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Willingness to Pay for Historic Structures Preservation: An Empirical Study of Vat Phou at Champasak Province, Lao PDR

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Abstract

This paper presents an empirical study of willingness to pay for the historic structures preservation project at Vat Phou and Associated Ancient Settlements within the Champasak Cultural Landscape by those Lao citizens living in Vientiane capital. A Dichotomous choice contingent valuation (DCCV) survey have been conducted in Vientiane capital to assess the magnitude of Lao citizens' willingness to donate to historic structures preservation project at Vat Phou. The study found that the mean willingness to pay of respondents was LAK 36,239.75 or around US$ 4.8. With the logit model, factors that strongly affecting individuals' willingness to pay were the bid amount, the income and the age of respondents. The willingness to pay analysis here is important for policymakers in deciding how to preserve the structures efficiently.

Keywords: Historic Structures Preservation, Willingness to Pay, Vat Phou

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ความเต็มใจจ่ายเพื่อการอนุรักษ์โบราณสถาน กรณีศึกษาปราสาทหินวัดพู แขวงจำปาสัก ประเทศสาธารณรัฐประชาธิปไตยประชาชนลาว

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บทคัดย่อ

งานวิจัยชิ้นนี้มีวัตถุประสงค์เพื่อศึกษาเชิงประจักษ์ของความเต็มใจจ่ายเพื่อการอนุรักษ์โบราณสถานโดยใช้ปราสาทหินวัดพูที่แขวงจำปาสักประเทศ สาธารณรัฐประชาธิปไตยประชาชนลาวเป็นกรณีศึกษา ผู้วิจัยได้ทำการการเก็บกลุ่มตัวอย่างที่นครเวียงจันทร์เพื่อศึกษาถึงความเต็มใจจ่ายในการอนุรักษ์สิ่งก่อสร้างทางประวัติศาสตร์โดยใช้ปราสาทหินวัดพูโดยเทคนิค Dichotomous Choice Contingent Valuation (DCCV) การศึกษาพบว่า ความเต็มใจจ่ายเพื่อการอนุรักษ์สิ่งก่อสร้างทางประวัติศาสตร์ปราสาทหินวัดพูอยู่ที่ประมาณ 36,239.75 กีบ (หรือประมาณ 4.8เหรียญสหรัฐ) ต่อคน จากการวิเคราะห์ด้วยแบบจำลองโลจิต พบว่าความเต็มใจจ่ายนี้ขึ้นอยู่กับปัจจัยด้านรายได้และอายุของผู้ตอบแบบสอบถามเป็นสำคัญ ผลของการศึกษาจะเป็นประโยชน์สำหรับผู้กำหนดนโยบายในการวางแผนสำหรับการจัดทำโครงการอนุรักษ์โบราณสถานนี้ได้อย่างมีประสิทธิภาพ

คำสำคัญ: การอนุรักษ์โบราณสถาน, ความเต็มใจจ่าย, ปราสาทหินวัดพู

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1. Introduction

The contingent valuation method (CVM) is a survey-based methodology that has been employed for eliciting values people place on goods, services, and amenities. It utilizes a hypothetical market where an individual can bid on the market goods. The first CVM study was conducted by Davis (1963) to estimate the benefits of outdoor recreation, specified in value of big game hunting in Maine Park by personal interview of 121 hunters and recreationists (Boyle, 2003: 111-169). Davis' results discovered that willingness to pay values were a function of the users' income, length of stay, and acquaintance with the area. Davis' technique was quickly applied to other economic studies. Hammack and Brown (1974) employed CVM in valuing waterfowl hunting, using different technique. Application of CVM estimated values found were commonly compared to values estimated with other non-market techniques (travel cost method). In 1979, Water Resources Council (1979) published a document that set federal guidelines for evaluation techniques, which CVM listed as one of three methods to be used. In the late 1980s and early 1990s, the US Army Corp of Engineers (ACOE) adopted the CVM and published a series of handbooks that described the appropriate framework for the CVM procedure (Moser & Dunning, 1986; Hansen & Badger, 1991; Hansen et al., 1990 and Mills et al., 1993).

Several CVM studies have been presented in a number of literatures in regard to historical site preservation. Pollicino and Maddison (2001: 131-148) applied CVM technique to value the benefits of cleaning Lincoln Cathedral, by randomly asking WTP questions to inhabitants of the city of Lincoln and the surrounding area. The hypothetical proposals were the willingness to pay for a change in the frequency of a cleaning cycle from 40 years to 10 years. The change was illustrated by photographs which showed the same aspects of the Cathedral half-way through the two cleaning cycles. Individuals were also asked questions regarding their attitudes towards air pollution in general and its impact on the Cathedral in particular. As a results of their study income and a variable indicating distance from the site were best factors predicting household willingness to pay. The mean willingness to pay has ranged from £15 to £23 per household per annum for those living in Lincolnshire. It indicated that aggregating these values over the number of households in Lincolnshire suggests the annual damage inflicted by air pollution on the appearance of the building so far as soiling is concerned was valued between £0.4m and £0.6m. They concluded that different solutions to the problem of starting point bias were explored and are shown to yield similar estimates of willingness to pay.

An online database form Environmental Valuation Reference Inventory (EVRI), a large online database (EVRI, 2011: 2) indicated that there were 2015 studies based upon stated preferences, 860 studies based upon revealed preferences, and 640 studies based upon actual market pricing method.

CVM technique can include open-ended WTP question formats (direct calculation) or double-bounded close-ended WTP questions (indirectly using a statistical model). Open-ended question formats tend to produce numerous non-responses and protest bids (Desvousges et al. 1983). It requires the respondent to answer a series of dichotomous-choice bid formats until an upper-bid amount is reached. While a dichotomous bidding response is used to help improve the biases associated with the open-ended question format. The former question format was first developed by Hanneman (1984: 332-341). While the latest format was developed by Bishop and Hellerstein (1979: 620-630). They have improved a dichotomous bid format and made the elicitation process easier for the respondents. From then on, a dichotomous bidding format known as single-bounded dichotomous-choice question format. This technique used one bid question (Yes or No to single bid amount) that was easier for the respondent but required a much larger sample size (Hanneman et al. 1991: 1255-1263).

CVM's survey formats are dependent on what information is a needed and budget constraint of the survey agency (Pollock et al. 1994). Types of CVM surveys generally are conducted in three formats: face-to-face, mail or telephone. The most commonly used was a combination of an on-site face-to-face survey formats, followed by a telephone or mail surveys. Each survey format has its strengths and weaknesses that researchers must consider during their survey design as the CVM questions often involve complex and intricate scenarios that likely benefit from visual aids and careful description. Fist, on-site face-to-face interview survey provides motivation to the interviewee to complete the survey and providing opportunity for necessary descriptions and visual aids. The presence of the interviewer also allows any unclear scenarios to be discusses and reduces the amount of unusable data collected. In contrast on-site face-to-face surveys are expensive, requiring many man-hours to obtain proper sample sizes. Second, telephone and mail surveys are less expensive technique and use less numbers of man-hours compared to the previous technique.

Seenprachawong (2006: 13-22) used a CVM with close-end technique to value ten historic temples in the central region of Thailand. The payment vehicles used were the amount of a one-time surcharge in income tax and a one-time voluntary contribution (donation). Furthermore, the research explored respondent's choice whether they are able to identify their values for two

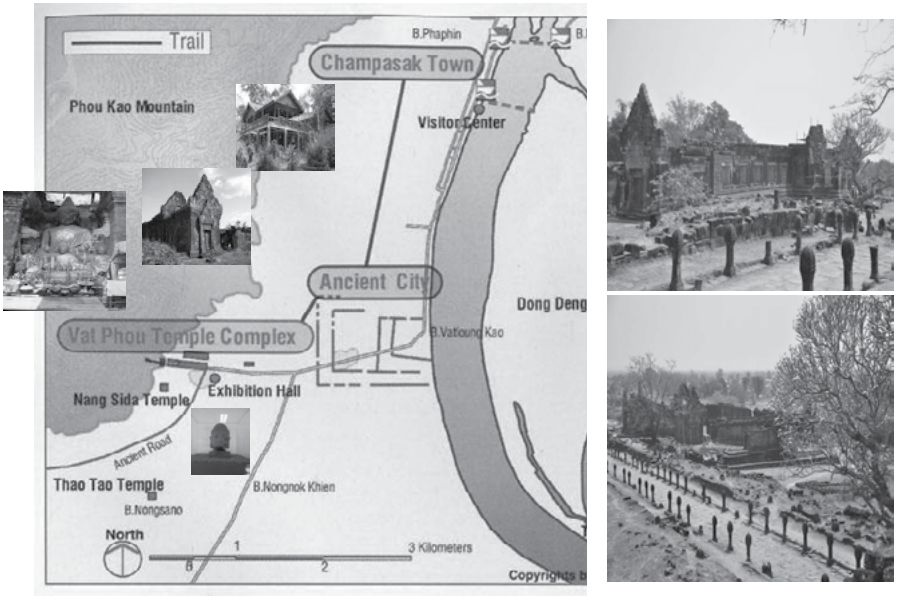
temples versus their values for ten temples. As a result of the study, respondents did pass the scope test so that respondents wish to pay more for a greater number of restored temples. An individual is willing to pay THB214 for a one-time income tax surcharge and THB243 for a voluntary donation to finance the preservation program of ten historic temples. In relation to the socio-economic variables, income and education level were significant with the economic theory such that respondents with a higher income had a higher WTP than a respondents with lower income, and respondents with a higher education pay more than those with lower ones.

Tuan (2006: 1, 18 - 25) applied a single bounded dichotomous choice of CVM to estimate the economic value of a World Heritage Site of My Son Sanctuary in Vietnam by proposing a restoration and preservation plan for the site. The payment vehicle for this study was an entrance fee for visitors and tax for non-visitors. As a result of the study, the mean WTP estimates vary among groups of respondents such that foreign visitors to My Son would be willing to pay USD 8.78 per person and Vietnamese visitors mean WTP was $1.67 per person.

This research has decided to employ CVM for valuing Vat Phou, the WH cultural landscape in Champasak Province, Lao P.D.R, regardless of some drawbacks of CVM. First CVM is the improvement of the valuation techniques themselves. Second, the development of the cultural CVM literature presents important background information about the value of different cultural goods. It also points to trends and suggests future directions for research in the economic valuation of cultural goods. Finally, it indicates some of the methodological issues that are particular to the cultural context, and how some of these have been addressed in practice (Noonan, 2002: 2).

Vat Phou was adopted by UNESCO as the second world heritage site of Laos in 2001. The site covers a total of 390 square kilometers. The whole site is a unique and precious symbol of the Lao cultural landscape. Vat Phou is valued for its cultural and natural landscape. The inscription of the site include the sacred mountain of Phou Kao, the Hong Nang Sida Temple and the City of Lingapura, the ancient roadway that once led to Angkor, Thao Tao, Tham Lek, Vat Oubmung, the Tomo temple, the ancient city of Shrestrapura, Champasak and the Island of Don Deng (Figure 1).

Figure 1: Map of World Heritage Site of Vat Phou Property

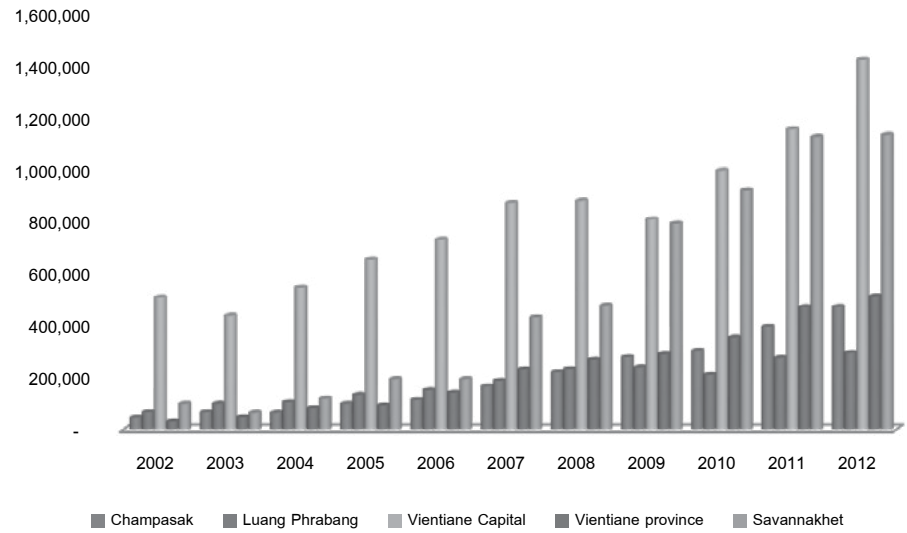


Source: UNESCO (1999)

Vat Phou is a highlight tourist's destination in Champasak province and it is a highly popular tourist site in Laos, which is placed higher up the ranking than other sites in the country (Figure 2). From 2002 to 2012, the number of tourists visiting Champasak where Vat Phou is located ranked as forth in the list for tourist arrivals to Laos. Whilst the first, the second and the third destinations of tourist arrivals to Laos are Vientiane Capital, Savannakhet and Vientiane Province respectively. However, since the first three cities are the main gates into Laos, either by land and by air, it is not surprising that the numbers of tourist arrivals are higher than other provinces.

In addition, the average growth rate of visitors visited Vat Phou from 2002 to 2012 was about 27.45% per year (Tourism Development Department, 2012: 16). The site is vertically managed by the Department of World Cultural Heritage, the Ministry of Information, Culture and Tourism (MICT), and horizontally managed by the local government authority.

Figure 2: Tourists Numbers of Top five Provinces in Laos (2002-2012)



Source: Department of Tourism Development, 2009

The site meets specific criteria which give this site a greater value and priority over other historical sites in Laos. Vat Phou site management progress has fallen behind if compared to the other heritage sites in Laos. The main major area considered to have contributed to this lack in management progress are not sustainable for the supportive funds for the site preservation and lack of evidence on public financial supportive behavior toward their world heritage site. Although Vat Phou is operated under government financial support and inter-governmental funding like other sites in Laos, budget constraints limit the possibility of preserving the historical structures in the site. Vat Phou suffers from a limited budget which restricts site preservation. The national budget allocated for Vat Phou management has been very small as it competes with other development programs, such as infrastructure improvement, education, public health care, or even military spending. Each year, the site needs to receive the budget from the government to be managed and preserve the site of about LAK 1,800 million per year.

Several project proposals, which focus on preserving individual sites, have been submitted to UNESCO, but they do not address the issue of financial impact to the local or national economy or value benefits. According to the office of the UNESCO Regional Advisor for Culture in Asia and the Pacific (2010), currently, there are still a number of projects for which funding is being sought, namely the project of Interpretation and Site Enhancement at Vat Phou, the Interpretation and Site Enhancement at Tomo Temple, the Interpretation and Site Enhancement at Nang Sida

Temple, the Interpretation of the Champasak Cultural Landscape, the project of Historic Structures Inventory, the project of HATCH Program Development: Support for Traditional Crafts, and the Heritage Booklet for Lao School Children. Each project has an identified specific cost for its implementation by the office of the UNESCO Regional Advisor for Culture in Asia and the Pacific. The amount of each project is USD 4,500; USD 3,300; USD 3,200; USD 3,000; USD 8,500; USD 1,850; USD 10,000 respectively, a total of USD 34,350. However, the estimation of the benefits of these projects, including the recreational use value and the motivation of financial support from non-use value of the site has not been addressed.

Inter-agency and Lao government projects under the preservation and protection plan do not consider strategically the long-term impacts or sustainability once financial support has been withdrawn. The question of how much local residents have been involved in project consultation and how much they will support the continuance of projects once project funding terms are completed remains unanswered. This paragraph outlines some of the projects and activities.

There has been increasing activity within the Vat Phou preservation and protection plan, which targets the preservation of art, architecture, monuments, religious heritage, social interaction and lifestyle of local people in the geographical region. For example, the training project in Museology in the Exhibition Hall, the project of archaeological maintenance and management surrounding the site, the on-site conservation project, the project for the development of interpretive strategies, and the project of updating the action plan (UNESCO, 2010). These activities are included in the overall project and co-financed by inter-governmental agencies and the Lao government, and are co-funded by international and local organizations such as:

(1) the co-financed project between Italian-Japanese-Lao governments on the restoration of the principal monuments of the Vat Phou archaeological sites aimed at preventing the loss of architectural material and damage by water erosion, the conduct of archaeological research on the monuments, enhance visibility, and to conduct training in the conservation of stone artifacts and mapping;

(2) the coordination and cooperation between the site managers of the protected site and the policy-makers and administrative officials in on-site training on archaeological maintenance and management;

(3) the cooperation of the Asian Development Bank (ADB) and the National Tourism Authority of Lao PDR on the reproduction of promotional materials and construction of a visitor center at Vat Phou which aims to enhance the understanding of the integrated value of the Champasak Cultural Landscape and promote cultural tourism experiences for Lao and international communities;

(4) the UNESCO and ADB projects on the interpretive video aims to provide visitors with an overall sense of the cultural landscape using a digital flyover technique as well as the use of a 3-D model for the Vat Phou temple to provide a high level of understanding of both the overall landscape and the temple. The project also includes an interpretive model, a heritage trail, heritage signage and dedicated website. However, from a long-term development perspective, it is still unclear how residents view and support the sustainability of such protection projects, cultural and ecological integrity in relation to future generations who would live in their adopted area.

Thus, based on the existing evidence it is found that although Vat Phou has advantages over the other sites in Laos in terms of tourist numbers and the growth rate of tourism. The issues that can be found in Vat Phou WHS can be summarized into two major areas: (1) limitation and unsustainability of supportive funds for the site preservation and conservation; (2) lack of evidence on public financial supportive behavior toward WHS.

As a consequence it is questioned, whether the site of Vat Phou's worth to the public, particularly to Lao citizens in order to receive continuing support from them. While options to increase sites' revenues remain unclear because of the lack of information on demand parameters and user costs. This information is relevant and useful for decision makers, especially at the local level. In addition, if it is, what is an appropriate way to promote fund raising from the public to preserve Vat Phou as a national project and what factors influence public motivation to support their unique WHS as Vat Phou.

The objective of this study is to obtain in-depth information from Lao citizens, first to estimate their willingness to pay for the historical structures preservation at Vat Phou, second is to determine the factors affecting their willingness to pay and third is to understand why individuals were or were not willing to pay to preserve historical structures at Vat Phou.

To fulfill the objective of the study, the research questions are (1) How much would individuals be willing to pay as a one-time payment in their income to finance this project? (2) What are the key factors influencing an individual's payment to this preservation project? (3) What are the reasons for an individual's decision to contribute or not contribute a part of their income to the preservation project?

This study had defined the population as Lao citizents, who are currently working, and who have been working in both government and private sectors in Vientiane, regardless of where

they originally came from. In this respect, nine organisations were randomly chosen as sample respondents. These nine organisations had been randomly drawn from 17 organisations. They are two government organizations, two state-owned enterprise, three educational institutions, and two textile factories.

It is expected that the outcome of this study will not only contribute to the cultural economic literature of Laos, but also provide information to the local government officials and site administrators, including the central government of Laos on the total individual resident-value of the world heritage site. It is highly expected that using the outcomes of this study, researchers will be able to provide more informed guidance to the government in order to improve decision-making on the management of World Heritage Sites such Vat Phou.

The 'Historic Structures Preservation' project is one of the preservation projects for Vat Phou that has not yet been implemented due to the limitations of the government budget and supporting funds from the public. The objective of the project was to determine, evaluate and preserve historical buildings and the standing vernacular historic structures within the site as potential contributing components to the cultural landscape of the Champasak Heritage and Cultural Landscape Protection Zone.

It would be difficult to predict precisely the effects of the Action Plan. However, the consequences of the project are expected to make some improvement:

A. All traditional wooden Lao houses, temples and other buildings 50 or more years old in the town of Champasak will be mapped, photographed and recorded descriptively.
B. There would be historical information about each structure
C. The information about each structure will be incorporated into the project's GIS and database
D. Those structures will then be subject to the protective restrictions of the Champasak Heritage Management Plan
E. Some seriously at risk structures will be then renovated by retaining the same structures.

This project has an identified specific cost for implementation by the office of the UNESCO Regional Advisor for Culture in Asia and the Pacific (2005). The estimation of project cost is about USD 34,350. Thus in all likelihood there would be a cost to the Lao population in Laos in implementing this Protection Plan. Financial support from different groups of Lao would be necessary to help finance this plan through donations.

To implement the Action Plan, a Vat Phou Trust Fund should be established. The citizens of Laos would be asked to pay a one-time donation into the Trust Fund. The only purpose of the Vat Phou Trust Fund would be to finance the implementation of the action plan.

The Fund would be managed and administered by a Board of Governors comprising various government sectors so as to minimize any possible conflicts of interest. The board would consist of the Governor of Champasak province, representatives of the Ministry of Culture and Tourism, the Vat Phou Authority Management, the Mayor of Champasak district, and representatives of the Cultural office of Champasak district. The board would also include community groups from villages in Champasak district as well as local residents of the Vat Phou area. The activities of the board would be completely transparent. An independent auditing of the board would be performed annually, and made public. A summary of the total financial transactions would be widely and publicly available.

Figure 3: Risk Structures at Vat Phou

2. Methodology

A dichotomous choice CV was used in this study to measure individual-level values for maintaining the historic structures at Vat Phou by preserving it in its original form or condition. Since the general public was assumed not to have any property rights to the structures, a WTP measure was used.

To illustrate the basic idea of DC contingent valuation by considering an individual's WTP, this study has borrowed the functional form of McConnell (2002). The basic model for analyzing answers from DC questions in a CV study is the random utility model.

2.1 Model

Supposing that the individual derives utility from participation in supporting the preservation project at Vat Phou and from money income. To represent support, the subscript indicator i is introduced, where i=0 is the initial state and i=1 is the final state of the historic structures in the question. The initial state is the current state of historic structures without the project. The final state is a hypothetical state assuming that the proposed preservation plan for the historic structures as presented in the scenario of the questionnaire is carried out. Income is denoted by Yj, and other observable attributes of the individual which might affect his/her preference (e.g. age, education, family size, etc) are denoted by vector Z.

The indirect utility function for respondent j is expressed as follows:

$$U_{ij} = Ui\ (Y_j, Z_j, \varepsilon_{ij}), \text{ where} i=0,1 \quad (1)$$

ε_{ij}ijis a component of unobserved preferences of the respondents. Since there is a change from state '0' to state '1', there will be another attribute called the quality of the historic structures Q, which should be included in the model. Thus, the utility function in both states can be rewritten as follows:

$$U_{0j} = U_0\ (Yj, Z_j, Q_0, \varepsilon_{ij}) \quad (2)$$
$$U_{1j} = U_1\ (Y_j, Z_j, Q_1, \varepsilon_{ij})$$

Supposing that respondents are asked whether they are willing to pay Aj to change from state "0" to state "1"; if the answer is "Yes", their utility in state "1" must be higher than that in state "0" as shown in the equation below.

$$U_{1j}\ (Yj - Aj, Zj, \varepsilon_0 j) > U_{0j}\ (Yj, Zj, \varepsilon_0 j) \quad (3)$$

The probability for answering “Yes” is the probability that respondents think they will be better off in state “1” although they have to pay Aj.

$$Pr(Yes_j) = Pr\{U_{1j}(Y_j - A_j, Z_j, \varepsilon_{0j}) > U_{0j}(Y_j, Z_j, \varepsilon_{0j})\} \quad (4)$$

A crucial assumption is that, although the individual knows his/her utility function Uijwith certainty, it contains some components which are unobservable to the econometric investigator and are treated by the investigator as stochastic; these serve to generate the stochastic structure of the statistical binary response model. These unobservable components could be characteristics of the individual or attributes of the donation/not-donated alternatives or both. Thus, to the economist U_{0j} and U_{1j} are random variables with some probability distribution and with means $V_{0j}(Y_j, Z_j, \varepsilon_{0j})$, and $V_{1j}(Y_j, Z_j, \varepsilon_{1j})$, which depend on the observable characteristics of the individual through given parametric functions. The probability of saying ‘Yes’ can be written as:

$$Pr(Yes_j) = Pr\{V_{1j}(Y_j - A_j, Zj, \varepsilon_0 j) > V_{0j}(Yj, Zj, \varepsilon_0 j)\} \quad (5)$$

Supposing that the utility function is linear, we can write:

$$V_{1j}(Y_j - A_j, Z_j) = \alpha_1 Z_j + \beta_1(Y_j - A_j) \quad (6)$$

$$V_{0j}(Y_j, Z_j) = \alpha_0 Z_j + \beta_0 Y_j$$

$$V_{1j}(Y_j - A_j, Z_j) - V_{0j}(Y_j, Z_j) = (\alpha_1 - \alpha_0)Z_j + \beta_1(Y_j - A_j) - \beta_0 Y_j$$

With the assumption that the marginal utility of income is constant between state “0” and state “1”, $\beta_1$equals β_0, so we have:

$$V_{1j} - V_{0j} = (\alpha_1 - \alpha_0)Z_j - \beta A_j \quad (7)$$

Denoting $\alpha = (\alpha_1 - \alpha_0)$, we can rewrite the equation as follows:

$$V_{1j} - V_{0j} = \alpha Z_j - \beta A_j \quad (8)$$

The probability for answering “Yes” will be:

$$Pr(Yes_j) = Pr(\alpha Z_j - \beta A_j + \varepsilon_j > 0) \qquad \varepsilon_j = \varepsilon_{1j} - \varepsilon_{0j} \quad (9)$$

To estimate the random utility model with a linear utility function, we estimated a logit model with Yes/No responses to the WTP question as the dependent variable, and the bid and other household characteristics as the explanatory variables as follows:

$$Pr(Yes_j) = a_0 + a_1 bid + \sum a_i X_i \quad (10)$$

2.2 Variables

The variables to reflect WTP of Lao citizens for historic structures preservation at Vat Phou included the socio-economic variables of the respondents; the information about respondent's Plan knowledge, Media and Certainty; and the respondent's attitude towards preservation of historic structures. Five variables were included to account for these attitudes: (i) the respondent's opinion regarding the importance of preserving historic structures; (ii) the respondent's opinion regarding the change of the historical, cultural and symbolic value of Vat Phou by preserving historic structures; (iii) the respondent's opinion regarding the change of the value of WHS for recreational use associated with preserving historic structures; (iv) the respondent's opinion regarding the reality of the trust fund to implement the action plan; (v) the respondent's reasons for determining their maximum amount to donate to the action plan was also included in the survey questionnaire.

Knowledge of previous studies has found that income, education, and household size have impacts on WTP for historic resources (Carrot, 1996: 423-430; Whitehead, Chambers & Chambers, 1998: 137-154; Garrod & Willis 2002: 44-67; Mourato, Kontoleon, & Danchev 2002: 68-104; Riganti & Willis 2002: 142; Santagata & Signorello 2002: 238-246). A general conclusion drawn from the studies in Navrud and Ready (2002: 3) indicate that positive values for historic resources are typically held by wealthier and more educated segments of the population. Thus, education and individual income were expected to increase WTP for preserving the historic structures of Vat Phou. With individual income, a positive relationship also supports the theoretical validity of a WTP model (Whitehead, Chambers & Chambers, 1998: 137-154).

Whitehead, Chambers and Chambers (1998: 137-154) have found that WTP had an inverse relationship with family size, suggesting that less disposable income is available for donating to historic preservation. On the other hand, variables such as sex and age were expected not to have an effect on predicted WTP (Noonan, 2002: 14).

According to Navrud and Ready (2002: 9) knowledge of historic resources, previous donations made to preservation organizations, interest in cultural heritage, and belief that historic places

should be preserved are often important factors in cultural valuation studies. Thus, in this study, respondents' knowledge, attitudes, and behavior were expected to influence their WTP.

Table 1: Variable Descriptions and Expected Signs

Variables	Descriptions	Expected signs
WTP	Willingness to pay	
Gender	Dummy variable (1= male, 0=female)	+
Income	Monthly income of respondents	-
Status	Dummy variable (1=married, 0=others)	+
Age	Age of a respondents	-
Education	Dummy variable (1=postgraduate and higher, 0=others)	+ or -
Occupation	Dummy variable (1=government staff, 0=others)	+ or -
Family member	Number of respondent's family member	+ or -
Working member	Number of working people in the family	+ or -
Bid	Bid amount	-

2.3 Questionnaire Design and Sampling.

The CVM questionnaire used in this study had four main parts. The first part was the personal information of the respondents such as gender, age, educational background, occupation and monthly income as well as the number of members in the family. The second part asked for information related to the standing of Vat Phou consisting of three questions (Have the respondents ever seen Vat Phou in their life?, Have they visited Vat phou in the past 12 months? and will they ever visit Vat Phou in the future); two questions related to Vat Phou and the media. Part three of the survey questions asked about the charitable habits of respondents. The last section of the questionnaire was designed to obtain WTP information to the proposed project of preserving Vat Phou. In this part, information about the cost of the action plan and the plan implementation was also provided. Respondents were asked to assume making a once-only donation for the project to a trust fund established for the implementation of the action plan, administered by a board of governors comprising various and reputable interest groups so as to minimize any possible conflict of interest.

The survey question in this part included a dichotomous choice question to prevent the future loss of the historic structures, a level of certainty of respondents which stated their WTP intention; followed by a question asking them for maximum willingness to contribute to the project if they refuse the DC question. The DC question was "If you were asked to donate_____ LAK to the Vat Phou Trust Fund to support the significant historic structures preservation at Vat Phou, a World Heritage Site, would you willing to contribute?"

The twelve bids used in the WTP question were obtained through pretests. A pretest was held in Vientiane with four different income groups ranging from no income to high income earners. Each group was made up of 30 people. The bids were then revised and finalized for use in the questionnaire. The final twelve bids were: LAK 20,000; 30,000; 40,000; 50,000; 60,000; 80,000; 100,000; 120,000; 150,000; 200,000; 250,000; 300,000 in which US$ 1.00 is approximately LAK 7,550.00

Follow-up questions were asked to assess the respondents' judgment of support of residents for the action plan, the feasibility of reaching the target of the action plan, the change of the historical, cultural and symbolic value of the site with the protection of its cultural historical structure, and their confidence in the trust fund management and in the implementation of the action plan. There were total of 32 questions in this survey.

In order to construct a sample of individuals in the capital city of Laos, we firstly selected 17 organizations from different sectors, including government agencies, state-owned enterprises, and private companies, by sending a request letter to the head of each organization to ask for participation in this academic survey. The letters were also sent to educational institutions, where short-term training courses for general staff and government officers from different parts of the country are conducted. We did this in order to capture as much as possible a variety of respondents. In the request letter, we explained the purpose of the study, its significance and the reasons why we approached them including a sample of the questionnaire and the instructions for how to answer the questions. In the last section of the letter, we requested they inform us about the number of staff wishing to participate in the survey and the due date for response to the request letter. Within two weeks, we received responses from nine organizations. The organizations that wished to participate in the survey included the National Academy of Politics and Public Administration, the Ministry of Labor and Social-Welfare, Sengsavanh Business College, Lao-Singapore Business College, the Com-Center Educational Institute, Lao Telecommunications Ltd., Enterprise Telecommunication Lao (ETL), and two textile manufacturers.

In this empirical study, a mail survey was employed as the questionnaire including a long description of the project and respondents needed to have sufficient time to read and complete the questions. Although, this system of surveys generate relatively lower response rates and less reliable information than do personal interviews (Boyle, 2003: 112), mail surveys can present better descriptive information than by using other types of survey instruments such as telephone and internet surveys. This study was not considered to conduct personal interviews due to its prohibitive cost, although it was advocated by Mitchell, Carson (1989: 902) and NOAA's Blue Ribbon Panel (NOAA, 1993: 38) as an instrument which generates greater reliability. This study

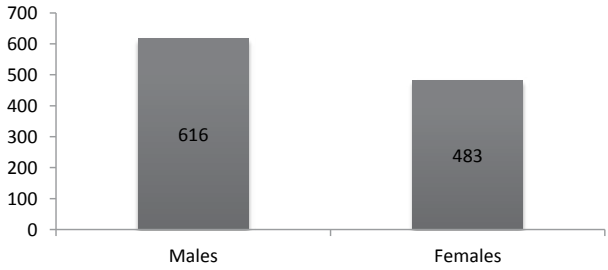
was considered inappropriate as an Internet or telephone survey; again due to expense and the likelihood it would not be representative of the general population because of lack of Internet access (Dillman, 2000: 9).

As a result of the acceptant letters with the number of participants from each organization, a total of 1,212 surveys were mailed to the nine organizations on 2 April 2013. To improve the response rate, a pen was included for each sample to the same address as an incentive to return the survey. A short note on the contact persons, the collection date and time was also included in each envelope.

3. Analysis and Results

The surveys to determine the WTP for the preserving project at Vat Phou were completed at the end of May 2013. A total of 1,115 surveys were returned, of which 1,099 could be used for the analysis of WTP. Among the respondents, nearly half were females (43.95 percent) answering the questionnaires (Figure 4). This finding can be explained by the fact that the proportion of females working in an organization is equivalent to the male number.

Figure 4: Respondents' Gender



The average age was 32.84 years old, while the biggest proportion of respondents' age was in between 26 to 35 years old, accounting for 38.58% (Figure 5). The highest percentage of respondents are government agencies staff, accounting for 51.32 percent, of which 8.46 percent belong to military forces; followed by staff working in private organizations, and staff working in state-owned enterprise agencies, accounting for 13.01 percent and 12.19 percent respectively as well as those who are working as laborers, accounting for 10.46 percent (Figure 6). About 52 respondents are businesspersons, accounting for 4.73 percent, 46 respondents are students, accounting for 4.19 percent and only 17 people are housewives, and 26 people were indicated as others, accounting for 2.37 percent of the total sample (Figure 6).

Figure 5: Respondents' Age

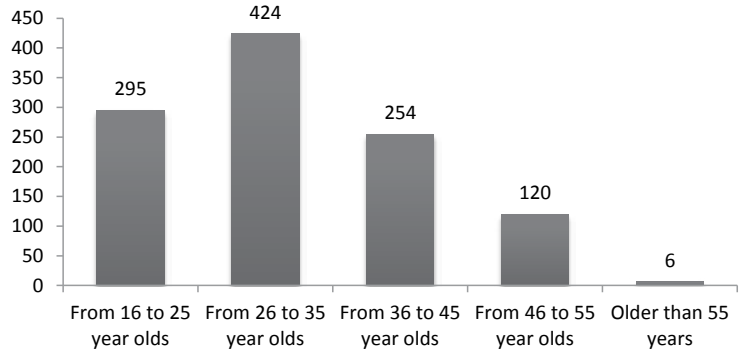
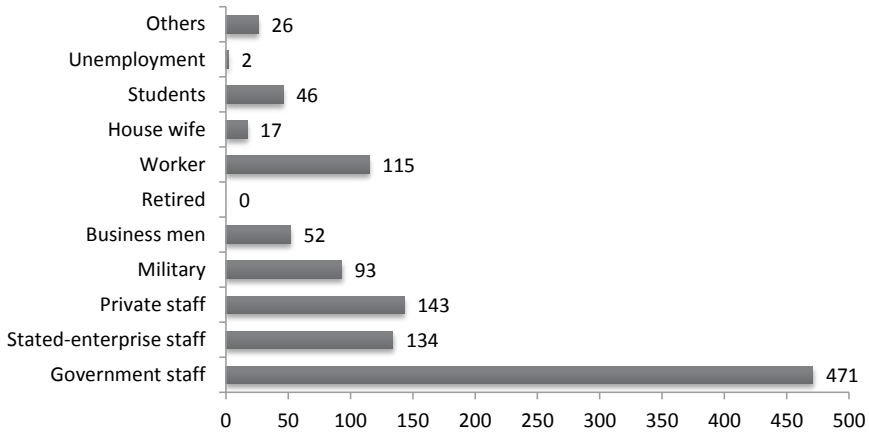
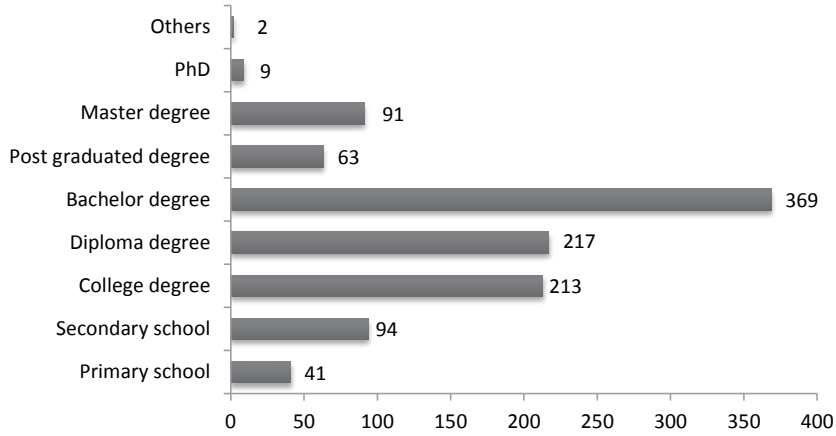


Figure 6: Respondents' Occupation



Respondents who hold Bachelor Degrees made up the largest proportion, accounting for 33.58 percent, followed by those who hold Diplomas, College and Masters Degrees, accounting for 19.75 percent, 19.38 percent, and 8.28 percent respectively. Those who hold a Secondary certificates accounted for 8.55 percent of total respondents, and 63 people whole Postgraduate degrees, accounting for 5.73 percent of respondents. Only nine people held Doctoral Degrees accounting for 0.82 percent of total respondents, and 2 others, accounted for 0.18 percent (Figure 7).

Figure 7: Respondents' Educational Background



The average number of family members of respondents was about 5 persons per family, and the average number of members who earn an income was 1.38 people (Table 2). In respect to income, the average individual monthly income of the respondents is approximately LAK 2,880,008 or around US$ 366.

Table 3 shows that about 10.28% of respondents indicated that they had never heard about events at Vat Phou on TV, radio or in the newspaper in the previous 12 months. While 42.13 percent had heard a few times (1 to 5 times), 29.12 percent had heard several times (6 to 10 times), 8.46 percent had seen or heard many times (11 to 20 times) and 8.83 percent of respondents had heard more than 20 times.

More than half of the respondents have never heard about the preservation project at Vat Phou. Only 24 percent of respondents have heard about the project. This is reflected in the limitation of the project plan to the public.

Among the sample respondents, more than half of them (52.5 percent) have donated to official cultural preservation projects in Laos. Only 24.57 percent have donated to NGO projects, and 50.5 percent have donated to government projects. It is interesting to note that there is rarely an official request for donations from the general public for government and NGO projects. Thus, Lao people are not familiar with being asked to donate to government projects and NGO organizations, especially with a set price amount. They are usually faced with requests for cultural restoration and construction, but with the amount being voluntary. Some wish to donate

considerable amounts of money to Buddhist Temples, as they strongly believe in the merit gained by donating money or items to support their religion.

Table 2: Summary of Respondents' Characteristics by Income and Family members

No	Characteristics	Frequency
1	Monthly Income (in LAK):	
	Maximum amount	100.000.000
	Minimum amount	0
	Mean	2.880.008
2	Number of family members:	
	Biggest family	15
	Smallest family	1
	Mean	4,99
3	Number of working members in a family	
	Biggest family	9
	Smallest family	0
	Mean	1,38

Relation to the changes in historical, cultural and symbolic values of Vat Phou by preserving its historical structures, most respondents believe that with the Vat Phou protection action plan, the historical structures, cultural and symbolic value of the site as well as the quality of Vat Phou for recreational use would be improved. The results indicated that 32.21% of respondents stated that there would be a significant improvement by implementing this project. Only 11.28% indicate that there would be no change in the value of historical structures. Over half of the respondents (51.59%) stated that despite this project, there would be little improvement in cultural and structure value, while others (25.11%) indicate that there would be no change in the structural value. Only four respondents (0.36%) believe that structural value would be significantly worsened by implementing this preservation project.

Table 3: Summary of Respondents' Characteristics by Categories

No	Description	Categories	Number	%
1	Hearing the News	Never	113	10,28
		A few times (1-5)	463	42,13
		Several times (6-10)	320	29,12
		Many times (11-20)	93	8,46
		More than 20 times	97	8,83
2	Hearing preservation plan	A little bit	555	50,50
		A lot	264	24,02
		No	280	25,48
3	Culture donate	YES	577	52,50
		NO	522	47,50
4	NGO donate	YES	270	24,57
		NO	829	75,43
5	Project donate	YES	555	50,50
		NO	544	49,50

More importantly, the survey questionnaire included questions about the ability of the trust fund management to collect money from respondents and appropriately fund the action plan if it were to be implemented only by the government.

The results show that more than half (56.41 percent) of respondents agree there would be no problem collecting public donations, while over one quarter (27.84 percent) indicate that there would be some problems, but that it was still possible to collect. Only a few people (15.74 percent) state that there will be a lot of problems and that the intent of the fund is unrealistic.

Few respondents (about 10.83 percent) state that it would be very easy to reach the target of implementing this action plan, while more than a third (35.85 percent) indicated that it would be easy to reach the target of implementing this action plan, a similar proportion to those who were ambivalent about the ease of reaching the target of the action plan (34.39 percent). However, a number of respondents indicated that it would be difficult to reach the target of implementation (13.74 percent), while a further 2.64 percent of respondents state that it would be very difficult. Of the remainder, 2.55% could not decide whether or not it would be easy to implement the action plan.

In addition, the results of the survey shown that only 7.46 percent of respondents firmly believe the governing board could manage implementation of the plan well, 8.10 percent state a lack of confidence in the board, and 2.2 percent gave no opinion to the question. While almost half (47.41 percent) expressed a degree of confidence in the board's ability, and 34.12 percent stated a neutral opinion. It is interesting to note that there were zero respondents indicating that the governing board of the trust fund could definitely not do a good job in managing the implementation of the action plan. Last but not least, among respondents, only 7.37 percent state that the action plan can be definitely implemented, 43.37 percent indicate that it can probably be implemented. Few (8.46 percent) indicate that the action plan would probably not be finally implemented, while one-third (37.22 percent) state a neutral position to the question.

Lastly, we found that 61.6 percent of respondents wish to have more information related to the action plan before making a decision on how much they might donate. Most of the information that they would like to obtain amounts to a detailed appraisal of the merits of the project, the rationale of the project, a feasibility study, detail of the preservation plan, project objectives, the project's action plan, the planned outcome of the project, the provision of infrastructure, the names of the major funding agencies, assurances that the implementation of the project would be transparent, photographic evidence of progress at each stage, details of financial planning, and a plan for monitoring, controlling and evaluating the outcome of the project. Some 74.61 percent of respondents indicate that it would be easier for them to make a decision on their willingness to donate to the action plan if more information on the concerns listed above could be provided.

3.2 Willingness to Pay Analysis

This subsection demonstrates the distribution of 'Yes' and "No' responses relating to amounts which might be donated and the estimation of mean WTP for the preservation project.

Table 3 shows a relationship between the bidding prices and willingness to pay of the respondents. Potential bids range from LAK 20,000.00 (or about USD 3.00) to LAK 300,000.00 (about US$ 33.00). We found that the response size of each bid is nearly the same (averaging 91.58 percent). "Yes" responses decreased continuously as the bid price increases. Conversely, "No" answers increase as the bid price increases. The average "Yes" response was about 62.69 percent, while the remaining 37.31 percent stated "No". As a result, it can be stated that demand for the project has a negative relationship with the price of the bid.

Table 3. Distribution of Responses by Bid Amount (in LAK)

Bid Amount	Total Survey	Total Responses	WTP	WTP (%)	Not WTP	Not WTP (%)
20,000	101	91	84	92.31	7	7.69
30,000	101	89	82	92.13	7	7.87
40,000	101	86	71	82.56	15	17.44
50,000	101	94	71	75.53	23	24.47
60,000	101	93	70	75.27	23	24.73
80,000	101	80	61	76.25	19	23.75
100,000	101	91	59	64.84	32	35.16
120,000	101	95	57	60.00	38	40.00
150,000	101	91	48	52.75	43	47.25
200,000	101	89	34	38.20	55	61.80
250,000	101	101	16	15.84	85	84.16
300,000	101	99	10	10.10	89	89.90
Total	1212	1099	663	61.31	436	38.69

The model used for the logit regression is as follows:

$$Pr(Yes)=a_0 + a_1 bid + a_2 gender + a_3 age + a_4 status + a_5 edu + a_6 job + a_7 income + a_8 hhsize$$

The results (Table 4) show that socio-demographic characteristics such as gender, status, education, occupation, the number of family members and the number of working people per household have no effect on the probability of “Yes” responses, while the bid, age of respondents, and monthly income were statistically significant. In addition, the signs of the coefficients were as expected. The higher the bid, the lower the probability of a “Yes” response. Older people however are more willing to contribute to the preservation project. Respondents who already have families, and those who work in the government sector paid less attention to the preservation project and were less willing to contribute to it.

Table 4. Logit Regression Results

Variables	Description	Coefficient	P-value
Bid	Bid	-9.94e-07***	0.000
Gender	Gender of respondent	.153669	0.334
Age	Age of respondent	.0297939***	0.007
Status	Marital status of respondent	-.0920575	0.635
Edu	Education level of respondent	.3101195	0.136
Job	Occupation of respondent	.0110386	0.953
Income	Monthly income of respondent	1.61e-07***	0.001
Hhsize	The number of family members	.0252793	0.540
Adult	The number of working people per family	.0653725	0.303
Cons	Constant	-1.045354	0.002

Note: ***significant at 1 percent, **significant at 5 percent, *significant at 10 percent

The mean WTP was estimated by using the following formula:

$$\mathrm{MWTP} = -\left(\frac{a_0 + \sum a_i \bar{X}_i}{a_1}\right)$$

Where the mean WTP calculated in the logit regression was LAK 36,239.75 or 1.26 percent of average monthly income of respondent.

There were many reasons given for being willing to donate to the preservation project. Among the respondents who answered “Yes” to the WTP question, most of them wanted to preserve the cultural structures of Laos for young generations (24.51 percent) and for the structures to attract foreign visitors (19.52 percent) to visit the unique cultural structures on the site. Some (13.01 percent) wish to preserve them as Lao traditional symbolic structures.

There are a variety of reasons that respondents are willing to donate to the project; for example, they wish to donate because they want to be a part of the cultural preservation project (7.72 percent), they wish to see the social benefits as a whole by preserving their cultural structures (8.32 percent), and to be proud of a nation that is rich in cultural structures (9.53 percent).

However, nearly 39 percent of respondents are not willing to support the project (Table 3). Among the respondents answering “No” to the WTP question, most of them indicated that they earn limited income (36.30 percent). Other reasons included the uncertainty about the project’s implementation (12.33 percent), uncertainty about the project’s transparency (7.08 percent), and not trusting the management team (6.62 percent). Some (13.24 percent) thought that it should be the government’s responsibility since the site is governed by the government board. Others (6.39 percent) indicate that they already pay an entrance to the site, and that income should be utilized in the preservation project at Vat Phou.

Most of the comments from the respondents agreed with the purpose of the project. Respondents generally believe that it would be useful if the project could be implemented and they wish to continue supporting the project. Some have suggested the project should include consideration of community involvement in the project, and that any document promoting the project should be well prepared in order to elicit public interest in supporting the project. The project leader should announce the action plan widely through the media in order to attract more general public participation in the project. In addition, a number of respondents state that preservation projects are the only way to help conserve or maintain cultural structures for younger and future generations. They also propose that it would be very attractive site to tourists if the project covers all types of cultural structures of Lao tradition and become a special zone for tourists.

Only one respondent disagreed with the project, especially the point relating to donations from the public. He believes that this type of project should be proposed to the organization involved in Vat Phou management such as the government of Laos. He also argued that the amount of donations should be provided to the government agency to be managed, then whenever the project needs that money, they should budget it through the Lao National Assembly in order for transparency of the use of funds. The project should be in the government action plan (Argument from one respondent during the survey conducted).

Since this empirical study is about the preservation of cultural structures by asking public willingness to pay, the survey included questions about the certainty of respondents in stating the amount they are willing to donate. The results found that 32.67% of respondents were very certain of their statements, 30.48% are moderately certain and 27.66% are neutral. Only 1.73% of respondents are very uncertain as to the amount they might donate, and the remainder of respondents (1.82%) did not provide their thoughts on this question.

4. Conclusion and Policy Implications

Vat Phou has great value in terms of the cultural landscape and historic structures. Particularly, the site has significant historic value to the Lao people. This study estimated the willingness to pay of individuals in Vientiane Capital for the preservation of historic structures at Vat Phou, investigated why people were willing or unwilling to donate to that preservation. From this analysis, some policy implications can be drawn to support the preservation project on the site. The study employed the CVM with the single-bounded dichotomous choice question format. The sample comprised 1,099 individuals, living in the capital city of Laos. The study found that the mean WTPs estimated by logit regression were LAK 36,239.75 or 1.26% of average monthly income of respondents.

There were many reasons why people were willing or unwilling to donate to a preservation fund. Generally, most of them wanted to preserve the cultural structures of Laos for younger and future generations. Individuals who were not willing to contribute to the fund thought that it was the government's responsibility since the property belongs to the government sector. Many did not trust the management team to handle the fund.

In the logit regression model, an individual's willingness to pay was negatively dependent on the bid and positively related to the monthly income and ages at the 90% level of confidence. Other socio-economic variables of respondents such as status and occupation have statistically affected their WTP at the 90% and 95% level of confidence respectively. However, it is interesting to note that respondents' gender, education, household size and number of working people in a household have not affected their WTP. The signs of these coefficients were negative related to the dependent variable.

Although this study does not give the total value of Vat Phou, it shows the great value of the site in terms of individuals' willingness to contribute towards a preservation project and is therefore useful information for governments in deciding how to preserve the site's efficiently. The only concern resulting from the study is there is a proportion of unwilling to pay of respondents (12.33 percent) due to their uncertainty about the project's implementation and uncertainty about the project's transparency (7.08 percent), and not trusting the management team (6.62 percent).

Thus, the policy implications resulting from the research concerning the uncertainty of the respondents, it is necessary to form a Trust fund for Vat Phou in order to overcome the uncertainty of respondents. The main goal of the Vat Phou Trust fund should focus on helping to strengthen the work concerning the site preservation and the specific strategies given by the Central and Local government to protect World Heritage site of Vat Phou.
The partners of the Trust fund shall include the representatives of the site management team, the local government authorities, the representative of the District authorities, the leaders of the communities, and the representative of mass organizations in the area. The board of directors of the Trust can be appointed from the representatives from all the above mentioned parties.

The memorandum of association for the Trust fund regulates the function of the trust fund which should act as an independent body under Lao law.

The Trust fund shall also focus it activities by supporting and facilitating the heritage management and contributing to innovative projects at the site; mobilize funds from bi-and multilateral sources to secure transparency and visibility, and facilitate assistance for the site preservation efforts.

Finally, since the Trust is one of the basic elements of understanding cooperation and conflict among stakeholders in the heritage preservation process and it is the glue which holds communities and societies together, the trust fund shall have sustainability plans for the site projects. Trust is a ‘collective attribute’ based on the relationships between people within a larger social system rather than just the individual recipients, thus, in order to operate the Thrust fund in Vat Phou it requires a sufficiently common set of values between stakeholders. The Trust fund shall act as a center, supporting the follow up of the government strategy in the site management

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