

# Effectiveness of Wildlife Clubs of Kenya Activities in Promoting Awareness and Positive Attitude Towards Wildlife Conservation Education

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## Abstract

The purpose of this study was to evaluate the effectiveness of WCK activities in promoting awareness and positive attitude towards wildlife conservation education among secondary schools students' in Kenya. This study employed descriptive survey and correlational research designs. A sample of 591 respondents was employed for the study. The study utilized questionnaires and interview schedule for data collection. The study found that there exist significant relationship between WCK activities and promotion of awareness of wildlife conservation education at 5% significance level. The level of involvement in environmental conservation activities corresponded to WCK activities demonstrating a likelihood that the involvement of respondents in WCK activities would contribute to the level of awareness towards wildlife conservation. Also, the study found that WCK activities had insignificant influence on promoting positive attitude towards wildlife conservation. This implies that WCK activities do not contribute significantly to the prediction of positive attitude towards wildlife conservation. There is need for more education and awareness program to address ignorance and lack of knowledge by community towards wildlife conservation. It is anticipated that the findings of the current study will provide necessary information useful to the policy makers, members of WCK and other stakeholders to promote the effectiveness of WCK in wildlife conservation education in Kenya.

**Keywords:** Awareness; Attitude; Wildlife conservation education; WCK activities

## INTRODUCTION

Protecting wild flora and fauna species in their habitats through wildlife conservation measures such as use of protected areas (PAs) has become increasingly important in recent years (Muhumuza & Balkwill, 2013). The overall goals of these conservation measures have been to improve the potential of the current wildlife species and their habitats, to support future human generations and to minimize negative changes in nature (CARE, 2015). However, some wildlife conservation measures have failed over the years a factor associated to the measures either being too anthropocentric (human centred) or too biocentric (nature centred) (Muhumuza & Balkwill, 2013, Paterson, 2006). Paterson (2006) argues that modern conservation strategies should aim to balance human needs and nature conservation, whereas biocentric and anthropocentric approaches causes nature dualism, promoting nature protection and human wellbeing respectively.

The dichotomy in wildlife conservation highlighted by Paterson (2006) has inevitably contributed to increased social conflicts and competing interests over wildlife issues, for instance elephant conservation versus man's need to plant and harvest food crops in the Mt. Kenya region (Otieno, 2005). Consequently, such conflicts have resulted in a decline in wildlife populations both inside and outside protected areas and illegal trade in wildlife species or products (WCS, 2016). At the same time the conflicts have resulted to unplanned settlements in wildlife areas, conversion of wildlife migratory routes into other incompatible uses, encroachment into wildlife habitats due to human population growth, human-wildlife conflicts, climate change, and volatility of the international tourism market (Virginia Department of Game and Inland Fisheries, 2010; Michaelidou & Decker, 2002).

Salafsky, Margoluis and Redford (2001) while pointing out the challenges associated with wildlife conservation, stated that strategies such as habitat restoration, scientific studies of biodiversity threats, and political and legal actions that protect wild species and spaces can be employed to achieve direct conservation results. The current study, contributes to scientific studies on biodiversity threats, especially related to human awareness and attitudes, and Environmental Education (EE), since education and knowledge transfer to communities in conservation is "authentic, empowering, and effective" towards enhancing conservation as highlighted by Braus (2009).

WCK members are mostly trained informally targeting to change attitudes, enhance knowledge, and transform behaviours' which can result in concrete gains for conservation of species and habitats (Jacobson & McDuff, 1997). The members have participated in developing nature trails and club museums, engaged in seed collection and planting tree nurseries, participated in energy saving activities; engaged in waste management, clean-ups and recycling activities and in declaring of traps (WCK, 2014).

Wildlife has economic benefits, cultural benefits in heritage areas, and social benefits. To sustain these

benefits for the present and future generations, conservation efforts have been initiated that include the wildlife clubs of Kenya to promote awareness, attitude and behavioural education among the youth. Despite the range of activities and the many years of existence of the WCK in the country there has been an increase in social conflict between human and wildlife related issues which raises the question on the effectiveness of WCK in promotion of conservation education. The current study sought to investigate the effectiveness of WCK activities in promoting awareness and positive attitude towards wildlife conservation education among secondary school students in Kenya. The study was guided by the following objectives;

- i. To determine the relationship between WCK activities and promotion of awareness on wildlife conservation education among secondary school students in Kenya.
- ii. To determine the relationship between WCK activities and promotion of positive attitudes towards wildlife conservation education among secondary school students in Kenya.

## METHODOLOGY

This research employed descriptive survey research design. This design was appropriate for the study since the data was collected without manipulating the quantitative and qualitative variables and was appropriate for obtaining information concerning the current status of WCK to describe "what existed" with respect to variables.

The target population for the study was 1.87 million subjects made up of secondary schools students' teachers and WCK field officers in Kenya (MOE, 2013). The study applied cluster sampling in the protected areas (comprising of Lake Nakuru, Mt. Kenya and Tsavo National Parks) and clustered the sampling regions as Nakuru, Mt. Kenya and Tsavo. Only school that has been registered with WCK for at least the past four years in the location for this study were included in the sampling frame. Stratified random sampling was applied to select the schools for the study. The school types (male, female or mixed schools) applied as the stratification criteria within which the schools would be selected. A sample size of 591 was used for the study.

The study utilized questionnaires and interview schedule for data collection. Qualitative and quantitative data were analyzed using both descriptive and inferential statistics in Statistical Package for Social Sciences (SPSS) version 19.0 software. Descriptive statistics including measures of central tendency and dispersion were calculated to profile individual respondents and the study variables. Pearson's Product Moment Correlation ( $r$ ) was derived to show the nature and strength of the relationship. Coefficient of determination ( $R^2$ ) was used to measure the amount of variation in the dependent variable (promoting awareness and positive attitude) explained by the independent variable (WCK Activities). Simple Regression analysis was adopted to estimate regression coefficients and determine the prediction level of the model. Accordingly, the regression model for testing hypotheses at 5% significance level was estimated in the form of;

$$Y_i = \beta_0 + \beta_i X + e_i$$

Where

$Y_i$  = Dependent variable ( $i=1,2$ ):  $Y_1$ =Awareness;  $Y_2$ =Attitude;  $\beta_0$ =Constant ( $Y_i$  intercept when  $X=0$ );  $X$ =WCK activities;  $\beta_i$ =Regression Coefficient of independent variable;  $e_i$ =the error term that accounts for the variability in  $Y$  that cannot be explained by the linear effect of the predictor variable.

## RESULTS AND DISCUSSIONS

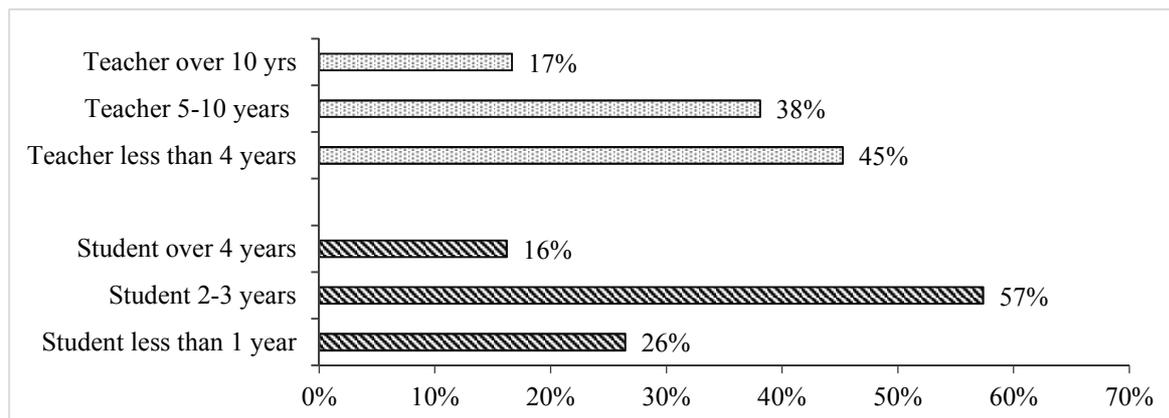
A total of 591 questionnaires were distributed to the selected respondents across the three regions in Kenya and the response rate is as shown in Table 1

**Table 1: Response Rate**

Region	Student	Teachers	Sample Size	Response	Response rate
Nakuru	221	15	235	235	100%
Mt. Kenya	185	14	200	200	100%
Tsavo	141	15	156	156	100%
Total	547	44	591	591	100%

A total of 591 questionnaires were fully completed and returned. The sample response rate was 100 %. This was an acceptable rate and could be attributed to the fact that the questionnaires were physically delivered to the respondents through drop and pick method and with the support of head teacher of the respective schools. It is evident that 100% response rate was achieved across the three regions in Kenya.

The study documented the duration which the respondents have been members of WCK. The results are presented in Figure 1, which shows the duration of involvement of the respondents in WCK activities.



**Figure 1: Duration of WCK membership and participation**

Information in Figure 1 shows that within the student members, majority (57%) had been WCK members for between 2 to 3 years, followed by those who were members for less than 1 year at 26%, and finally those who have been members for more than 4 years at 16%. On the other hand, majority (45%) of the teachers had been members for less than 4 years, while 38% had been members for 5 to 10 years, and 17% have been members for over 10 years.

#### Extent of Involvement in WCK Activities

The researcher sought to find out the extent to which the respondents are involved in WCK activities. Different sets of activities anchored on a five point Likert-type scale ranging from 1=No Extent to 5= Very Great Extent were used to measure involvement in WCK activities. The aggregate score of WCK activities was computed as the simple average of the mean scores of the activities. Addition, standard error of mean (Std.Error) was also computed. Standard error of mean is a measure of reliability of the study results. It is equal to the standard deviation of the population divided by the square root of the sample size. Standard deviation shows how far the distribution is from the mean. A small standard error implies that most of the sample means will be near the center population means thus the sample mean has a good chance of being close to the population mean and a good estimator of the population mean. On the other hand, a large standard error illustrates that the given sample mean will be a poor estimator of the population mean (Harvill, 1991). Table 2 shows the level of involvement of the members during their period of membership in WCK activities.

**Table 2: Level of involvement in WCK activities**

Activities	N	Mean	Std. Error
Student seminars	591	4.52	.038
Publications	591	3.96	.008
Student rallies	580	3.77	.064
Art & drama	557	2.25	.065
Essay competitions	585	1.58	.038
Mobile Education Unit	588	2.39	.039
Public demonstrations& campaigns	581	3.75	.045
Clean-ups	587	3.51	.055
Community workshop on conservation	586	3.53	.041
Tree planting	584	3.93	.045
Park visit programs	590	4.13	.042
<b>Mean score</b>		<b>3.84</b>	<b>.044</b>

The results in Table 2 revealed that mean score for the eleven activities used to measure involvement of WCK activities was 3.84. The overall mean score of 3.84 (Great Extent) shows that the respondents have a general agreement that there are involved in WCK activities. Most of the members prefer to participate in activities such as student seminars, Park visit programs, Publications, Tree planting and student rallies in that order. McDuff, (1999) while conducting a conservation study in Kenya, found a similar trend whereby primary activities of the wildlife club programs were observed to be tree planting/tree nurseries; trips to parks and reserves and clean-ups. Drama has also been shown to be critical in environmental conservation measures because the important role it has in environmental education. Gale (2008), showed that drama has great potential in promoting environmental education among students. McDuff 2000) has shown the importance of mobile education units, student rallies and essay competitions in prompting environmental conservation. Therefore, other measures can be used for promoting positive attitudes towards the environment among people.

### Contribution of WCK Activities in Enhancing Awareness

The study probed the respondents on how they rate the effectiveness of WCK activities in promoting awareness on wildlife conservation. The results are presented in Table 3 showing the effectiveness of different WCK activities in promoting conservation awareness. It became apparent that Community workshop on conservation (mean score=3.82, Std. Error=0.052), Student rallies (mean score=3.76, Std. Error=0.055), Park visit programs (mean score=3.76, Std. Error=0.053), and student seminars were the most effective in enhancing awareness on wildlife conservation. For instance student rallies percentage is computed as  $3.76 \times 20 = 75\%$ . This implies that majority of the respondents (mean=3.76 $\approx$ 4) to great extent prefer student rallies to enhance awareness on wildlife conservation. The overall score was (mean score=3.55, Std. Error=0.053) indicating that respondents were in to a great extent in agreement that listed activities enhance wildlife conservation.

**Table 3: Effectiveness of WCK activities in promoting awareness on wildlife conservation**

Activities	N	Mean	Std. Error
Student seminars	583	3.74	.054
Publications	574	3.42	.053
Student rallies	576	3.76	.055
Art & drama	573	3.37	.057
Essay competitions	591	3.71	.053
Mobile Education Unit	591	3.29	.054
Public demonstrations& campaigns	590	3.63	.054
Clean-ups	590	3.12	.046
Community workshop on conservation	590	3.82	.052
Tree planting	590	3.37	.054
Park visit programs	589	3.76	.053
<b>Mean score</b>		<b>3.55</b>	<b>.053</b>

Most of the activities undertaken in wildlife clubs are related to promoting awareness with regard to wildlife and environmental conservation. In a study conducted in India, the authors acknowledged the importance of wildlife eco-clubs in the promotions of awareness of wildlife conservation among the school students (Gupta, 2014) specifically, the authors identified the following wildlife club activities to be critical to creating environmental conservation awareness: tree planting, seminars, workshops, talks, conferences, forest excursions, folk dance performances and mass awareness camps (Gupta 2014). Environmental education programs such as awareness campaigns were found to be equally essential in promoting environmental awareness (Bhandari & Abe, 2000).

### Regression Analysis and Hypothesis Testing

The first objective of the study was to determine the relationship between WCK activities and promotion of awareness on wildlife conservation education among secondary school students in Kenya. Respondents had been asked to indicate the extent to which WCK activities promote awareness on wildlife conservation education. To assess WCK activities and promotion of awareness relationship, the following hypothesis was tested.

*H<sub>01</sub>: There is no statistically significant relationship between WCK activities and promotion of awareness on wildlife conservation education amongst secondary school students in Kenya*

The relevant results are presented in Table 4

**Table 4: Regression results of WCK activities and promotion of Awareness**

(a) The Goodness of fit

R	R Square	Adjusted R Square	Std. Error of the Estimate
.458	.21	.20	.75978

(b) The Overall significance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	7.443	1	7.443	<b>12.894</b>	<b>.000</b>
Residual	340.011	589	.577		
Total	347.454	590			

(c) The Individual Significance

	Unstandardized Coefficients			
	B	Std. Error	t	Sig.
(Constant)	2.746	.225	12.197	.000
WCK Activities	.247	.069	3.591	.000

a. Predictors: (Constant), WCK Activities

b. Dependent Variable: Promoting Awareness

The results in Table 4 show that WCK activities had a statistically significant influence on promoting wildlife Awareness. It explained 21% of its variation ( $R^2=0.21$ ). The relationship between the WCK activities and awareness of wild life conservation is statistically significant ( $F=12.894$ ,  $p\text{-value}=.000<0.05$ ). This implies that the WCK activities enhance awareness of wildlife conservation at 5% significance level. The regression coefficient ( $\beta$ ) value of the computed (composite index) scores of WCK activities was .247 with a t-test of 3.591 and significance level of  $p\text{-value}=.000$ . This implies that for one unit increase in WCK activities, promotion wildlife awareness will increase proportionally by a factor of 0.247. The level of involvement in environmental conservation activities corresponded to WCK activities demonstrating a likelihood that the involvement of respondents in WCK activities would contribute to some level to the conservation efforts. The regression equation to estimate the level of awareness was stated as;

$$Y_1 = 2.746 + 0.247X$$

where

$Y_j$ = Level of Awareness

$X$ = WCK activities

2.746=constant

0.247= an estimate of the expected increase in Level of Awareness in response to a unit increase in involvement in WCK activities.

The constant of 2.746 indicates the value of level of awareness when WCK activities is at zero while a unit increase in WCK activities would lead to a 0.247 increase in the promotion of awareness. On the basis of these findings, we conclude that WCK activities contribute significantly to the prediction of the promotion of awareness hence the hypothesis that there is statistically significant relationship between WCK activities and promotion of awareness on wildlife conservation education amongst secondary school students in Kenya was supported at 5% level of significance. This findings are in harmony with a study by Shobeiri (2005) who stated that, solving existing environmental crisis requires environmental awareness and its proper understanding which should be deeply rooted in the education system at all levels of school education. The existing curricula at primary, secondary and college levels provide a lot of opportunities to make the students aware of environment. Awareness will make students more knowledgeable on environmental matters thus a possibility of shaping their attitudes and behaviours. Responsible environmental behaviour is a key foundation to sustainable development.

This finding are in line with a study by Kassilly & Tsingalia, 2008 who found that WCK Programs reach out to many people across the country especially at the grassroots, creating awareness and education regarding conservation in a lively manner. A popular program run by WCK that has shown tremendous success in reaching out to people and creating awareness is the mobile education unit.

According to Louise, Afia & Rosina, (2011), WCK participate in creating awareness through various activities that promote the conservation and management of wildlife and the environment. Some these activities include conducting workshops and seminars. Through these workshops and seminars, the clubs are able to pinpoint the emerging issues regarding wildlife conservation. Discussions on better management approaches are also shared in these workshops. As such, the workshops act as information sources for people to be well equipped with the knowledge and skills necessary for wildlife conservation education.

### WCK activities in promoting Positive Attitudes towards Wildlife Conservation

The researcher sought to find information on how respondents rated WCK activities in promoting positive attitude towards wildlife conservation. Table 5 shows the results on the effectiveness of WCK activities towards influencing positive attitudes in conservation.

**Table 5: Effectiveness of WCK activities in promoting positive attitudes**

Activities	N	Mean	Std. Error
Student seminars	560	4.03	.051
Publications	560	3.69	.052
Student rallies	560	3.96	.051
Art &, drama	560	3.63	.057
Essay competitions	560	3.52	.058
Mobile Education Unit	560	3.37	.055
Public demonstrations& campaigns	560	3.74	.055
Clean-ups	560	4.13	.052
Community workshops on conservation	560	3.84	.055
Tree planting	560	4.48	.042
Park visit programs	560	4.17	.049
Mean score		3.87	.052

Table 5 indicates that WCK activities such as tree planting, park visits and clean-ups were viewed to contribute greatest in changing peoples' attitudes towards conservation. Kioko & Kiringe (2010) study on youth knowledge, attitudes and participation in wildlife conservation in Kenya revealed that in extracurricular activities such as wildlife clubs were critical in promoting positive attitudes towards conserving the wildlife and environment. Attitudes towards conservation in the study were concluded to depend on the economic value obtained from wildlife. Specifically, eco-tourism has a critical role in conservation measures. The frequency of WCK activities in promoting positive attitude are presented in Appendix 4

### Regression Analysis and Hypothesis Testing

The study had set to assess the relationship between the WCK activities and promotion of positive attitude towards wildlife conservation among secondary school students in Kenya. The following hypothesis was formulated;

*H<sub>02</sub>: There is no statistically significant relationship between WCK activities and promotion of positive attitude towards wildlife conservation among secondary school students in Kenya.*

To determine the relationship between the WCK activities and promotion of positive attitude towards wildlife conservation, a linear regression analysis was conducted. The pertinent results are summarized in Table 6.

**Table 6:1 Regression results of WCK Activities and Attitude on wildlife conservation**

(a) The Goodness of fit

R	R Square	Adjusted R Square	Std. Error of the Estimate
.068	.005	.003	.96257

(b) The Overall significance

	Sum of Squares	df	Mean Square	F	Sig.
Regression	2.417	1	2.417	<b>2.609</b>	<b>.107</b>
Residual	517.007	558	.927		
Total	519.424	559			

(c) The Individual Significance

	Unstandardized Coefficients		t	Sig.
	B	Std. Error		
(Constant)	3.401	.293	11.623	<b>.000</b>
WCK Activities	.144	.089	1.615	<b>.107</b>

a. Predictors: (Constant), WCK Activities

b. Dependent Variable: Attitude

The results in Table 6 show that WCK activities had insignificant influence on Promoting positive attitude towards wildlife conservation. It explained 0.5% of its variation ( $R^2=0.005$ ). The regression coefficient ( $\beta$ ) value of the computed (composite index) scores of WCK activities was .144 with a t-test of 1.615 and significance level of  $p\text{-value}=.107>0.05$ . The relationship between the WCK activities and Positive attitude towards wild life conservation is statistically insignificant ( $F=2.609$ ,  $p\text{-value}=.107$ ). This implies that the WCK activities do not influence Positive attitude towards wildlife conservation at 5% significance level. In addition despite the effort made on WCK activities, positive attitude towards wildlife conservation has not been realized. On the basis of these findings, we conclude that WCK activities do not contribute significantly to the prediction of the positive attitude towards wildlife conservation hence the hypothesis that there is no statistically significant relationship

between WCK activities and promotion of positive attitude towards wildlife conservation among secondary school students in Kenya was supported at 5% significant level. However, Saterson *et al.*, 2004, found that student participation in extracurricular activities such as wildlife clubs is essential in promoting wildlife awareness and positive attitudes towards conservation. Curtis, Reid, & Reeve, (2014), conducted a review and found that art can lay a critical role in shaping individual's attitudes towards the environment. Embedding arts such as songs and drama environmental conservation initiatives can help develop positive attitudes towards conservation among people. Similarly According to McDuff (2010), the major impacts of WCK activities were the increased awareness and change in attitude among students with regards to wildlife and conservation awareness. Most of the student's attitude on wildlife conservation measures changes through their participation in WCK activities. Through these activities, the club members get to understand the importance of conserving the environment. These people are shown that their role in conservation is critical to the survival of the wildlife and other organisms in the environment.

### Results of Correlation Analysis

The main objective of the study was to evaluate the effectiveness of WCK members from secondary schools in promoting wildlife conservation education. In order to assess the relationships among the independent variable and dependent variables, a correlation analysis was conducted, Results of the analysis are presented in Table 7.

**Table 7: Correlation for Awareness, Attitude and WCK activities**

Variable		Awareness	Attitude	WCK Activities
Awareness	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	591		
Attitude	Pearson Correlation	.095*	1	
	Sig. (2-tailed)	.025		
	N	560	560	
WCK Activities	Pearson Correlation	<b>.146**</b>	<b>.068</b>	1
	Sig. (2-tailed)	<b>.000</b>	<b>.107</b>	
	N	591	560	591

The results of the Pearson's product moment correlation analysis as presented in Table 7 show varied degrees of interrelationships. WCK activities are statistically significantly correlated with promotion of wildlife awareness ( $r = 0.146$ ; Sig. 2 tailed (P-value) =  $0.000 < 0.01$ ). However, there exists insignificant correlation between positive attitude towards wildlife conservation and WCK activities among secondary school.

### Conclusions

The study established that, there is significant relationship between WCK activities and awareness towards wildlife conservation. This implies that increase of WCK activities enhanced awareness towards wildlife conservation. The level of involvement in environmental conservation activities corresponded to WCK activities demonstrating a likelihood that the involvement of respondents in WCK activities would contribute to the level of awareness towards wildlife conservation. In addition, the study found that WCK activities had insignificant influence on promoting positive attitude towards wildlife conservation. This implies that WCK activities do not contribute significantly to the prediction of positive attitude towards wildlife conservation.

### Recommendations

On the basis of findings of this study, there is need for more education and awareness program to address ignorance and lack of knowledge by community towards wildlife conservation. In order to promote awareness towards wildlife conservation, involvement of media (TV programs, Movies/wildlife Documentaries, Magazines, Publications, Internet/ Social media and Posters) in WCK activities is vital in this course. Also, embedding arts such as songs and drama environmental conservation initiatives can help develop positive attitudes towards conservation among people.

### REFERENCES

- Bhandari, B.B. & Abe, O. (2000). Environmental education in the Asia-Pacific Region: Some problems and prospects. *International Review for Environmental Strategies*, 1(1), 57-77.
- CARE. (2015). *America's National Wildlife Refuges: Good for wildlife and for Business*. Washington, D.C: Cooperative Alliance for Refuge Enhancement.
- Gale, H. (2008). How does drama work in environmental education. *Earth & Environment*, 3, 159-178.
- Jacobson, S., McDuff, M., Monroe, M. (2015). Conservation Education and Outreach Techniques. <https://books.google.co.ke/books>; Accessed 30/08/2016
- Kassilly F N and TSingalia H M(2008). Membership in Wildlife Clubs of Kenya and Its Influence on Beliefs

- about Wildlife, *Interantional Journal*, Vol 13(3), pp.(203-204)
- Kioko, J., and Kiringe, J., (2010). Youth's Knowledge, Attitudes and Practices in Wildlife and Environmental Conservation in Maasailand, Kenya John Kioko and John Warui Kiringe, Center for Wildlife Management Studies, Kenya . *Southern African Journal of Environmental Education*, Vol. 27, 2010.
- Kioko, J. & Kiringe, J.W.(2010). youth's knowledge, attitudes and Practices in Wildlife and Environmental Conservation in Maasailand, Kenya. *Southern African Journal of Environmental Education*, 27, 91-101.
- McDuff, M. (1999). A Model for Participatory Evaluation of Environmental Education Programs: Promoting Success at the Wildlife Clubs of Kenya. Unpublished PhD Dissertation, University of Florida, Gainesville.
- McDuff, M. (2000). Thirty years of environmental education in Africa: The role of the Wildlife Clubs of Kenya. *Environmental Education Research*, 6(4), 383-396.
- McDuff, M. D., & Jacobson, S. K. (2001). Participatory evaluation of environmental education: Stakeholder assessment of the Wildlife Clubs of Kenya. *International Research in Geographical and Environmental Education*, 10(2), 127-148.
- Michaelidou, M., & Decker, D. (2002). Challenges and opportunities facing wildlife conservation and cultural sustainability in the Paphos Forest, Cyprus: Historical overview and contemporary perspective. *European Journal of Wildlife Research*, 48(1), 291-300.
- MOE. (2012). Towards a globally competitive quality education for sustainable development. Report of the task on the re-alignment of the education sector to the constitution of Kenya 2010. Nairobi: Ministry of Education, Nairobi.
- Muhumuza, M., & Balkwill, K. (2013). Factors Affecting the Success of Conserving Biodiversity in National Parks: A Review of Case Studies from Africa. *International Journal of Biodiversity*, 1-20.
- Otieno, D. (2005). Towards developing an education for sustainable development strategy for Kenya: Experiences and perspectives. Paper presented at the Education for a Sustainable Future'conference organised at Centre for Environment Education, Ahmedabad, India. Accessed at <http://www.ceeindia.org/esf/download/paper44.pdf>.
- Paterson, B. (2006). Ethics for Wildlife Conservation: Overcoming the Human–Nature Dualism. *BioScience*, 144-150.
- Salafsky N, Margoluis R, Redford KH. 2001. Adaptive Management: A Tool for Conservation Practitioners. Washington (DC): Biodiversity Support Program
- Shobeiri S. M. (2006). Influence of gender and type of school on environmental attitude of teachers in Iran and India. *Int. J. Environ. Sci. Tech.*, 3 (4): 351-357
- Virginia Department of Game and Inland Fisheries. (2010). *Virginia Wildlife Action Plan: Challenges to Conserving Wildlife*. Virginia: Commonwealth of Virginia - Governor.
- WCK. (2014). About WCK. Nairobi: Wildlife Clubs of Kenya.
- WCS. (2016, January 01). Stand For wildlife. Southern Boulevard Bronx, New York, USA.Ackroyd, S., & Hughes, J. A. (1981). Data collection in context: Longman London.