chain block with Metal tripods	A	2
7	Electric drill for restoration activities	C	2
8	Electric generator for No.7	C	1
9	Telescopic ladder for survey and measurement activities	A	4
10	Scaffolds for survey and measurement activities	A	1 set
11	Level	A	2
12	Staff for survey and measurement activities	A	6
13	Theodolite with EDM	A	2
14	GPS	C	1
15	Drawing table	C	2
16	Scale (5m)	C	15
17	Scale (50m)	C	5
18	Tool kit for lifting up stones	B	1 set
19	Helmet for survey and measurement activities	C	1 set
20	Uniform for survey and measurement activities	C	1 set
21	Digital video camera for survey and measurement activities	A	1
22	Digital camera for survey and measurement activities	B	2
23	Personal Computer (Desktop type) for survey and measurement activities	B	2
24	Printer for Item No.23	B	1
25	Personal Computer (Notebook type) for educational activities	B	1
26	Projector for educational activities	B	1
27	Screen for educational activities	B	1
28	Copy machine for educational activities	C	1

Definition of the Priority mentioned above

A = First priority/ Essential

B = Second priority/ Necessary to study

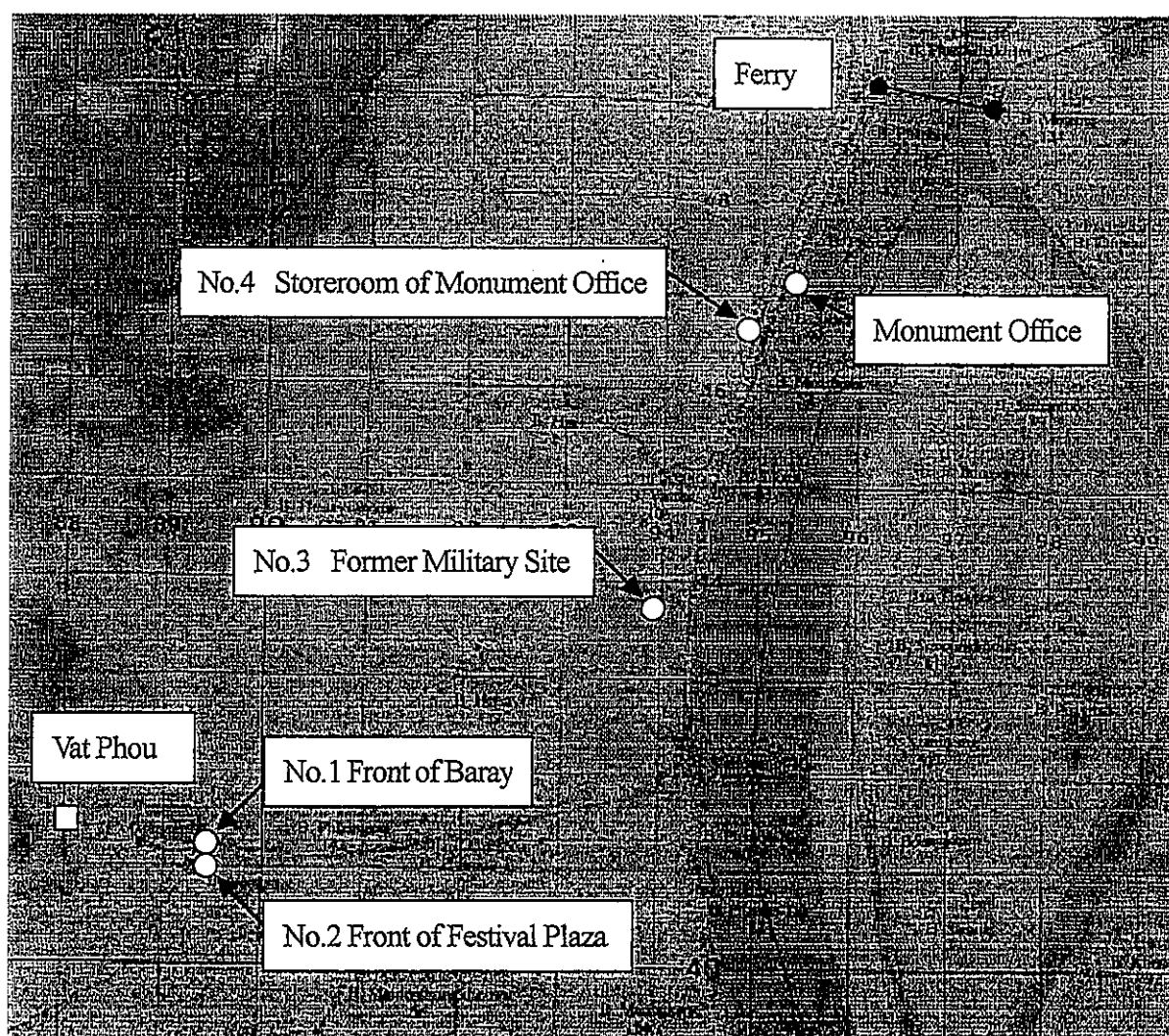
C = Third priority/ If possible



Construction of the archaeological repository

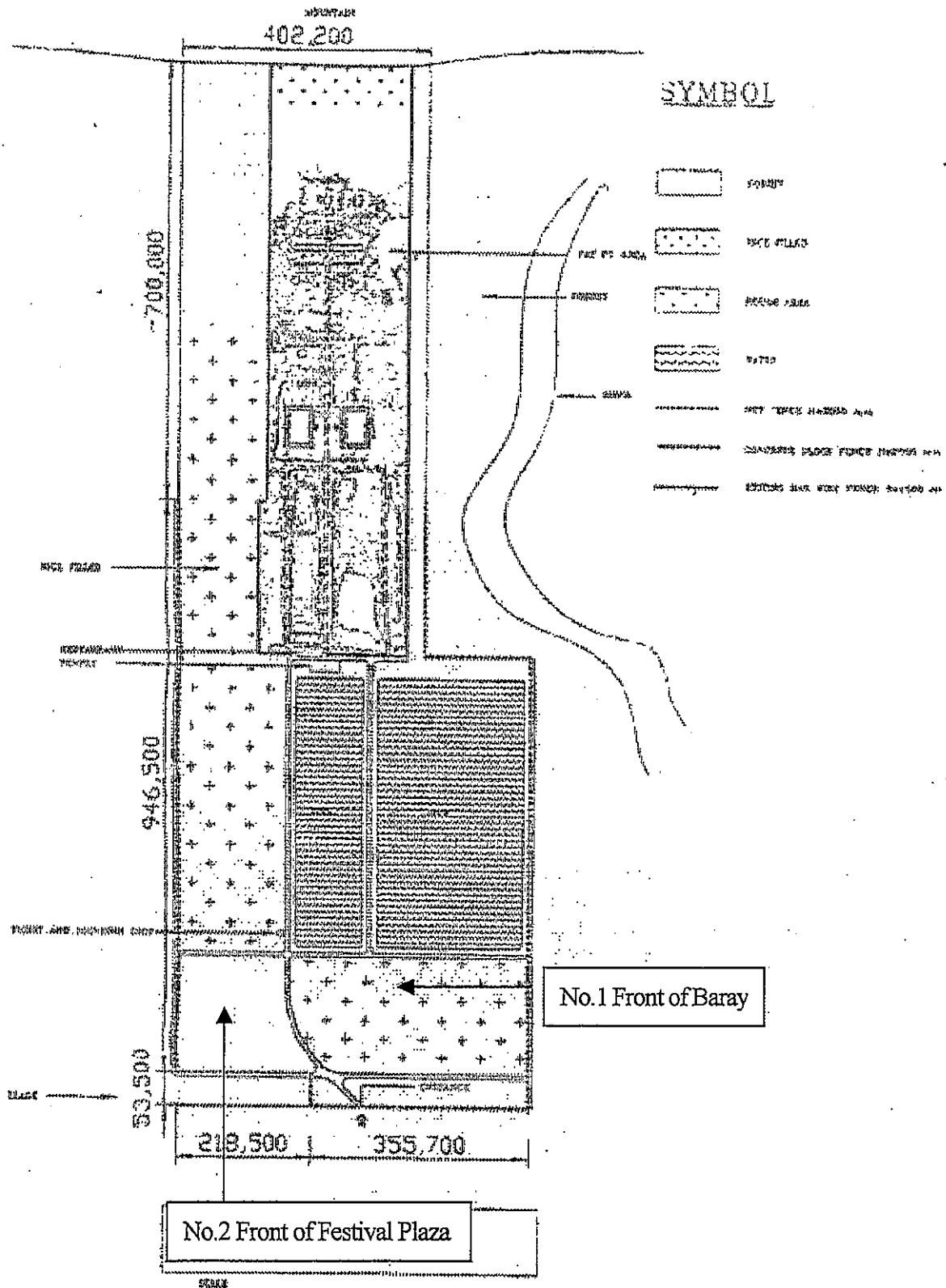
- 1) The archaeological repository includes Repository room, Exhibition room, Data room, Administration room / Reception and Common room.
- 2) The proposed sites by the Lao PDR side are shown in the following maps.

Map1: Champassak District



7E
R.R. 3/4

Map2: Vat Phou Cultural Heritage



02/2/20

Japan's Grant Aid Program

1. Japan's Grant Aid Procedures

(1) The Japan's Grant Aid Program is executed by the following procedures.

Application (request made by a recipient country)

Study (Basic Design Study conducted by JICA)

Appraisal & Approval (appraisal by the Government of Japan and approval by the Cabinet of Japan)

Determination of Implementation (Exchange of Notes between both Governments)

Implementation (implementation of the Project)

(2) Firstly, an application or a request for a Grant Aid project submitted by the recipient country is examined by the Government of Japan (the Ministry of Foreign Affairs) to determine whether or not it is eligible for Japan's Grant Aid. If the request is deemed appropriate, the Government of Japan assigns JICA to conduct a study on the request.

Secondly, JICA conducts the study (Basic Design Study), using (a) Japanese consulting firm(s).

Thirdly, the Government of Japan appraises the project to see whether or not it is suitable for Japan's Grant Aid Program, based on the Basic Design Study Report prepared by JICA and the results are then submitted to the cabinet for approval.

Fourth, the project approved by the cabinet becomes official with the Exchange of Notes signed by the Government of Japan and the recipient country.


Finally, for the implementation of the Project, JICA assists the recipient country in preparing contracts and so on.

2. Contents of the Study

(1) Contents of the Study

The purpose of the Basic Design Study conducted by JICA on a requested project is to provide a basic document necessary for appraisal of the project by the Japanese Government. The contents of the Study are as follows:

- a) confirmation of the background, objectives, benefits of the project and also institutional capacity of agencies concerned of the recipient country necessary for project implementation,
- b) evaluation of the appropriateness of the project for the Grant Aid Scheme from a technical, social and economical point of view,
- c) confirmation of items agreed on by the both parties concerning a basic concept of the project,
- d) preparation of a basic design of the project,

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e) estimation of cost of the project.

The contents of the original request are not necessarily approved in their initial form as the contents of the Grant Aid project. The Basic Design of the project is confirmed considering the guidelines of Japan's Grant Aid Scheme.

Final project components are subject to approval by the Government of Japan and therefore may differ from an original request. Implementing the project, the Government of Japan requests the recipient country to take necessary measures involved which are itemized on Exchange of Notes.

(2) Selection of Consultants

For smooth implementation of the study, JICA uses (a) registered consulting firm(s). JICA selects (a) firm(s) based on the proposals submitted by the interested firms. The firm(s) selected carry(ies) out a Basic Design Study and write(s) a report, based upon terms of reference set by JICA.

The consulting firm(s) used for the study is (are) recommended by JICA to a recipient country after Exchange of Notes, in order to maintain technical consistency and also to avoid any undue delay in implementation should the selection process be repeated.

3. Japan's Grant Aid Scheme

(1) What is Grant Aid?

The Grant Aid Program provides a recipient country with non-reimbursable funds to procure the equipment and services (engineering services and transportation of the products, etc.) for economic and social development of the country under principles in accordance with relevant laws and regulations of Japan. The Grant Aid is not supplied through the donation of materials or such.

(2) Exchange of Notes (E/N)

Both Governments concerned extend Japan's Grant Aid in accordance with the Exchange of Notes in which the objectives of the Project, period of execution, conditions and amount of the Grant Aid etc., are confirmed.

(3) "The period of the Grant Aid" means one Japanese fiscal year which the Cabinet approves the Project for. Within the fiscal year, all procedure such as Exchange of Notes, concluding a contract with (a) consulting firm(s) and (a) contractor(s) and a final payment to them must be completed.

(4) Under the Grant, in principle, products and services of origins of Japan or the recipient country are to be purchased.

When the two Governments deem it necessary, the Grant may be used for the purchase of products or services of a third country.

However the prime contractors, namely, consulting, contractor and procurement firms, are limited to "Japanese nationals". (The term "Japanese nationals" means persons of Japanese nationality or Japanese

corporations controlled by persons of Japanese nationality.)

(5) Necessity of the "Verification"

The Government of the recipient country or its designated authority will conclude contracts denominated in Japanese yen with Japanese nationals. The Government of Japan shall verify those contracts. The "Verification" is deemed necessary to secure accountability to Japanese tax payers.

(6) Undertakings Required to the Government of the Recipient Country

In the implementation of the Grant Aid project, the recipient country is required to undertake such necessary measures as the following:

- a) to secure land necessary for the sites of the project prior to the installation work in case the project is providing equipment,
- b) to provide facilities for distribution of electricity, water supply and drainage and other incidental facilities in and around the sites,
- c) to secure buildings prior to the installation work in case the project is providing equipment,
- d) to ensure all the expenses and prompt execution for unloading, customs clearance at the port of disembarkation and internal transportation of the products purchased under the Grant Aid,
- e) to exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which will be imposed in the recipient country with respect to the supply of the products and services under the Verified Contracts,
- f) to accord Japanese nationals whose services may be required in connection with the supply of the products and services under the Verified Contracts, such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work.

(7) Proper Use

The recipient country is required to maintain and use the equipment purchased under the Grant Aid properly and effectively and to assign staff necessary for the operation and maintenance as well as to bear all expenses other than those covered by the Grant Aid.

(8) Re-export

The products purchased under the Grant Aid shall not be re-exported from the recipient country.

(9) Banking Arrangement (B/A)

- a) The Government of the recipient country or its designated authority shall open an account in the name of the Government of the recipient country in a bank in Japan. The Government of Japan will execute the Grant Aid by making payments in Japanese yen to cover the obligations incurred by Government of the recipient country or its designated authority under the Verified Contracts.
- b) The payments will be made when payment requests are presented by the bank to the Government of Japan under an Authorization to Pay issued by the Government of the recipient country or its designated authority.

Major Undertakings to be taken by Each Government

NO	Items	To be covered by Grant Aid	To be covered by Recipient side
1	To secure land		●
2	To clear, level and reclaim the site when needed		●
3	To construct gates and fences in and around the site		●
4	To construct the parking lot	●	
5	To construct roads		
	1) Within the site	●	
	2) Outside the site		●
6	To construct the building	●	
7	To provide facilities for the distribution of electricity, water supply, drainage and other incidental facilities		
	1) Electricity		
	a. The distributing line to the site		●
	b. The drop wiring and internal wiring within the site	●	
	c. The main circuit breaker and transformer	●	
	2) Water Supply		
	a. The city water distribution main to the site		●
	b. The supply system within the site (receiving and/or elevated tanks)	●	
	3) Drainage		
	a. The city drainage main (for storm, sewer and others) to the site		●
	b. The drainage system (for toilet sewer, ordinary waste, storm drainage and others) within the site	●	
	4) Gas Supply		
	a. The city gas main to the site		●
	b. The gas supply system within the site	●	
	5) Telephone System		
	a. The telephone trunk line to the main distribution frame / panel (MDF) of the building		●
	b. The MDF and the extension after the frame / panel	●	
	6) Furniture and Equipment		
	a. General furniture		●
	b. Project equipment	●	
8	To bear the following commissions to a bank of Japan for the banking services based upon the B/A		
	1) Advising commission of A/P		●
	2) Payment commission		●
9	To ensure prompt unloading and customs clearance at the port of disembarkation in recipient country		
	1) Marine(Air) transportation of the products from Japan to the recipient country	●	
	2) Tax exemption and customs clearance of the products at the port of disembarkation		●
	3) Internal transportation from the port of disembarkation to the project site	(●)	(●)
10	To accord Japanese nationals whose services may be required in connection with the supply of the products and the services under the verified contract such facilities as may be necessary for their entry into the recipient country and stay therein for the performance of their work		●
11	To exempt Japanese nationals from customs duties, internal taxes and other fiscal levies which may be imposed in the recipient country with respect to the supply of the products and services under the verified contract		●
12	To maintain and use properly and effectively the facilities constructed and equipment provided under the Grant Aid		●
13	To bear all the expenses, other than those to be borne by the Grant Aid, necessary for construction of the facilities as well as for the transportation and installation of the equipment		●

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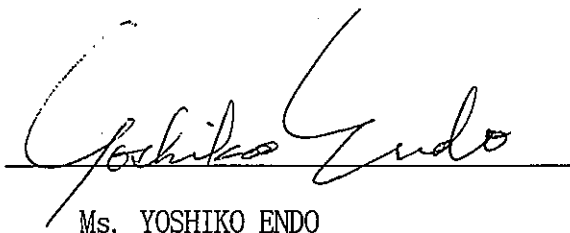
MINUTES OF DISCUSSIONS
ON BASIC DESIGN STUDY ON THE PROJECT OF PREPARATION
FOR CONSERVATION OF VAT PHOU ARCHAEOLOGICAL SITE
IN LAO PEOPLE' S DEMOCRATIC REPUBLIC
(EXPLANATION ON DRAFT REPORT)

In June 2001, the Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a Basic Design Study Team on the Project of Preparation for Conservation of Vat Phou Archaeological Site (hereinafter referred to as "the Project") to Lao People' s Democratic Republic (hereinafter referred to as " Lao PDR") and through discussions, field survey, and technical examination of the results in Japan, JICA prepared a draft report of the study.

In order to explain and to consult with the Lao PDR on the components of the draft report, JICA sent to Lao PDR the Draft Report Explanation Team (hereinafter referred to as "the Team"), which is headed by Ms. Yoshiko ENDO, Cultural Policy Division, Cultural Affairs Department, Ministry of Foreign Affairs, from October 4th, 2001 to October 13th, 2001.

As a result of discussions, both parties confirmed the main items described on the attached sheets.

Vientiane, October 12th, 2001

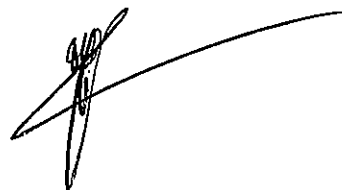


Ms. YOSHIKO ENDO

Leader

Basic Design Study Team

Japan International Cooperation Agency



Mr. THONGSA SAYAVONGKHAMDY

Director General

Department of Museums and Archaeology

Ministry of Information and Culture

ATTACHMENT

1. Components of the Draft Report

Lao PDR side agreed and accepted in principle the components of the draft report explained by the Team.

2. Japan's Grant Aid Scheme

Lao PDR side understands the Japan's Grant Aid Scheme and the necessary measures to be taken by the Government of Lao PDR as explained by the Team and described in Annex-3 and Annex-4 of the Minutes of Discussions signed by both parties on June 21st, 2001.

3. Schedule of the Study

JICA will complete the final report in accordance with the confirmed items and send it to the Government of Lao PDR around January 2002.

4. Other relevant issues

- 4-1. The local authorities in Champasak Province manifested that they would prepare necessary funds and new land outside of the Project site for the villagers who live in the Project site in compensation for their relocation. The Team had already confirmed the villagers' support to the relocation policy of the local authorities in the previous study.
- 4-2. The Lao side requested the consultant services to assist for the following activities as one of the components of the Japan's grant aid for the Project.
 - ① Measuring of stone structures and processing and recording of archaeological data.
 - ② Training on using the equipment to move stones.
 - ③ Elaborating restoration plan of the stone structures in Vat Phou archaeological site.
 - ④ Preparing display plan of the artifacts in the repository which is planned to be constructed by the Japan's grant aid for the Project.
- 4-3. The Lao side promised to fax the budgetary sheet of fiscal year 2001-2002 of the following organizations to the Team as soon as possible after October 14th, 2001 when the National Assembly closes.
 - ① Ministry of Information and Culture, ② Champasak Provincial Department of Information and Culture, ③ Government of Champasak Province, ④ Government of Champasak District
- 4-4. The Lao side will prepare an action plan to display the artifacts of Vat Phou archaeological site in the repository by November 20th, 2001.
- 4-5. The Lao side will complete archaeological excavation and prepare the survey report by the end of February 2002.
- 4-6. The Lao side will complete detailed display plan for the repository by the end of March 2002.
- 4-7. The Lao side will construct the storage for the equipment like truck crane, which is planned to be procured by the Japan's grant aid for the Project.