HUMAN ACTIVITIES AND SUSTAINABLE TOURISM DEVELOPMENT AT CULTURAL HERITAGE SITES: FOCUS ON GREAT ZIMBABWE

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Abstract
Human activities are damaging world heritage sites threatening sustainable tourism development. The study explored the extent to which human activities are affecting sustainable tourism development at cultural heritage sites the case of Great Zimbabwe. Quantitative data was collected using a questionnaire following convenient sampling technique. Using means, standard deviation and variance, results reveal that there are 16 human activities that are affecting sustainable tourism development. Upon factoring 7 factors emerged which are pollution, societal crime and conflict, defacing, hunting, landscape degradation, vandalism and environmental pressure. A linear regression model reveals that human activities are negatively affecting sustainable tourism development at heritage sites with 4 factors significant at $p<0.1$. However, human factors only explain 14% (Adjusted $R^2=0.14$) of sustainability problems at heritage sites. The study concluded that human activities are in indeed affecting sustainable tourism development and needs proper management for tourism industry and the nation.

Key Words: *Heritage Sites, Cultural Tourism, Heritage Conservation, Tourism*

JEL Classification: *L83, M31*

I. INTRODUCTION

Human activities are a common feature at cultural heritage sites. Tourists seeking answers to various questions around the heritage site are often seen digging for clues, others write on walls to leave an identity whilst others try to take with them pieces of artifacts from the site. In the process posing great threat to the sustainable tourism development of cultural heritage sites globally.

Human activities are important in conservation of heritage sites (Loulanski and Loulanski, 2011). With the current rise in sustainable tourism development awareness programs it is disturbing to note that quality of cultural heritage sites continue to deteriorate at the hands of humanity. This calls for significant global mindset change towards identifying and reducing impacts of human activities which are posing environmental, economic and socio-cultural damage at heritage sites.

II. HUMAN ACTIVITIES

These are purposeful human behaviors where most people do or cause something to happen (Murphy and Gabriel, 2010). The negative impacts of such behaviors pose serious threats to sustainable tourism development at cultural heritage sites as vital data about them is destroyed, distorted or stolen. Human activities can take the form of vandalism (Scott et.al, 2007; Gaigher, 2011; Ceccato and Haining, 2005; Nickens et al, 1981), Heritage and cultural property crimes (Association of Chief Police Officers, 2013; Ruoss and Alfare, 2013; Brodie et.al, 2000), increased visitor pressure (Graham, 2005; Borges et.al, 2011), Landscape degradation due to human negligence (Van Kooten and Bulte, 2000; Addison, 2008; Pwiti, 2011; Goodwin, et.al, 1997; Kruger, 2006; Atkinson, 2005), authorized and unauthorized human practices (Leshikar-Denton and Scott-Ireton, 2006; Breen, 2007; Global Heritage Fund, 2009; Thorsell and Sigaty, 2008; Von Clausewitz, 1999; Ruoss and Alfare, 2013; Price, 2005), defacing (Phillips, 2004; English Heritage, 2004; Kolar, 2008; Ndoro and Pwiti, 2009; Ruoss and Alfare, 2013: Price, 2010; Borges et.al, 2011; Cole et.al, 1999), and poor management and planning at managerial levels (Borges et al, 2011; Global heritage fund, 2010; Ruoss and Alfare, 2013). The various human activities make it difficult for destination managers to achieve sustainable tourism development

without meaningful information about the kind of activities humans undertake at the particular destination of reference.

III. SUSTAINABLE TOURISM DEVELOPMENT

Sustainable tourism development is a difficult concept to operationalize (Berno and Bricker, 2001). As a result various definitions are awash on the academic market (Neto, 2003; Dinica (2009) Manning and Dougherty, 1995; Gilmore and Simmons, 2007; Stoddard, Evans & Dave, 2008). However the common trait among them is the need to productively use existing resources for the benefit of today's generation without compromising the ability of the same resources to benefit equally future generations. In an attempt to achieve sustainable tourism development there are four components to it that needs attention.

The three components are socio-cultural sustainability that aims at attaining inter and intra-generational equity (Mckercher, 2003; Preston, 2006; Muigua and Francis, 2010; Gobaisi, 2004; Australian Heritage Commission, 2000), Environmental sustainability were the precautionary principle and maintenance of diversity are key (Sutton, 2004; Otto, 2010; Australian Heritage Commission, 2000; IUCN council, 2007; Kausar, 2012), economic sustainability were recognizing product quality and interdependence between economic and ecological systems are important principles (Morelli, 2011; Borges et.al, 2011; Otto, 2010).

Based on the above understanding of sustainable tourism, various human activities are affecting at least one of the three sustainable tourism components. For example excavation is bad for both socio-cultural and the environment at the site.

IV. RESEARCH PROBLEM

The quality of global environment at cultural heritage sites is declining due to human activities (UNESCO, 2006). As of 2012, there were 17 natural and 21 cultural world heritage sites in danger of total distraction (Ruoss and Alfare, 2013). If the problem continues cultural heritage sites will lose their tourism and historic value.

OBJECTIVES

This study seeks to address three objectives which are:

- To establish human activities affecting sustainable tourism development at cultural heritage sites;
- To ascertain the extent to which human activities are influencing sustainable tourism development at cultural heritage sites; and
- To suggest strategies for improving sustainable tourism development at cultural heritage sites.

V. MATERIALS AND METHODS

DESIGN: CASE STUDY

Great Zimbabwe National Monument is located near the present day Masvingo Town in the Southern parts of Zimbabwe. It is one of the best archaeological sites in Africa's Sub-Saharan region. It is believed that this stone walled complex covered approximately 78 Hectares and housed at least 18 000 people at its peak operation (Huffman, 1986). Its cultural influence spanned the present day Zimbabwe, parts of Botswana, South Africa and Mozambique.

Great Zimbabwe National Monument was designated a UNESCO World Heritage Site in 1986 as a site of cultural significance. Its origin has been subject of debate for years with others attributing it to Phoenicians or Sabaeo-Arabia, others to Pre-Muslim Arabs whilst others firmly believe it is a Shona people project (Huffman & Vogel, 1991).

Its magnitude and mystery has been subject of research for generations attracting tourists from all over the world. Their interests lying mainly in understanding the culture of the people who developed and occupied this man made wonder. Educational tourists, archeologists among other wonder lust tourists seeking to explore the world. It is these various human activities that this study seeks to explore how they have affected the quality of this wonder as a tourist attraction.

METHOD

The first objective of the study was to profile the human activities that are affecting sustainable tourism development at cultural heritage sites with the goal of ranking them from most common to least common ones. The results would help in resource allocation for management of the human activities at the sites. On site surveys were conducted in 2014 to gather information on human activities taking place at Great Zimbabwe heritage site. The survey also collected data on sustainability components and demographics of the respondents.

POPULATION

Great Zimbabwe receives an average of 20 tourists per day giving an annual tourist population of 7 300. However the characteristics of the tourists to Great Zimbabwe are the same week in week out with variations during the week from Monday to Sunday. Thus a week's population of 140 tourists was targeted. To allow for triangulation which is essential for data validation, the study also targeted 50 workers based at Great Zimbabwe responsible for management and conservation of the heritage site. The total population was therefore 190 people.

SAMPLING PROCEDURES AND SIZE

The population was grouped into two (supply and demand side). Convenience sampling was then applied in each cluster to get representative sample on a pro rata basis where the majority respondents came from tourists since they constituted the bulk of the population.

Potential respondents were approached and asked to participate in the study. The purpose of the study was explained and informed consent obtained. After which respondents were given the instrument to fill in, in the presents of the researcher. Using this methodology we collected 110 usable surveys (29 employees and 81 tourists).

SURVEY INSTRUMENT

The instrument was composed of five sections. The first section listed 22 human activities identified from literature. Using a 5-point Likert scale anchored by 1 (Strongly Disagree) and 5 (Strongly Agree), respondents were asked the extent to which they agree that the various human activities were affecting sustainable tourism development at Great Zimbabwe. The second section sought to measure the sustainability of the three components using the same scale as on section 1. Section three sought qualitative views on the extent to which human activities are affecting sustainable tourism development at Great Zimbabwe. The fourth section sought the various stakeholders' opinions on possible strategies to mitigate the effects of human activities on the heritage site. The last section covered the demographic characteristics of the respondents.

VI. RESULTS AND DISCUSSION

The first objective of the study was to establish human activities affecting sustainable tourism development at cultural heritage sites. Using literature various human activities were identified that affects heritage sites. However different heritage sites are affected by different activities depending on their location and legacy. Using mean, standard deviation and variance, Table 1 shows the various human activities in order of the most common to the least.

Table 1: Human activities

Descriptive Statistics

	N	Mean	Std. Deviation	Variance
Uncontrolled grazing	110	3.88	.832	.692
Land pollution	110	3.83	.937	.878
Deforestation	110	3.81	1.045	1.092
Veld fires	110	3.80	1.003	1.006
Archaeological vandalism	110	3.66	1.198	1.436
Malicious vandalism	110	3.55	1.055	1.113
Predatory vandalism	110	3.43	.981	.963
Thefts	110	3.35	1.275	1.625
Hunting (wildlife)	110	3.29	1.152	1.327
Water pollution	110	3.24	1.263	1.595
Congestion	110	3.19	1.252	1.569
Infrastructural development	110	3.15	1.335	1.783
Graffiti on boulders	110	3.15	1.187	1.410
Air pollution	110	3.14	1.238	1.532
Treasure hunting	110	3.06	1.265	1.601
Illegal trade	110	3.05	1.333	1.777
Strife	110	2.82	1.205	1.453
Posters	110	2.70	1.238	1.533
Drawings	110	2.66	1.152	1.326
Paintings	110	2.65	1.072	1.148
Billboards	110	2.57	1.137	1.293
War	110	2.48	1.482	2.197
Valid N (Listwise)	110			

Table 1 indicates that the mean was ranging from 2.48 to 3.88. This is an indication that the scores were ranging from disagree to agree on a 5-point Likert Scale anchored 1 (Strongly Disagree) to 5 (Strongly Agree). Human activities affecting sustainable tourism development at Great Zimbabwe with a mean of more than 3 were 16 identified as follows; Illegal trade, treasure hunting, air pollution, graffiti on boulders, infrastructure development, congestion, water pollution, hunting (wildlife), thefts, predatory vandalism, malicious vandalism, archaeological vandalism, veld fires, deforestation, land pollution and uncontrolled grazing.

Of these activities malicious vandalism, archaeological vandalism, veld fires, deforestation, land pollution and uncontrolled grazing were seen as highly significant in their effects on Great Zimbabwe with a mean above 3.5 suggesting that they respondents were agreeing to strongly agreeing. These results are consistent with findings from African World Heritage Fund (2009) who lists vandalism in any form, veld fires and pollution as major threats to sustainable tourism development.

Respondents were not sure with regards to whether the following human activities are affecting sustainable tourism development at Great Zimbabwe; billboards, paintings, drawings, posters, strife, illegal trade, treasure hunting, air pollution, graffiti on boulders, infrastructural development, congestion, water pollution, hunting, thefts and predatory vandalism. Human activities such as hunting are legal in most developed countries such as United States of America (Seddon, 2013). It is noted that 74% of Americans support legal hunting and their interests are protected by the National hunters association. It thus becomes difficult for international visitors to Great Zimbabwe to agree or disagree that indeed hunting may affect sustainable tourism development negatively as their opinions are more biased towards hunting being an acceptable practice. Billboards, posters, paintings, drawings in the form of graffiti are also hard for international tourists to agree or disagree that they pose some form of impacts to sustainable tourism development. Krammer (2010) emphasized more on graffiti as a writing culture in New York City. It is a popular legal writing act among youths at designated areas hence their views with regards to graffiti and sustainable tourism development maybe biased toward its legality in their home countries henceforth are uncertain whether it brings desirable or undesirable effects to sustainable tourism development issues. There are no open water sources at Great Zimbabwe for water pollution to occur, there is no infrastructural development taking place, air pollution is at its minimum, it is not a mass tourist destination site, strife is at its minimal as well as predatory vandalism therefore respondents were not sure of the actual occurrence and effects of these human activities on sustainable tourism development.

War as a human activity had most respondents disagreeing that it is affecting sustainable tourism development at Great Zimbabwe. The last liberation war in Zimbabwe ceased in 1980 when a commonwealth monitoring force arrived to supervise the ceasefire and signal new elections (Pettis, 2008). This is evidence that war is a human activity that is not currently affecting sustainable tourism development at Great Zimbabwe as it was last experienced 35 years ago.

Predatory vandalism, land pollution and uncontrolled grazing had small standard deviations meaning their data points were closely scattered around the mean a notion supported by (Weiers, 2008). War, billboards, paintings, drawings, posters, strife, illegal trade, treasure hunting, air pollution, graffiti on boulders, infrastructural development, congestion, water pollution, hunting, thefts, malicious vandalism, archeological vandalism, veld fires and deforestation have standard deviations and variances above one meaning their data points are widely spread around the mean.

The second objective of the study was to ascertain the extent to which human activities are influencing sustainable tourism development at cultural heritage sites. In order to achieve that the various human activities were reduced to indexes with variables that measure comparable things conceptually using confirmatory factor analysis as guided by Hamilton (2006) and Garret-Meyer (2006). From the 22 human activities, the rotation converged in 13 iterations producing 7 factors. These results were achieved using principal component analysis as extraction method and Varimax with Kaiser Normalization as the rotation method.

Using Cronbach's Alpha the human activities and the factors were tested for internal consistency and table 2 below shows the results. Lastly, a regression model was run to address the objective.

Table 2: Reliability of Human activities

Construct	Items	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Factor 7	Tests (Based on Standardized Items)
Human activities									Cronbach's alpha=0.860
Pollution	Posters Billboards Air pollution Land pollution Water pollution	0.512 0.681 0.714 0.706 0.613							Cronbach's alpha=0.786
Societal crime and conflict	Thefts Illegal trade		0.484 0.677						Cronbach's alpha=0.749

	War Strife		0.661 0.715						
Defacing	Graffiti on boulders Painting Drawings			0.663 0.793 0.794					Cronbach's alpha=0.731
Hunting	Treasure hunting Hunting (wildlife)				0.653 0.825				Cronbach's alpha=0.718
Landscape degradation	Deforestation Veld fires Uncontrolled grazing					0.645 0.683 0.757			Cronbach's alpha=0.672
Vandalism	Archeological vandalism Predatory vandalism Malicious vandalism						0.746 0.754 0.619		Cronbach's alpha=0.606
Environmental pressure	Congestion Infrastructural development							0.611 0.576	Cronbach's alpha=0.442

Table 2 above shows human activities which had 22 variables and the Cronbach's Alpha for those 22 variables was 0.864. Range of acceptable values of alpha has a maximum of 0.90 (Tavakol and Dennick, 2011); therefore the measure for human activities was reliable. These 22 variables were factored into seven factors namely pollution, societal crime and conflict, defacing, hunting, landscape degradation, vandalism and environmental pressure. Of these seven factors, pollution, societal crime and conflict, defacing and hunting are reliable as their alphas are between the minimum recommended of 0.7 maximum recommended of 0.9.

Landscape degradation, vandalism, and environmental pressure however have small alpha's suggesting that their reliability is low.

Table 3 below shows the reliability of sustainable tourism development components

Table 3: Reliability of sustainable tourism development components

Construct	Items	Factor 1	Tests
Sustainable tourism development	Environmental sustainability Socio-cultural sustainability Economic sustainability	0.843 0.724 0.695	Cronbach's alpha=0.623

For the above table, sustainable tourism development had 3 variables. These were environmental sustainability, socio-cultural sustainability and economic sustainability. The Cronbach's alpha for the 3 variables was 0.608 which is below 0.7 the generally acceptable minimum alpha. However, the measure is somewhat reliable considering that it is above 0.5.

Using human activities represented by the 7 factors as independent variable and sustainable tourism development as dependent variable a linear regression model was run. The results are shown in table 4 below.

Table 4: Regression Model

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	4.087	.401		10.189	.000*	3.291	4.882
Pollution	-.340	.090	-.428	-3.785	.000*	-.517	-.162
Societal crime and conflict	.069	.082	.102	.840	.403	-.094	.232
Defacing	-.118	.076	-.159	-1.552	.124	-.269	.033
Hunting	.147	.066	.231	2.212	.029*	.015	.278
Landscape degradation	.112	.090	.123	1.240	.218	-.067	.290
Vandalism	-.140	.081	-.167	-1.728	.087**	-.302	.021
Environmental pressure	.145	.070	.221	2.062	.042*	.006	.284

a. Dependent Variable: Sustainable tourism development
b. *P<0.05, **P<0.1
c. R=0.445, R^2=0.198, Adjusted R^2=0.143

Table 4 shows that pollution, societal crime and conflict, defacing, hunting, landscape degradation, vandalism and environmental pressure explain only 14 % (Adjusted R^2=0.143) of sustainable tourism development at Great Zimbabwe. The other 86 % can be explained by other factors not part of the study. These may include natural factors (Global Heritage Fund, 2009); weak economic conditions (Quebec, 2013) and climate change (Scottish Natural Heritage, 2009).

Pollution, hunting and environmental pressure were significant at p<0.05 and vandalism significant at p<0. These 4 therefore affect sustainable tourism development at Great Zimbabwe to a larger extent. This is an indication that they have negative influence on sustainable tourism development at the site at significant levels.

Pollution is more significant as land pollution messes up aesthetic appeal of a site thereby negatively affecting sustainable tourism development (Price, 2010). Air pollution gives rise to acidic solution which reacts with calcareous material on rocks thereby decay rocks. Visual pollution in the form of billboards and posters affects originality of historic buildings through good aesthetic hindrances (Ruoss and Alfare, 2013). Hunting is also more significant. Treasure hunting and wildlife hunting leads to loss of valuable cultural items associated with a historic site (Global Heritage Fund, 2009). Vandalism or vindictive damage to property leads to loss of valuable historical items hence reduction in the numbers of valuable heritage artifacts (Ceccato and Haining, 2005). Environmental pressure in the form of high visitor numbers particularly school children puts pressure on existing infrastructure and long term conservation is compromised (Graham, 2005). Societal crime and conflict, defacing, landscape degradation were not significant predictors of sustainable tourism development. Their effects on sustainable tourism development are henceforth minimal.

The last objective of the study was to suggest strategies for improving sustainable tourism development at cultural heritage sites. A qualitative question was asked which sought respondents' views on what would best be used to attain sustainable tourism development at the site without losing the tourism value of the site.

Seven major themes emerged from the responses given on strategies to improve sustainable tourism development at Great Zimbabwe. These were firstly education of tourists through publications issued at the entry point, use of posters, public awareness campaigns and provision of tour guiding services. These results are in use elsewhere and where proven to be useful in combating unsustainable practices at heritage sites (Association for tourism in higher education, 2005; Meriruoho, 2011; Zedan, 2004; Ong et.al 2014).

The second theme centers on laws and legislation with emphasis placed heavy fines and penalties for deliberate degradation, destruction or alteration of site. There is also need to implement policies that are in place as a number of environmental policies are there but not being used at the expense of the historic site. These suggestions are consistent with NSW (2012) and Zedan (2004) agree that availability of correct regulatory frameworks and implementation of existing policies are critical for sustainable tourism development.

Thirdly is site monitoring and management by having proper systems in place like carry in and carry out system of managing litter. Managing visitor traffic

numbers especially during peak periods when school children are on holiday, monitoring of activies that people engage in whilst at the site. These were also noted as effective by Heredge (2003), Graham (2005) and UNESCO (2001).

Fourth is the stakeholder involvement and collaborations with emphasis on local community involvement, government and external stakeholder involvement. Borges et.al (2011) also views these as effective in management of historic sites. Next was equal distribution of funds generated from the site to communities so as reinforce sense of belonging and ownership of the site. There is also need for supply of sustainable sources of energy as noted by (Quebec, 2013).

In agreement with Zedan (2004), respondents lastly points out that it is important to have a sustainable tourism development plan in place. The plan should consider economic, socio-cultural and environmental aspects helping site managers to monitor and manage aspects related to sustainable tourism development.

VII. Conclusion

The findings of the study are that there are sixteen human activities affecting sustainable tourism development at Great Zimbabwe cultural heritage site. Further analysis indicates that pollution, hunting, vandalism and environmental pressure are very significant in their effects on sustainable tourism development (significant $p<0.1$). However, the overall effect is only 14% meaning there is need for management to establish other forces affecting sustainable tourism development at Great Zimbabwe. In the meantime effort should be put in applying the recommended strategies to control the effects of human activities on sustainable tourism development.

VIII. Study Limitations

The data was collected over one week period during the December holiday. Being a busy period with domestic tourists, the majority of the respondents were locals. As a result may not give a full reflection of tourists to these historic sites. The generalization of the results may be difficult. However the results are an addition to the debate on how and what is happening at historic sites and how they can be sustainably used as tourism products.

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