



Influence of Cultural Heritage Dimension on Potential Agro-Tourism Development in Nandi County, Kenya

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ABSTRACT

The purpose of this paper was to bring understanding on the dynamics of cultural heritage that could bring forth a paradigm shift in farmers' activities in Nandi County to utilizing the heritage aspects in exploiting potential agro-tourism development. The study tested a null hypothesis that cultural heritage donot influence potential agro-tourism development in Nandi County. This study used descriptive survey research design. The target population for the study was 357,461 farmers from three selected sub-counties, specifically Nandi Hills, Tinderet and Aldai in Nandi County, Kenya. 384 farmers formed the sample size. Purposive, proportionate, cluster and simple random sampling methods were used to select the respondents while self administered questionnaires were used to collect data. Validity was tested using 52 farmers from Emgwen sub-county while reliability was tested using Cronbach's alpha at 0.7. Data was analysed using descriptive statistics, exploratory factor analysis and simple linear regression. Findings from the factor analysis revealed that six components that are unique heritage adequately explain cultural heritage in Nandi County and have great potential to attract and fascinate tourists to catalyze agro-tourism development. Simple linear regression analysis established that cultural heritage explained 36.8 % ($R^2 = 0.368$) of the variance on perceived potential of agro-tourism development. The study rejected the null hypothesis that cultural heritage ($\beta=0.535$, $p<0.05$) does not influence the potential of agro-tourism development in Nandi. Based on these results, the study concluded that cultural heritage dimension components such as milk associated features, ceremonies, traditional architecture, narrations, dwellings and festivals have the ability to influence potential agro-tourism development positively.

Keywords: Agro-tourism, Cultural Heritage, Dimension, Development

INTRODUCTION

Agro-tourism is referred to as human tourist activity whose aim is to familiarize oneself with farming activity and recreation in an agricultural environment (Sznajder, Przezbórska and Scrimgeour, 2009) and is considered a subset of rural tourism (Rogerson & Rogerson, 2014). Among a host of activities linked to Agro-tourism are country accommodations, farm leisure activities and provision of food and entertainment to tourists within agricultural settings. Scholars have advanced arguments in support of agro-tourism as an effective approach to sustainable development among the rural communities (Chemnasiri, 2014; Lopez & Garcia 2006; Stanovcic, Pekoric, Vukcevic & Perovic 2018; Wayan & Gusti, 2014; Zoro, Qirici & Polena, 2013). Chemnasiri (2014) argues that through agro-tourism, tourists get to enjoy farm activities such as picking fruits and vegetables and tasting honey among others. It also affords people the opportunity to experience culture and participate in cultural activities as well as learn cultural methods of farming and agriculture of the community which shows that agro-tourism could be a fundamental function of a people's heritage such as using bulls to plough farms.



Lopez and Garcia (2006) contend that agro-tourism play a central role in the diversification of agriculture and tourism in remotely located and isolated regions. Lopez and Garcia affirm that agro-tourism is essential to the social, economic and environmental pillars of sustainable development. Stanovcic et al (2018) on the other hand posit that, farm level income-generating activities in form of agro-tourism are crucial to fostering economic development. In Kenya, although the development of agro-tourism is still in its nascent stages, the potential success of agro-tourism is highlighted through the Eden Villa farm situated at Sipili in Laikipia west. According to an article by Mureithi appearing in the Daily Nation of September 19th 2015, Eden Villa is a 7.5-acre farm situated in the remote and dusty Dimcom village. The owner of the farm has expanded the bounds of agriculture and tourism by launching green tourism that basically builds on agro-tourism. Tourists take advantage of the canopy of fruit trees to relax after eating their choice of the more than 20 varieties of fruits in the farm. The bottom line is that the farms proprietor takes advantage of digital heritage to generate income while conserving the environment and entertaining visitors.

The abundant wealth of agricultural and tourism potential available in Nandi County, could be the panacea to emerging challenges of climate change, food prices and financial crisis. A linkage of agriculture and tourism in form of agro-tourism has the ability to exploit the various natural, environmental, cultural and historical assets to entertain and educate visitors, while, at the same time generating income for the locals. Evidence points to agro-tourism as an effective approach to sustainable development among rural communities (Chemnasiri, 2014; Lopez & Garcia, 2006; Stanovcic et al. 2018; Wayan & Gusti, 2014).

Despite increased global interest in agro-tourism, and the rich heritage Nandi County possesses many resources that still remain untapped. Robert Matarei, the then Manager of the Eldoret chapter of Kenya investment forum, in a report presented to the Nandi Consultative Investment Forum on 14th May 2011 noted that the full potential of the Nandi county is far from being exploited. The richness of resources has not been harnessed to translate into economic gains. Besides, the utility of agro-tourism towards sustained development has extensively been explored in extant literature (Anbalagan & Lovelock, 2014; Eshun & Tettey, 2014; Hamalpurkar, 2012; Lee, 2012). What remains to be explored, however, is how the various heritage dimensions such as those existing in Nandi County cultural heritage could be manipulated to maximize the potential agro-tourism development by utilizing the available resources. Nunkoo and Gursoy (2012) postulate that cultural heritage has the potential to inform agro-tourism development in terms of economic, social and environmental aspects of a destination and can therefore be a catalyst for untapped aspects of agro-tourism development.

LITERATURE REVIEW

Agro-tourism is fast emerging as a concept that hopes to exploit emerging advancement in knowledge to diversify agriculture from the more traditional crop cultivation and livestock farming, to other options that may be present. According to the Agrihouse foundation (2018), Agro-tourism is a facet of tourism through which people are attracted to agriculture facilities such as ranches, plantations, farms and other agricultural landmarks. In this way, the foundation argues that tourists are afforded opportunities to enjoy farm level activities such as picking fruits and vegetables and tasting honey among others.



Several definitions of agro-tourism are advanced in extant literature, most of which use agro-tourism interchangeably with agri-tourism. Arroyo, Barbieri and Rich (2013) define agro-tourism in the context of agricultural settings, entertainment, farming and education. In essence, Arroyo et al (2013) contend that agro-tourism looks to exploit agricultural settings for purposes of entertainment, farming and education. Flanigan, Blackstock and Hunter (2014) in support of Arroyo et al. (2013), define agro-tourism as a practice that should build upon agricultural activities, farming, and tourists' agricultural experiences. As a practice, agri-tourism aims at attracting visitors for agricultural purposes and it attracts tourists to rural communities for a form of relaxation that follows the growing trend of tourism that is both educational and recreational. It also provides farmers an opportunity to diversify farming operations that bring more economic activities to rural areas (Mahaliyanaarachchi, 2016).

Several contradictory arguments are posited in existing literature with regards to consensus building in defining agro-tourism. Broccardo, Culasso and Truant (2017) contend that ontological issues revolving around the definitions include appropriate setting, typical activities undertaken in agro-tourism, and exact definition of tourism in relation to agro-tourism. Such inconsistencies play out clearly in assertions between Wanna, Nara and Morris (2015), and Philip, Hunter and Blackstock (2010). According to Wanna et al. (2015), Agro-tourism revolves around three key characteristics namely; working farm, contact between tourism and agriculture; and tourists experience with authentic agricultural activities. Philip et al, (2010) on their part tend to concur with Wanna et al. (2015) in terms of the characteristics around which agro-tourism revolve. However, they observe that there may be no consensus on the definition of what constitutes a working farm. Nevertheless, it is apparent that whichever way one looks at it, agro-tourism as a concept emerges as a farm level activity aimed at gaining competitive advantage by exploiting available agricultural and tourism potential for social, economic and environmental benefits.

Cultural Heritage

Cultural heritage includes both intangible and tangible heritage. Intangible heritage as espoused by UNESCO 2003 is associated with what communities or groups recognize as part of their practices, skills, phrases, symbols, subjects, information, forms of entertainment, activities as well as implements used in the cultural endeavours. Intangible cultural heritage manifest in domains such as oral traditions and expressions, including language as a vehicle for intangible cultural heritage; performing arts; social practices, rituals, and festive events; knowledge and practices concerning nature and the universe; and traditional craftsmanship practices (Viyayah, 2011). Other intangible elements of cultural heritage include customs and traditions, values and beliefs, language, achievements, history, religion, activities, and skills. In other words, the concept of intangible CH includes living expressions and the traditions that countless groups and communities worldwide have inherited from their ancestors and transmitted to their descendants, in most cases orally. In short, 'intangible' represents the abstract and the non-measurable, as well as the notion of oral traditions acting as the main vehicle for intangible processes (ibid:36).

Scholars have considered the intangible nature of cultural heritage as equally important or more important than, tangible aspects of cultural heritage (Vecco, 2011; Ma & Wang, 2008; Kenji, 2004; Munjeri, 2004) which include artefacts and objects among others. Others, however, are convinced that tangible CH merely complements intangible CH, with the latter giving the former its meaning (Bendix, 2009; Smith & Akagawa, 2009; Bortolotto, 2007). In



line with this, Leimgruber (2011) concludes that material CH is secondary, since the tangible can only be interpreted through the intangible. This discussion clearly demonstrates that the important attributes giving CH its vitality are not objects themselves, but also knowledge about objects, or the bodies of knowledge that can activate objects. Thus, CH carries a sense of continuity. It is also dynamic and never static. In fact, the Convention itself accepts that intangible CH resources are constantly being created, and therefore are constantly changing. Yoshida (2004) takes this concept further by suggesting that safeguarding intangible CH should not be viewed as preserving intangible CH, because such an approach implies that heritage could be maintained in an unchanged condition. Instead, safeguarding should be read as ensuring the dynamism of intangible CH. This definition clearly suggests that heritage can no longer be defined on the basis of material aspects alone. This definition also makes it possible to recognize intangible CH as something to be protected and safeguarded.

Cultural heritage is the legacy of physical artifacts (cultural property) and intangible attributes of a group or society inherited from the past. Cultural Heritage bridges the gap between the past and future using current approaches by attaching values of groups or societies and maintaining them for the benefit of future generations (Loulanski, 2006). The ideas developed and accepted by these different groups create various categories of cultural heritage that are symbolic and represent identities in terms of culture and natural surroundings which create a connection to traditional activities around these objects that build a sense of community. At the same time, the objects both tangible and intangible are preserved to set the future path for various cultural narratives and societal acceptance about both the past and present (Nilson and Thorell, 2018).

Cultural heritage includes resources formed from cultural identity and historical in nature. Despite the fact that choices were made by parents and prominent persons about what we should believe in, cultural heritage is active not passive, it suffices as both an individual and a group phenomenon. Cultural heritage influences the way we view ourselves, thinking, behavior, knowledge, personalities, beliefs, passion and emotions. Cultural heritage defines the multiple social groups (family, workplace, friends) shared through cultures. Cultural heritage meets individual and group needs and helps explain how we think and live. However, cultural heritage is partly a matter of choice as traditions can be accepted or rejected by immigrating to new environment (Burtland, 2013).

Whereas culture is a group's values, traditions, art, etc, heritage is a group's history of their values, traditions, achievements. Cultural heritage is the expressive lifestyle that is passed down from generation to generation, both tangible and intangible (ICOMOS, 2002). Tangible elements of cultural heritage include artifacts, food, art, attire, products, landscapes, agriculture, buildings and photographs. Preservation of cultural heritage can be achieved if individuals place value and subsequently transmit tangible culture to the next generation. The importance of cultural heritage is eminent as a core element of an individual's identity, increases a sense of belonging, access to groups or communities preserves history and culture; and has an express correlation to an individual's past and ancestors. When cultural heritage can be passed on to other generations, people enjoy, understand, care and value themselves, allowing for future observance and practice.

Cultural Heritage in Nandi County



The Nandi people traditionally believe in a supreme divinity known as 'Asis or Cheptalel', symbolised by the sun. The deputy of Asis is 'Elat', who commands thunder and lighting. The community idolises spirits of the ancestors, Oyik, which are believed to control activities of human beings. However, most of the traditional beliefs have been abandoned for Christianity and other religions. The staple food for the community is 'Ugali', a dish made of maize flour that is usually served with cooked vegetables or sour milk ('mursik'), a popular beverage of fermented milk. Traditionally the Nandi wore clothing made of skins of domestic animals and both men and women donned earrings comprising heavy brass coils that pulled the earlobes down to the shoulders. The Nandi practiced circumcision of boys and girls as a rite of passage into adulthood wherein newly circumcised boys were assigned the task of defending the community, while the newly circumcised girls entered into marriage. Female circumcision ceased to be practiced and there is rising levels of education among the Nandi. The richness of resources has not been harnessed to translate into economic gains. Besides, the utility of agro tourism towards sustained development has extensively been explored in extant literature (Anbalagan & Lovelock, 2014; Eshun & Tettey, 2014; Hamalpurkar, 2012; Li, 2012). What remains to be explored, however, is the influence of cultural heritage dimension such as those existing in Nandi County could be harnessed to catalyze agro-tourism development which this study examined.

METHODOLOGY

The research focused on three sub counties in Nandi County namely Aldai, Nandi Hills and Tinderet. Nandi County occupies 2,884.4 square kilometres (1,113.7 sq mi) of land characterized by hilly topography that includes an outcrop of basement systems rocks. This research utilized explanatory and descriptive research designs. It aimed at extending knowledge of cultural heritage and agro-tourism by attempting to measure factors that constitute cultural heritage that can be building blocks to agro-tourism. The target units for analysis of the study were 357,461 farmers from the 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 and 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 cultural heritage necessary and adequate to answer the objective of the study. Simple 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 questions on a five-point likert with representation of 1 as strongly disagree while 5 was strongly agree.

A pilot test was conducted in Emgwen sub-county. Face and construct validity of the measurement instrument was assessed by professionals who examined it and provided feedback for revision. Afterwards, the survey instrument was given to fifty two (52) farmers and one sub-county officer to solicit feedback and estimated time to complete the survey questionnaire. Cronbach's alpha test which was used to test reliability was found to be reliable (> 0.7). According to Hair, Anderson, Tatham and Black (2005) the general agreed upon lower limit for Cronbach's Alpha is $\Rightarrow 0.70$ but may decrease to $\Rightarrow 0.60$ in exploratory research and increase up to ≥ 0.80 in studies that require more stringent reliability. Quantitative data from the study was analyzed through descriptive and exploratory factor analysis. Missing Completely at Random (MCAR) technique was used to check missing values while univariate outliers were determined using Box and Whisker and multivariate



outliers checked using Mahalanobis (D^2) distance statistic. Descriptive statistics such as mean and standard deviation was used to analyse data while exploratory factor analysis was used to reduce the parameters in the cultural heritage variable. Simple linear regression was used to test the influence of cultural heritage on potential agro-tourism development.

The questionnaire originally contained 25 indicators as shown on table 1. However, after exploratory factor analysis, twelve indicators with coefficients <0.6 were suppressed and consequently eliminated from further analysis hence only thirteen retained were used in analyzing descriptive statistics and rotated in the factor analysis.

Table 1: Indicators used to measure cultural heritage by farmers

1. There is a sufficiently developed identity	14. Nandi language is preserved through speaking
2. Traditional circumcision ceremonies are held	15. People enjoy narrating the oral history
3. Houses are designed traditionally	16. Preserve food using traditional methods
4. Traditional skills in crafts are used	17. Local dances are encouraged
5. Traditional materials are used in building houses	18. Spiritual beliefs exist
6. Local agricultural products are used in the preparation of farms	19. Wedding negotiation ceremonies are conducted traditionally
7. Fermented milk 'mursik' made traditionally	20. People know the traditional attire of the community
8. Calabash are used for storing and serving milk	21. Food is prepared and served traditionally
9. Crashed soot is added to milk	22. Cursing ceremonies are conducted
10. Calabashes are made for different use	23. Naming is done according to traditional beliefs
11. Traditional beer (busaa) is brewed	24. Family appeasing ceremonies are done
12. People listen to stories & community traditions	25. Traditional fortune and investigations are conducted by seers
13. Local festivals are held	

RESULTS AND DISCUSSIONS

A total of 384 questionnaires were issued to farmers sampled for the study. Out of this number of questionnaire 337 were returned. However, on close scrutiny, 21 respondents were found to have omitted items on cultural heritage. The twenty one questionnaires were omitted from further analysis which yielded an 82.3% response rate. Basing on recommendations that a response rate of approximately 60% and above is ideal (Draugalis, Coons & Plaza, 2008), this response rate was found ideal for the purposes of the study.

Missing Values

The missing completely at random (MCAR) technique was used to examine missing values. Masconi, Matsha, Erasmus and Kengue (2015) posit that missing values are common in social science research and whenever they occur, are likely to lead to loss of statistical power required in order to make accurate decisions. Baraldi and Enders (2010) observe that fatigue and questions on sensitive issues and social phenomena are some of the reasons that lead to missing data.



In using the MCAR technique, the assumption made was that events leading to missing data were independent of observable and unobservable parameters, and occurred entirely at random (Polit & Beck, 2012). Under this approach, all the cases having missing values in the excess of 5% were deleted (Alison as cited in Hair et al., 2010). In the present study, the SPSS Missing Value Analysis (MVA) command was used to identify missing values. Eighteen cases had missing data in the excess of 5% and were deleted from further analysis. Missing data in cases with less than 5% missing were replaced by series means as suggested by Tabachnick and Fidell, (2013). After deleting missing data, the remaining 298 cases were used for further analysis.

Outliers in Cultural Heritage Dimension

The study examined presence of both Univariate and Bivariate Outliers. Aguinis et al. (2013) identify outliers as cases with extreme values. They argue that such cases may occur on one variable for which they are referred to as univariate, or they may occur on a combination of variables for which they are known as multivariate. Univariate outliers were examined using Box and Whisker plots, which are noted to be useful in indicating whether a distribution is skewed, and also in identifying unusual observations (outliers). The SPSS descriptive statistics–Explore command was used to generate box plots from which univariate outliers were identified. For each of the independent and dependent variable, outliers were depicted as numbered cases beyond lower and upper whiskers.

The box plot generated cultural heritage univariate outliers (Fig. 1) revealed four cases (cases 91, 157, 163 and 202) with extreme values. The four cases were deleted from further analysis.

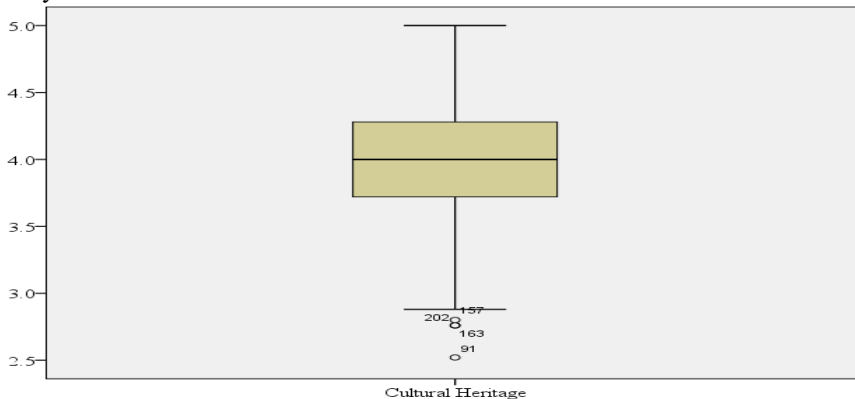


Figure 1: Cultural Heritage univariate outliers

Multivariate Outliers

Mahalanobis (D^2) distance statistic was used to detect presence of multivariate outliers. According to Garson (2012), Mahalanobis distance represents the squared distance from the centroid of a data set thereby indicating cases that are outliers on a set of variables. Cases with highest Mahalanobis D-square values and with probabilities of less than 0.001 were considered to be multivariate outliers. Results presented in Table 2, which is a screen shot of the first twenty five cases sorted in ascending order reveals that all the probabilities associated with Mahalanobis distances were above 0.001. The implication is that there were no multivariate outliers detected. All the 291 cases were therefore used for the requirements of the study.



Table 2: Cultural Heritage Multivariate Outliers

	MAH_1	p_Mah_1
1	-.14863	.01458
2	-.17256	.01811
3	-.17554	.01856
4	-.28951	.03801
5	-.33746	.04716
6	-.34617	.04888
7	-.37464	.05457
8	-.37728	.05510
9	-.38784	.05726
10	-.39466	.05866
11	-.41941	.06380
12	-.43593	.06728
13	-.43775	.06766
14	-.45489	.07132
15	-.48412	.07763
16	-.50204	.08156
17	-.50640	.08252
18	-.53435	.08872
19	-.53612	.08911
20	-.56609	.09585
21	-.56996	.09673
22	-.57171	.09712
23	-.57773	.09849
24	-.57853	.09867
25	-.59484	.10239

Normality of Cultural Heritage

The plot of the rank ordered values of the cultural heritage were largely along the diagonal line except for a few points at the lower extreme (Figure 2). The normality assumption for the cultural heritage data distribution was therefore met.

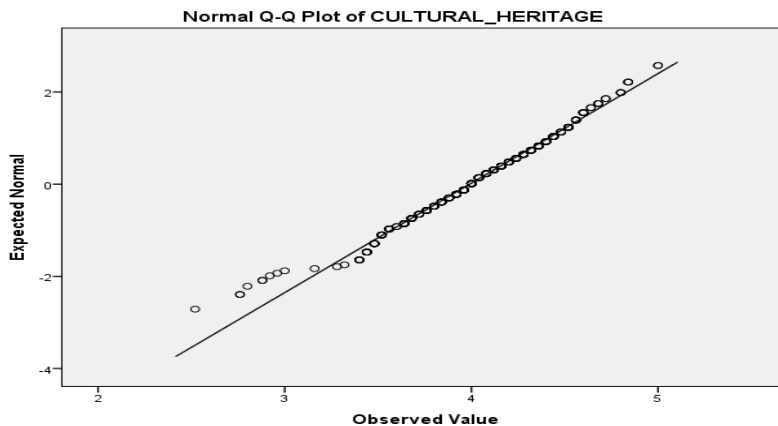


Figure 2: Normality of Cultural Heritage

Descriptive Statistics

The descriptive statistics (mean and standard deviation) explored cultural heritage commonly associated with Nandi County. Thirteen items were used to measure cultural heritage. Respondents were asked to indicate agreement or disagreement on availability of identified cultural heritage indicators on a likert scale of 1-5 wherein 5 was strongly agreed while 1 was strongly disagree. The overall response yielded a mean score of 3.99 with a standard deviation of 0.425. This response score indicated that respondents were consistent in agreement with availability of the said cultural heritage (Table 3). Statistics on farmer perceptions on cultural heritage that scored a mean of >4 include; Mursik made traditionally (M=4.32, SD=0.679) that is, both using unboiled milk and letting it ferment for about two



weeks vis a vis culturing for eighteen hours and using gourds to store and serve milk and presenting milk that is laden with crashed soot had (M=4.25, SD=0.717 and 700) respectively; local festivals held (M=4.13, SD=0.751) and traditional methods of preserving food (M=4.00, SD=0.752). Those that had the lowest mean include; family appeasing ceremonies (M=3.86, SD=0.855); houses designed traditionally (M=3.84, SD=0.886); cursing ceremonies conducted (M=3.66, SD=0.927) and use of fortune and investigation seers (M=3.61, SD=0.964).

The implication of these results is that Nandi County has unique cultural practices that provide a rich cultural heritage with potential to fascinate and attract curiosity and interest among tourists. The county is therefore ideal for exploitation of the potential for agro-tourism development. Evidence in the extant literature affirms that cultural heritage such as lifestyles in rural settings provide potential for the empowerment of local economies (Bowitz & Ibenholt, 2012; Rungnapha, 2015; Vrsaljko & Cukelj, 2015). The abundance of unique artifacts and cultural practices and agricultural activities found in Nandi County is therefore the basis upon which the potential for agro-tourism could be exploited. Other scholars whose findings are supported by the present study include Vrsaljko and Cukelj (2015) and Nocca (2017). According to Vrsaljko and Cukelj cultural heritage has direct effects on agro-tourism.

Table 3: Descriptive statistics on Farmers perceptions of Cultural heritage in Nandi County

Statement	5		4		3		2		1		M	SD
	f	%	f	%	f	%	f	%	f	%		
Sour milk 'mursik' made traditionally	125	43.0	139	47.8	23	7.9	4	1.4	0	0	4.32	.679
Gourd used to storing & serving milk	115	39.5	114	48.5	29	10.0	6	2.1	0	0	4.25	.717
Crashed soot is added to milk	109	37.5	151	51.9	26	8.9	4	1.4	1	0.3	4.25	.700
Local festivals are held	86	29.6	172	59.1	23	7.9	6	2.1	4	1.4	4.13	.751
Food is preserved traditionally	65	22.3	174	59.8	43	14.8	5	1.7	4	1.4	4.00	.752
People enjoy narrating the oral history	69	23.7	150	51.5	63	21.6	6	2.1	3	1.0	3.95	.793
People listen to stories and traditions	56	19.2	175	60.1	48	16.5	11	3.8	1	0.3	3.94	.733
Spiritual beliefs exist	65	22.3	176	60.5	26	8.9	16	5.5	8	2.7	3.94	.883
Traditional materials used in building	58	19.9	164	56.4	59	20.3	8	2.7	2	0.7	3.92	.755
Family appeasing ceremonies are done	53	18.2	171	58.8	46	15.8	14	4.8	7	2.4	3.86	.855
Houses are designed traditionally	60	20.6	149	51.2	66	22.7	7	2.4	9	3.1	3.84	.886
Cursing ceremonies are conducted	42	14.4	149	51.2	68	23.4	23	7.9	9	3.1	3.66	.927
Fortune & investigations by seers	38	13.1	149	51.2	70	24.1	20	6.9	14	4.8	3.61	.964
Average response score	72	24.9	156	54.5	45	15.6	10	3.4	5	1.6	3.97	.425

Exploratory Factor Analysis



Exploratory Factor Analysis (EFA) was used specifically for purposes of reducing the large number of indicators measuring the variables under study. Hair et al. (2010) contend that besides reducing large number of items, EFA has the ability to identify strong patterns in a given data set. The Principal Components Analysis (PCA) was run for each of the four variables. The Kaiser criterion for which Eigen values were set at 1 was used. Sampling adequacy was confirmed using the Kaiser–Meyer–Olkin (KMO) statistic, while data completeness was verified using Bartlett’s Test of Sphericity. A KMO value above 0.6 indicated sampling adequacy while a significant Bartlett’s measure (at the 5% level) was deemed to indicate data completeness (Tabachnick & Fidell, 2013).

Cultural Heritage as experienced in Nandi County was measured originally using twenty five items. Results of the PCA revealed that sampling was adequate (KMO = 0.862) and that data was complete ($\chi^2 = 2955.167$) as shown on table 4.

Table 4: KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.862
Bartlett's Test of Sphericity	Approx. Chi-Square	2955.167
	Df	298
	Sig.	.000

Besides, out of twenty five items PCA using Varimax rotation extracted only thirteen items clustered in 6 factors as displayed in table 5. The factors are milk associated features (MA), ceremonies (CE), traditional architecture (TA), narrations (NA), dwellings (DW) and festivals (FE). The thirteen items were therefore retained for measuring cultural heritage. The other twelve were suppressed and deemed redundant thus removing them.

Table 5: Rotated Component Matrix^a

Statement	Component					
	MA	CE	TA	NA	DW	FE
C7: Sour milk (mursik) made traditionally	.870					
C8: Calabash for storing & serving milk	.829					
C9: Crashed soot is added to milk	.790					
C22: Cursing ceremonies are conducted		.799				
C23: Traditional fortune and investigations are conducted by seers		.759				
C24: Family appeasing ceremonies done		.719				
C3: Houses designed traditionally			.679			
C1: There is developed identity			.676			
C15: People enjoy narrating oral history				.697		
C13: People listen to stories and traditions of the community				.674		
C18: Preservation of food is traditional				.600		
C5: Traditional building materials used					.645	
C12: Local festivals are held						.636



The six clusters within which the thirteen items were spread explained a cumulative total of 60.249% of the variance in rotation sums of squared loadings associated with cultural heritage (Table 6).

Table 6: Total Variance Explained

Component	Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %
1 Milk associated features (MA)	3.490	13.959	13.959
2 Ceremonies (CE)	2.861	11.442	25.402
3 Traditional Architecture (TA)	2.608	10.433	35.835
4 Narrations (NA)	2.505	10.021	45.856
5 Dwellings (DW)	2.300	9.199	55.054
6 Festivals (FE)	1.299	5.195	60.249

Hypothesis Result on Influence of Cultural Heritage on Agro-tourism Development

The hypothesis stated that cultural heritage has no influence on agro-tourism development in Nandi County. To test the claim, a regression of agro-tourism development variable on the cultural heritage variable was conducted. The decision rule for testing this hypothesis was reject H_0 if $p < 0.05$ or do not reject otherwise. The model summary on table 6 reveals that cultural heritage had a direct influence on agro-tourism development and accounted for 36.8% ($R^2 = 0.368$) of the variance in agro-tourism development. The adjusted $R^2 = 0.365$ which accounted for 36.5% of the variance.

Table 7: Model Summary^b for Cultural Heritage and Agro-tourism Development

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.606 ^a	.368	.365	.451	2.152

a. PPredictors: (Constant), Cultural heritage

b. DDependent Variable: Agro-tourism Development

The ANOVA output on table 8 confirmed that regressing agro-tourism development on cultural heritage was a good fit to the data. At least one of the model's regression coefficient was different from zero ($F_{1, 289} = 168,021, p < 0.05$).

Table 8: ANOVA^a for Cultural Heritage and Agro-tourism Development

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	34.124	1	34.124	168.021	.000 ^b
Residual	58.693	289	.203		
Total	92.817	290			

a. DDependent Variable: Agro-tourism Development

b. PPredictors: (Constant), Cultural heritage

The regression weight associated with cultural heritage on table 9 had a p-value of 0.000 that was much less than 0.05, and signified that cultural heritage positively and significantly influences agro-tourism development in Nandi County ($B = 0.535, p < 0.05$). The regression coefficient of 0.535 implies that a 1 percent improvement in cultural heritage results in a 0.535 percent improvement in agro-tourism development.



Table 9: Coefficients^a for Cultural Heritage and Agro-tourism development

Model	Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
	B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1 (Constant)	1.841	.156		11.773	.000		
CH	.535	.041	.606	12.962	.000	1.000	1.000

a. DDependent Variable: Agro-tourism development

CONCLUSION

This study established that cultural heritage dimension in the context of Nandi county, can be understood and explained using six components namely milk aspects, ceremonies, traditional architecture, narrations, dwellings and festivals. Milk associated features encompasses preparing sour milk ('mursik), storing and serving milk traditionally using calabashes and favouring milk with black soot. For the Nandi, milk is considered precious and sacred and is used for reconciliation and bonding of families in special ceremonies. Ceremonies such as cursing, appeasing, circumcision and seers are part of heritage used for different purposes. Traditional architecture in designing houses, furniture and identity development can create an image and perception of attractive heritage. Narrations in terms of storytelling and listening, oral history and folklores can go a long way in enhancing heritage. Dwellings by having traditional settings in the background and ambience enhance heritage. Festivals such as dances and food festivals bring a great component of cultural heritage. Simple linear regression analysis found that that cultural heritage explained 36.8 % ($R^2 = 0.368$) of the variance on potential of agro-tourism development. The null hypothesis that cultural heritage does not influence the potential of agro-tourism development was rejected with $\beta = 0.535$ and $p < 0.05$). Based on these results, the study concluded that cultural heritage dimension components have the ability to influence potential agro-tourism development positively. The study adds to existing knowledge by bringing on board cultural heritage components such as local festivals and appeasing ceremonies among other factors that have the ability to transform livelihoods through agro-tourism.

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