AFRICA ENVIRONMENTAL REVIEW Journal
ISSN: 1727-8341

AER Journal Volume 4, Issue 1, pp. 43-53, December 2020

RESEARCH ARTICLE
Available Online at *http://www.aer-journal.info*

Influence of Natural Heritage on Agro-Tourism Development in Nandi County, Kenya

J. B. Sawe[1*], J. C. Korir[1] and R. W. Burugu[1]
[1]*School of Tourism, Hospitality and Events Management, Moi University, P. O. Box 3900-30100, Eldoret, Kenya*
[*]*Corresponding Author's Email: jtepkeny71@gmail.com*

Abstract

This paper determined the influence of natural heritage on agro-tourism development in Nandi County. Predicaments in the agricultural sector form negative attitudes of farmers regarding agriculture that creates a gap for additional sources of income using existing agricultural land and occupation. With existing problems such as low demand and low prices for farm produce, linkages between agriculture and tourism provide the basis for new solutions in Kenya. Explanatory research design was adopted. The target population was 357,461 farmers from Aldai, Tinderet and Nandi-Hills sub-counties with 384 forming the sample size. Three out of six sub-counties that had evidence of agrotourism development were purposively selected and clustered into wards while systematic random sampling was used to identify the farmers from a list provided by agricultural extension officers. Data was collected using structured questionnaires. Cronbach's Alpha tested reliability at 0.719. Exploratory factor analysis established underlying factor structure of natural heritage. Bivariate analysis tested the hypothesis while qualitative data utilized thematic analysis. The hypothesis negating the influence of natural heritage (β=0.618, $p<0.05$) on agro tourism development was not supported. The model explained 40.1% (R^2=0.401) of the variance in agro tourism development while factor analysis results extracted seven components that explain natural heritage. Interviews revealed the existence of underutilized natural resources such as rivers, hills and rocks in Nandi County. The study concluded that natural heritage components such as serenity, ecosystem, regular practice, forests, riparian areas, landscapes and indigenous food influence agro tourism development positively. Based on the results, Nandi County government should package and utilize its natural heritage to enhance agro tourism development which is it its nascent stage in order to complement agriculture and provide an alternative source of income to farmers.

Keywords: Agro-tourism, Development, Natural Heritage

INTRODUCTION

Natural heritage describes mountains, flora, rivers, fauna, gardens, national parks, islands and wilderness and landscapes (Antrop, 2006; Stephenson, 2008). According to UNESCO (2003), heritage can either be tangible or intangible hence natural heritage has features that are physical, biological and geological features consisting of habitats of plants or variety of animals and places that are scientifically and aesthetically valuable fom a conservation perspective. Natural heritage is the bequest of entities that are natural and possess attritubes that are intangible within the countryside (Sharma & Vyas, 2014) and environmentally natural scientifically known as biodiversity and geology. Heritage is that which is inherited from past generations, maintained in the present and

bestowed for the benefit of future generations which according to Van Eetvelde (2009), continues to change over time. Natural heritage was derived from natural inheritance and pre-dates the term biodiversity, though it is a less scientific term and more easily comprehended in some ways by the wider audience interested in conservation biology.

An important site of natural heritage can be listed as a National Heritage Site by the National Heritage Council on behalf of the government or as a World Heritage Site by the World Heritage Committee of UNESCO. According to the UNESCO (2006) world heritage centre's natural heritage strategy, natural heritage encompasses the natural and countryside environment and is inclusive of flora and fauna. Consequently, it is posited that natural heritage is a term coined out of the term 'natural inheritance' and involves inheriting attributes from previous generations, maintaining them, and then passing them onto future generations (UNESCO, 2006). Kenya has six (6) unique world heritage sites identified by The United Nations Educational Scientific and Cultural Organization (UNESCO). The sites have been clustered in four different categories, identified because of their cultural, historical, natural and archaeological value. The six heritage sites include Lamu Old town, Fort Jesus, Kenya's Lake system, Mt Kenya National Park, Lake Turkana National Park and Miji Kenda Kaya Forests. According to Jokilehto (2006), 830 World Heritage sites could be accounted for as of 2006. Out of these, 644 were cultural, 162 were natural, and 24 had mixed properties.

Tourism exploits nature and is often referred to as nature based or environmental tourism which argued that this form of tourism nurtures experiences in disciplines such rural tourism, ecotourism, adventure tourism, and aspects of cultural tourism (Kuenzi & McNeely, 2008). Activities cited under natural tourism are drawn from a wide spectrum and includes hiking, bird watching, fishing, biking, camping, scuba diving and stargazing among others in rural settings (Sharma & Vyas, 2014). The concept of green tourism as an element of nature-based tourism is currently gaining prominence (Nistoreanu, 2010).

Forest areas offer rural development perspectives based on their multifunctionality, i.e. the multitude of goods and services they provide, although those do not always have a direct market value. Forests represent undeniably an ecological and economical asset attractive for millions of tourists who seek not only the sea but also green and less anthropized spaces and landscapes for a more nature-oriented and open-air experience (Alexandros, 2003). Tourism relies clearly on forests and trees, but also generates significant financial fluxes that can benefit rural areas and can be re-injected into the management of forests and natural spaces for their long-term conservation, restoration and valorization. Nonetheless, Alexandros (2003) continues to assert that tourism activities also exert significant pressures on forests and ecosystems in general, underlining the apparent difficulty to combine them with forest conservation, and the need to plan and regulate tourism adequately and also to manage forests and recreation sites accordingly to their usage and frequentation.

In many cultures, such as those of the Australian Aboriginal people, the spiritual significance of special features of an ecosystem such as rivers, mountains or an individual tree or animal species has led to their recognition as sacred natural sites (SNSs) places that are known for their high biodiversity values (Dudley *et al*., 2005; Putney, 2005; Schama, 1995; Stewart & Strathern, 2003). These places are traditionally managed based on ancestral principles and spiritual values that in many cases ensure cultural continuity and environmental management (UNEP & WTO, 2012). The spiritual values of SNSs

may be important enough to local people to conserve natural ecosystems, even though an economic cost-benefit analysis may advise conversion of the natural ecosystem through resource development such as agriculture. Whereas in other parts of the world, mostly in Europe, North America and Asia, cultural and heritage attractions are well planned, urbanized and marketed, the African continent's heritage is yet to be exploited by most African countries, including Kenya (Akama, 2002).

Natural Heritage and Agro-tourism Develoment

Natural heritage features prominently in extant literature as having direct impacts on agro-tourism through its proxies of agriculture and tourism (Songkhla & Somboonsuke, 2012). Vrsaljko & Cukelj (2016) analyzed natural heritage as a paradigm for agro tourism development. Motivated by the knowledge that Krapina–Zagorje County in which the study was conducted has untapped potential for development of agro tourism, these scholars used a descriptive approach to conclude that tourism needs to use the heritage elements such as natural heritage for purposes of sustaining development in rural areas (Sharma & Vyas, 2014). They noted that idyllic picturesque landscapes, untouched and protected parts of nature, and diverse plants and fauna found in the wild can be tapped for their potentiality to attract and fascinate visitors (Rambodagedara, Silva & Perera, 2015). Vrsaljke & Cukelj (2016) assert the importance of exploiting natural heritage to benefit locals hence the abundance of natural heritage in Nandi County can be utilized for agrotourism development to the advantage of the local communitity.

May–Chuin *et al*. (2017) examined the impact that natural resources have on tourism destination competitiveness under the support of the local community in the Malaysian context using the quantitative approach. Using the two-step analysis approach, the study established that natural and cultural resources positively and significantly correlated with tourism destination competitiveness. This study hypothesized that using simple regression approach could perhaps offer a more incisive indication of how such natural resources embedded in natural heritage could impact on agro tourism as a whole.

Hypothesis

H_0: Natural heritage has no significant influence on agro tourism development in Nandi County.

MATERIALS AND METHODS

The research focused on three sub counties in Nandi County namely Aldai, Nandi Hills and Tinderet. Nandi County occupies 2,884.4 km^2 (1,113.7 sq mi) of land characterized by hilly topography that includes an outcrop of basement systems rocks. This research utilized explanatory research design. The target units for analysis of the study were 357,461 farmers from three selected sub-counties: Aldai (149,256), Tindiret (105,044) and Nandi Hills (103,161). A sample size of 384 farmers was statistically obtained using Krejcie & Morgan (1970) table for determining sample size from a given population. Purposive sampling was used to select three sub-counties in Nandi County which has six sub-counties. The selected counties possessed natural heritage adequate to answer the objective of the study. Systematic random sampling was used to select the respondents from a list compiled by agricultural extension officers in the sub-counties who drew a list of the farmers. Data was collected using structured questionnaires containing a five-point likert type questions. Reliability was tested using Cronbach's alpha test. According to Hair *et al.* (2005) the general agreed upon lower limit for Cronbach's Alpha is =>0.70 but may decrease to =>0.60 in exploratory research and increase up to ≥0.80 in studies that require more stringent reliability. Quantitative data was analyzed using descriptive and inferential statistics. Missing values were checked as well as univariate

and multivariate outliers determined before descriptive statistics, specifically mean and standard deviation was used in the analysis. Exploratory factor analysis was used to reduce the parameters in the variables to measurable variableswhile bivariate analysis tested the hypothesis.

Outliers in Natural Heritage

Natural heritage was conceptualized as a factor that influences agro tourism development in Nandi County. The generated box plot for the natural heritable variable shown in figure 1 revealed that case 21 and 34 had unusual observations and were therefore deemed as outliers. The two cases were therefore deleted from further analysis.

DATA ANALYSIS AND DISCUSSION

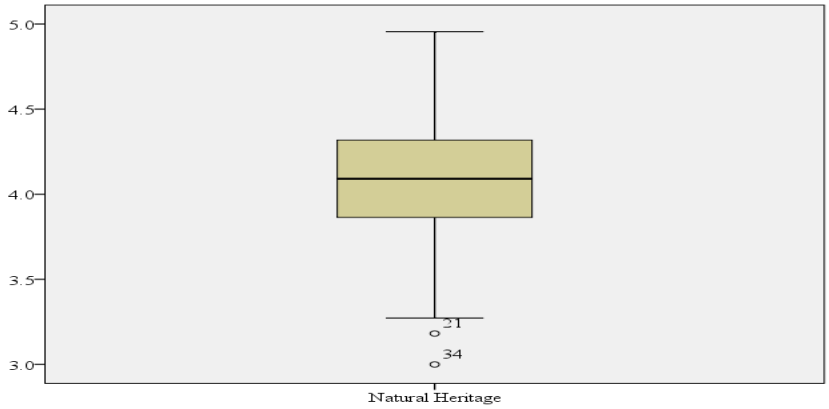

Figure 1: Outliers in Natural Heritage.

Normality of Natural Heritage

Natural heritage was identified with ability to influence agro tourism development in Nandi County. The normal Q-Q plot shows that data dots were largely along the diagonal line, which signifies that data distribution for natural heritage dimension was normal (Figure 2).

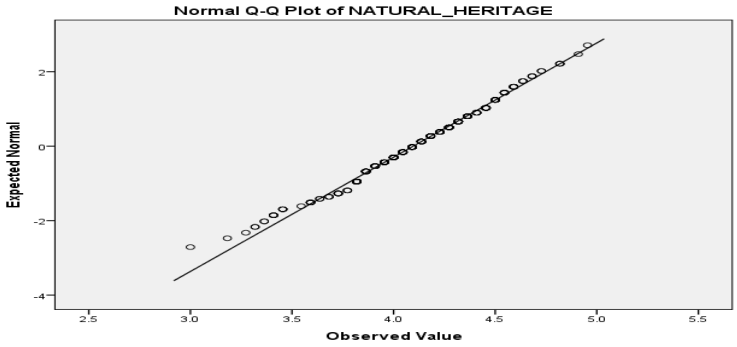

Figure 2: Normal Q-Q Plot of Natural Heritage.

Descriptive Statistics

It was necessary to explore existing mechanisms for natural heritage in the County. Respondents were asked to indicate their agreement or disagreement with the suggested statements that were used to measure natural heritage. A total of fourteen statements were extracted and used to measure existence of natural heritage (Table 1). The overall mean response score

(M=4.10) together with the associated standard deviation (SD=0.328) affirmed that farmers were consistent in showing agreement in the abundance of natural heritage found in the area. Specific existing attractions noted included; availability of hills and valleys (M=4.34, SD=0.536); availability of indigenous trees and forests (M=4.26, SD=0.616); diverse farming activities (M=4.21, SD=0.669); availability of rivers with good scenery (M=4.18, SD=0.573); adequacy of space for free movement (M=4.11, SD=0.623); and hospitable people (M=4.10, SD=0.662) among others. Reliability (RB) results indicated that all the constructs used to measure natural heritage were reliable with cronbach's alpha >0.05.

Table 1: Descriptive Statistics

	5		4		3		2		1				
Statement	***f***	***%***	***f***	***%***	***f***	***%***	***f***	***%***	***f***	***%***	**M**	**SD**	**RB**
Small hills and valleys	108	37.1	174	59.8	9	3.1	0	0	0	0	4.34	.536	.701
Indigenous trees and forests	94	32.3	185	63.6	9	3.1	0	0	3	1.0	4.26	.66	.713
People enjoy farming activities	94	32.3	169	58.1	23	7.9	4	1.4	1	0.3	4.21	.669	.711
Rivers with good scenes	79	27.1	186	63.9	26	8.9	0	0	0	0	4.18	.573	.703
Have local agricultural products	71	24.4	202	69.4	17	5.8	1	0.3	0	0	4.18	.534	.709
Healthy food is produced	66	22.7	202	69.4	19	6.5	0	0	4	1.4	4.12	.635	.703
Space for tourists free movement	70	24.1	187	64.3	30	10.3	4	1.4	0	0	4.11	.623	.699
Local population are hospitable	65	22.3	202	69.4	17	5.8	3	1.0	4	1.4	4.10	.662	.710
County has various flora	68	23.4	185	63.6	22	7.6	9	3.1	7	2.4	4.02	.807	.697
The landscape is wonderful	69	23.7	164	56.4	40	13.7	17	5.8	1	0.3	3.97	.800	.705
Food can be produced naturally	70	24.1	156	53.6	50	17.2	15	5.2	0	0	3.97	.787	.713
The county has luxuriant fauna	51	17.5	199	68.4	24	8.2	12	4.1	5	1.7	3.96	.760	.703
Absence of noise & vibrarions	66	22.7	150	51.5	66	22.7	8	2.7	1	0.3	3.93	.770	.705
Adequate land for activities	47	16.2	151	51.9	85	29.2	4	1.4	4	1.4	3.80	.771	.687
Average response score	**73**	**25.0**	**179**	**61.7**	**31**	**10.7**	**6**	**1.9**	**2**	**0.7**	**4.10**	**.328**	**.719**

Note: 1=Don't Know, 2=Strongly Disagree, 3=Disagree, 4=Agree, 5=Strongly Agree
M=Mean; SD=Standard Deviation; RB=Reliability

Table 1 shows existing mechanisms for natural heritage that the county has in abundance that can attract and fascinate visitors. Such attractions provide avenues for local people to invest in farm level tourism and eke a living out of attracting and entertaining visitors. It is evident that the county has good soils for agricultural activities and allows for large scale tea plantation, has beautiful landscape and forests, and has favorable weather conditions for farming. All these could be harnessed for agro tourism purposes. The implication of these results is that Nandi County is endowed with diverse natural heritage that provide fertile ground for agro tourism development. Indeed, evidence shows that natural heritage which represents a legacy of tangible attributes and natural objects influence agro tourism development. Vrsaljko & Cukelj (2016) for instance argue that availability of picturesque landscapes, diversity in plants and fauna are a boost for agro tourism since they can be tapped to attract visitors.

The diversity in natural heritage that the study unearthed in Nandi County and which includes wonderful landscape, variety of flora, luxuriant fauna, indigenous trees and forests and hills and valleys no doubt provides impetus for agro tourism development in the area. This is informed by findings made by May-Chun *et al.* (2017) which show that natural resources have a direct impact on destination competitiveness. This is supported by findings in Nandi County of the availability of rivers with good scenery, adequate space for free movement and the diverse farming activities as natural resources possessed that are crucial for agro tourism development.

Exploratory Factor Analysis

Principle Component Analysis was conducted to verify item loadings through which redundant items were identified and omitted from analysis. The KMO value was 0.791 indicating that sampling was adequate. The significant chi-square value for Bartlett's test of sphericity (χ^2 = 1664.086, $p<0.05$) confirmed that data collected for natural heritage was complete (Table 2).

Table 2: KMO and Bartlett's Test for Natural Heritage

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.791
Bartlett's Test of Sphericity	Approx. Chi-Square	1664.086
	Df	231
	Sig.	.000

Rotated component matrix for natural heritage indicators was run (Table 3) from 22 original items, wherein only fourteen items were extracted, and loaded on seven components. Serenity loaded two items namely absence of noise and vibrations and the presence of hospitable people in Nandi County. Biodiversity loaded two items indicating the presence of flora and fauna in Nandi County. Regular practice loaded two items namely possession of agricultural products and farm activities available for enjoyment. Natural forest loaded two items that comprised presence of indigenous trees, forests and availability of land for additional activities. Riparian areas loaded three items comprising the presence of rivers, hills, valleys and adequate space for free movement of tourists. Landscape loaded two items namely the existence of wonderful landscape and the fact that the land can produce chemical free products. Lastly, indigenous food loaded one item indicating healthy food can be produced in Nandi County.

Table 3: Rotated Component Matrix[a]

	Component						
	1	2	3	4	5	6	7
There is absence of noise and vibrations	.661						
The local population are hospitable	.653						
The county has luxuriant fauna		.848					
The county is blessed with various flora		.829					
The county possess local agricultural products			.722				
People enjoy farming activities			.704				
There is indigenous trees and forests				.766			
There is adequate land for additional activities				.658			
There are rivers with good scenes					.724		
There is adequate space for free movement of tourists					.709		
There are small hills and valleys					.602		
Food is produced naturally without using chemicals						.822	
The landscape is wonderful						.806	
Healthy food is produced							.802

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 24 iterations.

The seven factors extracted explained cumulatively 60.840% of the variance in rotation sums of squared components associated with the factors (Table 4). They were named serenity, biodiversity, regular practice, forests, riparian areas, landscape and indigenous food. As shown from table 4, the seven factors explained a total of 60.84% of the variance in the data. Serenity explained 11.535% of the

variance, Biversity explained 10.041%, Regular practice explained 9.693%, Forests explained 8.630%, Riparian areas explained 7.855%, Landscapes explained 7.380 and Indigenous food explained 5.705% of the variance in the data.

Table 4: Total Variance Explained

	Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %
1. Serenity	2.538	11.535	11.535
2. Biodiversity	2.209	10.041	21.576
3. Regular Practice	2.133	9.693	31.269
4. Forests	1.899	8.630	39.900
5. Riparian	1.728	7.855	47.755
6. Landscapes	1.624	7.380	55.135
7. Indigenous Food	1.255	5.705	60.840

Exploratory factor analysis extracted seven components namely serenity, biodiversity, regular practice, forests, riparian, landscapes and indigenous food. Serenity comprised absence of noise and vibrations in the environment and the local population being hospitable. These findings imply that for agro tourism development to be fully realized, the natural environment of the business requires a conducive environment for relaxing that is free from noise. It is also crucial to have a friendly atmosphere where the local population is welcoming and receptive to tourists and guests both domestic and international. In support of a serene environment are findings from Sharma & Vyas (2014) who with no doubt found that tourists desire peace and tranquility as a crucial component towards agro- tourism development. The serene environment that is characterized by natural environment, free from the hustle and bustle of urban areas lean towards nature-characterized environments that have birds, crops, animals, rivers, hills and villages that provide totally different atmosphere to urban population in which they can forget their busy urban life. Tourists and generally the urban population are disillusioned with overcrowded resorts and cities and seek for real peaceful environments crucial for agro tourism.

Biodiversity is also crucial in natural heritage which comprised the presence of luxuriant fauna and variety of flora. Noteworthy is the fact that flora and fauna form an integral part as a tourism attraction with the ability to attract many tourists. This implies that there is a good presence of fauna and flora which if protected can reduce poverty by using biodiversity assets through agro tourism (Songkhla & Somboonsuke, 2012). Public public appreciation of environment should be increased in order to enhance the awareness of the environmental issues which strengthen the relationship between people, the environment and tourism (United Nations Environment Programme & World Tourism Organization, 2012) and may have a direct effect on sustainable tourism crucial in promoting environmental quality, reducing negative economic, ecological and socio-cultural impacts that could affect the biodiversity.

Regular practice included farmers being in possession of local agricultural products and also enjoyed farming activities as their way of life. Some of the farming activities included tea farming, poultry, livestock farming, horticulture of vegetables and fruits, maize farming, tree farming, sugar cane farming, cash crop farming and fish farming. These activities give credence to those of Rambodagedara *et al*. (2015) who established that engagement by farmers in agricultural activities and abundance in labour supply are resources crucial for agro

tourism development. The diverse farming activities in Nandi County are established well enough to present fertile ground for further agro-tourism development especially, tea farming which is the predominant activity in most of the sub-counties that generates substantial income opportunities and offers enormous employment opportunities. As found also, bee keeping is carried out by a few farmers currently and it is possible to develop it further. In addition, the presence of forests makes bee keeping a worthwhile venture. Further, there is little fruit production which would otherwise have provided fruit orchards that can consequently give rise to fruit picking as a tourist activity and give farmers an additional source of income. From interview sessions, it emerged that there was a lot of room for other farm and agricultural activities such as greenhouse farming which can be linked to agro-tourism also being practiced.

Study findings showed that forests are integral in natural heritage. Forest consists mainly of indigenous trees and dense forests. The forests provide timber and non-wood products and more importantly contribute significantly to the beauty of the landscape, preservation of the national heritage, protection of water supplies, rural life, village communities and the general well-being of Nandi County residents. These findings support those undertaken in Cyprus by Alexandros (2003) who asserted that trees attract visitors and that the future prosperity of a country is bound up with its forests and what happens to them. These forests, if well managed offer multidimensional opportunities for agro tourism development, especially in rural areas. The findings by Alexandros point at the contribution forests can make to agro tourism. Benefits of forests were brought out in the interviews which include timber, medicinal and aromatic plants, honey, use for tourism and recreation, scenery and landscape, soile conservation, protection of ecosystems, watershed and national heritage, biodiversity and preservation of genetic potential etc. Noteworthy is the fact that tree farming is practiced which generates income, employment opportunities and trade for the local community. In Cyprus, Alexandros found that social benefits derived from forest services and other indirect uses of the forest was much greater than the direct value obtained from sales of wood and non-wood products.

Riparian component comprised rivers and adequate space for movement of tourists while landscapes comprised of a good typography that is scenic in nature, having small hills and valleys and a wonderful typology. Cultural properties representing the combined works of nature and of man significant for nature conservation according to UNESCO (2003) are crucial in heritage preservation and assertions that landscapes are vessels of cultural values and contribute to the identity of communities (Stephenson, 2008) as well as the fact that culture is not static and often it is an important driver to ecosystem change (Antrop, 2008; Van Eetvelde, 2009). The existence of rivers, landscape, hills and valleys which are characteristic and synonymous with Nandi County, provide rich and luxuriant avenues for agro tourism development. Tourists enjoy interacting with nature and the availability of these resources form a good foundation for agro tourism development to thrive.

Indigenous food comprised natural food produced naturally without using chemicals and also where healthy food is produced. This supports findings by Sharma & Vyas (2014) that the urban populations are health conscious and constantly search for nature friendly means. Accordingly, urban people are more comfortable with pro-nature life and try to look for pro-natural medical approaches commonly associated with rural areas. Interviews and focus group discussions discussed the increase in demand for organic foods which health conscious urban population seek for and therefore can influence agro tourism

development especially in situations where planting of these foods are practiced. Nandi County is known to have variety of herbal products, leaves and roots that can be used to prevent and cure many diseases. Agro-tourism can thrive with mass production of indigenous foods. In line with the desire for indigenous foods that are associated with health benefits, Sharma & Vyas (2014) contend that health products can result in agro-therapy which has a connection with health-related products that can influence agro tourism development. Tourists visiting rural areas expect therapy such as special diet therapy and general consumption and availability of healthy products. This from the study can be achieved through indigenous foods that were found essential and can enhance agro tourism development.

Bivariate Analysis Testing the Influence of Natural Heritage on Agro-Tourism Development

Hypothesis H_0 presupposed that natural heritage do not influence agro tourism development in Nandi County. To test this hypothesis, agro tourism development variable was regressed on the natural heritage variable. The decision rule for this test was: reject H_0 if $p<0.05$ or do not reject otherwise. The model summary results given in table 5 confirmed that variation in natural heritage actually explained 40.1% (Adjusted R-square) of the variation in agro tourism development.

Table 5: Model Summary[b] for Natural Heritage and Agro Tourism Development

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.635[a]	.404	.401	.438	1.923
a. Predictors: (Constant), Natural heritage					
b. Dependent Variable: Agro Tourism Development					

The ANOVA results on Table 6 further confirms that the conceptualized simple regression model for agro tourism development on natural heritage was statistically valid. The regression coefficient was definitely not zero ($F_{1,\ 289} = 195.501$, $p<0.05$).

Table 6: ANOVA[a] Results for Natural Heritage and Agro Tourism Development

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.453	1	37.453	195.501	.000[b]
	Residual	55.364	289	.192		
	Total	92.817	290			
a. Dependent Variable: Agro Tourism Development						
b. Predictors: (Constant), Natural heritage						

The p value for the regression associated with natural heritage was 0.000, and was below the 0.05 threshold set for significance (Table 7). The hypothesis that natural heritage has no influence on agro tourism development was rejected. Thus, natural heritage had a positive and significant influence on agro tourism development ($B=0.618$, $p<0.05$).

Table 7: Coefficients[a] Natural Heritage and Agro Tourism Development

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.520	.168		9.062	.000		
	Natural heritage	.618	.044	.635	13.982	.000	1.000	1.000
a. Dependent Variable: Agro tourism Development								

Bivariate analysis examining the influence of natural heritage on agro tourism development revealed that natural heritage explained up to 40.1% of the variation in agro tourism development, and that natural heritage had a positive and significant influence on agro tourism development in Nandi County ($B=0.618$, $p<0.05$). The regression results confirmed that the abundant natural heritage in Nandi County provides an avenue for agro tourism development in the county. The implication of these results is that the abundant natural heritage found in Nandi County provides a basis upon which agro tourism could develop. The results do confirm through the regression coefficient that a one percent of natural heritage in Nandi County has the ability to increase chances of agro tourism development by 0.618 percent.

The result clearly underscores the fact that agro tourism development is a function of the existing natural heritage. Indeed, this finding supports a host of existing studies. Vrsaljko & Cukelj (2016) for instance, investigated development of agro tourism, and established that, idyllic picturesque landscapes, diverse plants and fauna found in the world, and untouched and protected parts of nature can be tapped to fascinate and attract tourists and visitors. May-Chun *et al.* (2017), on the other hand reported that natural resources positively and significantly correlated with tourism destination competitiveness. The study therefore affirms that the rich natural heritage in Nandi County has inherent influence on agro tourism development.

CONCLUSION AND RECOMMENDATIONS

Natural heritage aspects such as serenity, biodiversity, regular practice, forests, riparian areas, landscapes and indigenous food have a positive influence on agro tourism development. Nandi County is endowed with diversity of natural heritage that includes Nandi rock, Ngabunat caves, Tindinyo waterfalls, Koitalel Samoei Museum, and a beautiful landscape. Such natural heritage impacts positively on agro-tourism development. Through exploitation of the available natural heritage, agro tourism can thrive and change fortunes of the local population. From natural heritage such as trees, fresh fruits and vegetables, tea plantations to cultural heritage such as unique gourds, '*sooting*' milk, and traditional festivals, the county can empower local people to eke out a living from agro tourism.

From this backdrop, the county management can explore ways of mobilizing or taking stock of both natural heritage in the sub-counties with a view to finding ways of utilizing them for agro tourism development. Based on this, the authors recommnend to county tourism management to embrace heritage, preserve and develop them to boost agro tourism within the farms in Nandi County as well as encourage acceptability of the tourism model by farmers. Agro tourism has succeeded in many countries both developed and developing such as USA, Canada, Nepal, India, Sri Lanka, Kenya etc. and hence county management should look into the best model through research or benchmarking in order to assist in identifying the best way forward. It is recommended that farmers need to be educated on the benefits, challenges and expectations for successful agro tourism development and implementation of new dimensions. Notable is the fact that financing agro tourism enterprises may be a challenge to majority of farmers hence, the county management should devise ways of supporting farmers in accessing finance such as direct lending through banks, credit facilities and other financial institutions. Besides financial support, Nandi County government can provide non-financial business services, such as training of labour, management, counseling, marketing, information, and technology development.

REFERENCES

Akama, S. (2002). The role of government in the Development of Tourism in Kenya.

International Journal of Tourism Research 4(1), 1–14.

Alexandros C. (2003). "*Contribution of Forests and Forestry in Rural Development in Cyprus*". Ministry of Agriculture, Natural Resources and Environment, Cyprus.

Antrop, M. (2008). Landscapes at risk: about change in the European landscapes. In Peter Dostal (Ed.), *Evolution of Geographical systems and Risk Processes in the Global Context* (pp. 57–79). Prague, Czech Republic: Charles University in Prague. Faculty of Science.

Dudley, N., Higgins-Zogib, L. and Mansourian, S. (2005) *Beyond Belief: Linking Faiths and Protected Areas to Support Biodiversity Conservation*, a research report by WWF, Equilibrium and the Alliance of Religions and Conservation, Gland.

Hair, J. F., Anderson, R. E., Tatham, R. L. and Black, W. C. (2005). *Multivariate data analysis*. New Jersey: Prentice-Hall.

Jokilehto, J. (2006). World Heritage: Defining the outstanding universal value, C*ity and time Journal*, volume 2(2).

Krejcie, R. V. and Morgan, D. W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement, 30,* 607-610

Kuenzi C. and McNeely, J. (2008) Nature-Based Tourism. In: Renn O., Walker K.D. (eds) Global Risk Governance. *International Risk Governance Council Bookseries*, vol 1. Springer, Dordrecht

May–Chiun, L., Abang, A. M., Chee-Hua, C. and Ramayah, T. (2017). The impact of natural resources, cultural heritage and special events on tourism destination competitiveness: The moderating role of community support. *International Journal of Business and society*, vol 18(4): 763-774

Nistoreanu, P. (Coord.) (2010). Managementul durabil al comunităţilor rurale şi turismul, Editura ASE,Bucureşti.

Putney, A. (2005). 'Building cultural support for protected areas through sacred natural sites', in McNeely, J. A. (ed.) *Friends for Life*, IUCN, Gland, Switzerland and Cambridge.

Rambodagedara, R. M., Silva, D. S. and Perera, S. (2015). *Agrotourism Development in Farming Community: Opportunities and Challenges*. Research Report No: 188. Hector Kobbekaduwa Agrarian Research and Training Institute. Sri Lanka.

Schama, S. (1995). *Landscape and Memory*, Harper Collins, London.

Sharma, S. and Vyas, D. (2014). Agro-tourism: Imminent sunrise sector for rural development. *Journal of Management Research*. Volume 2(1): 235-245.Songkhla, B. and Somboonsuke (2012). Impact of agro-tourism on local agricultural occupation: A case study of Chang Klang district, southern Thailand. *Journal of Agricultural Technology*, 8(4):1185–1198.

Stephenson, J. (2008). The Cultural Values Model: An Integrated Approach to Values in Landscapes. *Landscape and Urban Planning.* Vol. **84** (2): 127-139. 10.1016/j.landurbplan.2007.07.003.

Steward, P. J. and Strathern, A. (2003). *Landscape, Memory and History, Anthropological Perspectives*, Anthropology Culture and Society, Pluto Press, London.

UNESCO *(2003)*."Charter on the Preservation of Digital Heritage". . *UNESCO October 15, 2003*. Retrieved July 9, 2015.

UNESCO (2006). Natural Heritage Strategy. The UNESCO World Heritage Centre. Paris

United Nations Environment Programme and World Tourism Organization (2012), *Tourism in the Green Economy – Background Report*, UNWTO, Madrid.

Van Eetvelde, V. (2009). Indicators for assessing changing landscape character of cultural landscapes in Flanders, Belgium. Land Use Policy 26, 901–10.

Vrsaljko, A. and Cukelj, N. (2016). Natural and cultural heritage as a paradigm for agro tourism development in Krapina-Zagorje County. ACS – Agriculturae Conspectus Scientificus, 80(4), 229–238