

Influence of Communication Media use as a Public Education Strategy in the Conservation of King'wal Wetland in Nandi County, Kenya

Jepkosgei Monicah¹, Paul A. Odundo²

¹University of Nairobi, Kenya

²Professor, University of Nairobi, Kenya

Abstract: Wetlands are ecosystem rich in nutrients and sufficient water that support plants and animals but are not wastelands. The need to proactively convey a message and an image to the public is now widely recognized globally. Environmental education encourages behavioural changes that facilitate habitat protection and wetland conservation. This study was carried in King'wal wetland in Nandi County and studies on communication media use as a public education strategy adopted to enhance its conservation. This study used descriptive survey design and the target population was 25741. Sample of 378 was derived using Krejcie and Morgan formula of individuals the study also targeted 10 institutions involved in the conservation of the wetland thus a total sample of 388 derived. Questionnaires were used to gather the necessary data for this study, research instruments were tested for reliability and validity before data was collected. Data was analysed descriptively using mean and standard deviation and presented in tables. Findings on the influence of communication media use as a public education strategy a mean of 3.5462 and std deviation of .71803 indicating a significant number agreed that use of different media contributes in public education on conservation. The ability to communicate to the public on regular period would yield positive results in their behaviour and attitudes on wetlands. The study recommended that there is need to work with media on promoting public education on conservation of wetlands and encourage the media practitioners to support institutions such as NEMA, WRAU, MEWNR, CBO'S, NGO'S, County governments in educating the public on conservation of wetlands.

Keywords: Communication media, Public Education, Strategy, Conservation, wetlands

1. Introduction

Wetlands emphasize hydrologic conditions in which water is a primary factor (Zedler & Kercher 2005; Moore 2008). Niering (1985) describes wetlands as areas in which water controls both the environment and associated biota of an area. Likewise, plant life and water influence the distribution of other organisms in an area, since water is a necessary component to sustain life, in addition to plants providing shelter and/or food. This idea is supported by Moore (2008), who suggests that wetlands comprise a diversity of plants and animals.

Communication Media use in public education helps in reaching out to the community on conservation of wetlands for sustainable development. Media plays a role in disseminating information to a wider coverage and is easily accessible to a large population. The ministry of Environment in Kenya (2016) recognizes that media is a stakeholder in environmental education and awareness creation. The advantage of the media is its' ability to reach different audiences simultaneously with uniform messages. According to the World Bank Group (WBG, 2005), radio, television and newspaper are considered the major media outlets for reaching out to the public in developing countries. Therefore, there is need to work closely with the media to enhance coverage of accurate information in the news, events, programmes and documentaries on topical environmental issues in anticipation that this will help influence positive attitude and change of behaviour.

Hansen (2007) defines awareness in relation to media and environment as knowledge about the physical and socio-cultural environment and He describes it as explicit knowledge of environmental issues. According to Jensen (2004) it is individual's implicit sense of knowing, and it is mostly out of sociological interest. Mass-media campaigns are among the policy tools commonly used to attempt to influence public opinion of some issues. The influence of the mass media on public opinion has been shown to be quite short-lived because media coverage jumps from issue to issue, often from day to day (Driedger, 2007). Over the longer term, media attention of some issues has been shown to vary considerably, often in identifiable cycles (Downs, 1972). Nevertheless, many public opinion surveys in developed countries have shown that television and daily newspapers are used as primary sources of information (Project for Excellence in Journalism, 2006). In Japan, Aoyagi-Usui (2008) revealed that most of the Japanese public get its information about environment issues from television and daily newspapers. The mass media are influential tools for widening public awareness of environmental issues (Schoenfeld et al., 1979; Slovic, 2000).

Broadcast media tied to communication media use as public education strategy is one way of informing the public on importance of wetlands and influencing attitudes for conservation. According to (Nwosu, 1993) and (Timberlake, 1985), negative environmental behaviour in Africa has been attributed to minimal environmental awareness and ultimately to poor media coverage of environmental issues. It is notable that even in the poorest and most remote communities, radio ownership is high.

Therefore, it is a medium that permits messages to be delivered to large audiences at low cost. When radio broadcasting, reinforces environmental awareness campaigns, changes can be positive and significant. The use of this media is effective in producing a "sense of place" to their audiences (Thomson, et al., 2002). There is a need to create a feeling of connection to our immediate surroundings if we keep in mind that our lives are based on everything that surrounds us.

The broadcast media, (radio and television), in all their variations, have established themselves as forms of media or potential source of environmental information in world today (Dobson, 1997). They represent channels through which information on environment can be conveyed to the people (UNEP, 1997). Today, more environmental activities and organizations are moving to take advantage of these useful media for environmental action and awareness. Many use media to raise public awareness and understanding of environmental issues, some are using it to document instances of the environmental crimes and degradation; to lobby for specific policy reforms or raise funds for specific campaigns (UNEP, 1997). According to Nyirenda, (1995), in Botswana radio is being used to broadcast to adult audiences' environmental information which programs target adult receptors that are either taking part in educational activities like environmental campaign.

The mass media, more so the radio's, are seen as the cost-effective way of providing information and a voice to all members of society including the marginalised sections (Department of Information and Media, 2005). According to the findings of the International Conference on Education for a Sustainable Future (Centre for Environmental Education, 2005), the media has a role in fostering debate, influencing public opinion, and encouraging people to make behaviour changes towards sustainability. Thus, even in Bhutan the mass media are widely seen to play a pivotal role in educating and shaping public opinion as well as influencing policy decisions.

Laekemariam (2000) notes, in the case of Ethiopia where there is rugged topography, high prevalence of illiteracy and poor transport, radio is the preferred means of mass communication. Moreover, most scholars agree radio is inexpensive with a small initial cost and operation is simple. From the perspective of the listener, radio sets are cheaper than television to buy (Mickael, 1994). It is also the cost-effective way of providing environmental information and a voice to all members of society including the marginalized ones. This study aimed to find out the contribution of use of Television and Radio as communication tools in public education and awareness on conservation of the swamp.

Print media is the other mostly used means of communication to the public. Wade and Schramm (1952, 1964), found that factual information is from the print media rather than from television. Across educational level and gender, it was the print users who had the greater amount of information, and what they had was more specific. Newspaper articles, as well as television and radio programs can be used as resource materials for classroom-based lessons provided that guidance is given and that the issues

discussed may be closely related to curricular themes. Production of artistic community maps has proven to be a successful tool in developing a cost effective and efficient way to increase community awareness. According to Wood (1994), what we communicate with maps is our relationship to the territory we inhabit and that maps are also a way of communicating with the environment that can be stimulating, emotionally linking and context aware.

In Japan, Aoyagi-Usui (2008) compared public opinion surveys from 1997, 2002, 2006 and 2007, results showed that people's awareness of environmental issues is gradually becoming focused on global warming issues. For seven years in the 1990s, Mikami et al. (1998) performed annual public opinion surveys in the Tokyo Metropolitan area. They also analysed weekly changes in Japanese newspaper coverage of climate change in the 20 weeks before their 1992 opinion survey. They found that exposure to the mass media was positively correlated with the level of concern over environmental issues. Findings by Oso, (2006) Nwabueze (2007), Okoro & Nnaji (2012) showed that the Nigerian newspapers give little coverage to environmental issues., In their study, 'Media coverage of nature conservation and protection in Nigeria National Parks' Ogunjinmi, Onadeko and Ogunjinmi (2013), found that the coverage given to Nigeria National Parks nature conservation and protection efforts (both print and electronic) by Nigerian media was low. Obviously, the poor coverage contributes to the low public awareness of these issues as indicated in a study by Afangideh, Obong and Robert (2012). It also goes to confirm the observations of, Adeniyi and Bello (2006) and White (2008) that the media in Africa rarely focus attention on development issues. The study was to find out some of the print media used as well as the degree of influence it has in the public education and awareness strategy in order to promote conservation of the wetland.

Social media currently has become most leading source of information due to the availability of digital devices such as smart phones, computers and available internet connections. Using social media means educators are allowing their voices to be heard to audiences that otherwise may not be reached via traditional media (Carr, 2011b). The Internet, and more specifically, social media, can be used as communication tools for increasing awareness and building consensus on conservation issues (World Association of Zoos and Aquariums, 2005, p. 13). While WZACS encourages zoos and aquariums to utilize a diversity of communication tools within available resource limits (e.g., radio, newspapers, etc.) the Internet offers zoos opportunities to circulate their conservation message on a global scale.

Sonja (2015) conducted a qualitative multiple case study approach of three accredited zoological institutions; the Calgary Zoo, the Toronto Zoo, and the Vancouver Aquarium to determine the effectiveness of their current conservation education messages. A social media analysis of the zoos' Facebook pages and semi-structured interviews were conducted with zoo volunteers to see if there was evidence of learning that might lead to stewardship and conservation behaviours in the zoos visitors. Findings suggested that

experiential education programs are generating some conservation behaviours by members of the public visiting particularly those who ultimately became volunteers at the zoos. The study sought to determine whether social media use is significant in public education and awareness creation for conservation of the wetland.

2. Problem Statement

In Kenya, integrity of the country's water resources and agricultural productivity is sustained by our wetlands. Wetlands are nutrient rich and productive most of the year. During the dry seasons, local communities are able to access quality pasture and their edges support production of vegetables and other quick maturing crops for household consumption. They also control floods and clear water of pollutants through filtration. Wetlands are therefore a resource for the achievement of Vision 2030. Despite the roles that wetlands play in sustaining livelihoods in Kenya, King'wal wetland is subjected to severe pressure and rapid degradation and there is need to strengthen conservation efforts. Negative perception of wetlands as 'wastelands' supported with increasing human populations and little awareness of the need to conserve wetlands has contributed to the loss and degradation of wetlands where it is converted into other land uses such as agriculture, pastureland, fish farming and residential areas that are perceived to be more profitable. This thus calls for increase awareness and public education to be carried out to the public to promote the conservation efforts.

2.1 Research Questions

- 1) What is the influence of print media use in conservation of King'wal wetland in Nandi County?
- 2) To what extent does Broadcast media contribute in public education for conservation of King'wal wetland in Nandi County?
- 3) Does social media use contribute in public education for conservation of King'wal wetland in Nandi County?

2.2 Methodology

This study adopted a descriptive research design. According to Shuttleworth (2008) descriptive research design is a scientific method which involves observing and describing the behaviour of a subject without influencing it in any way. Shuttleworth (2008) emphasizes that, the subject is observed in a completely natural and unchanged natural environment this was suitable in this study since it can demonstrate the existence of social problems and can challenge accepted assumptions about the way things are and can provoke action.

The target population of the study was 25,741 members of the community and 10 key informants bringing to a total of 25,751. Sample size was taken from members of the community based on Krejcie and Morgan (1970) sample size determination formula. This technique is suitable due to heterogeneous nature of the population so as to achieve generalizability and representability of the study result.

The sample size for the study was 378 community members who were selected using random simple sampling method and 10 key informants who are involved in the management project of King'wal wetland LVEMP II project. This made a total of 388 subjects involved in the study. In this study both primary and secondary sources of data were used. Secondary data was obtained from already published materials on the subject; Primary data refers to that originally collected for the first time for the purposes of the study and its use is supported by (Saunders et al, 2007). The type of data collected was informed by the objectives of the study as supported by Teddlie (2010).

The research instruments were tested for validity to ascertain whether they measure the variables under study. In this case the research supervisor was consulted to check to assess the frequency of errors and the accuracy of data expected. Process of validation enables the researcher to test the suitability of the questions, the adequacy of the instructions provided, the appropriateness of the format and sequence of questions. Some corrections were made to questionnaires and the final version printed out. The questionnaire was piloted in the Kibirong Swamp.

Questionnaires were used to collect data in this study. Simple descriptive statistical techniques were employed to analyse field data from questionnaires to assist the interpretation and analysis of data using statistical Package for Social Science (SPSS Version 20)

3. Results and Discussions

The aim of this study was to find out the influence of communication media use on the conservation of wetland as shown. Table 3.1 presents the results of the analysed data.

Table 3.1: Shows the response rate from the sample size.

Respondents	Sample Size	Returned Quest	Return Rate (%)
Members of the community.	378	368	97.35%
Key informants from institutions	10	10	100%
Total	388	378	97.35%

The response rate from the study which was generally good and it agrees with Keeter et al, (2006) who stated that any survey with a response rate of above 70% gives out a more reliable and accurate information. As indicated in the table, there was a response rate of 97.35% from members of the community and 100% response rate from the Key informants from the 10 institutions who have been involved in the conservation of Kingwal wetland.

Table 3.2: Communication media and conservation of King'wal wetland

Table 3.2 indicates the study findings on the influence of communication media use on conservation of King'wal wetland as responded by respondents.

Statement	N	Mean	Std. Deviation
Read or listened to conservation information from media	368	1.9239	.26550

Use of communication media contribute to public education on wetland conservation	368	3.5462	.71803
Use of broadcast media in public education	368	3.0353	.24783
Use of print media in public education	368	2.9565	.51491
Use of social media in public education for wetlands conservation	368	2.5707	.59554
Valid N (listwise)	368		

To find out the influence of communication media use as a strategy used in public education on conservation of King'wal wetland and from the findings above nearly half of the respondents have ever read or listened to conservation education from the media as indicated by the mean of 1.9239 with a standard deviation of .26550. Similarly from the key informants interviews conducted to various organizations the question to whether the organization uses the media as a form of reaching out to the community, the findings indicated that 8 (80%) out of 10 organizations use different kinds of media. To find out which media is widely used and from the 80% of the institutions which type of communication media is used and Broadcast media 4 (60%) is indicated as the mostly used form of communication media and print media as well as social media having an equal percentage of 20%. Results show that broadcast media which includes Radio and Television has been widely adopted as a means of reaching masses in conservation message. Asked why the use of broadcast media is widely adopted several respondents indicated that Radios are now available in even rural areas where they cannot access internet or newspapers.

Table 3.3: Type of Type of communication media used by org in PE

In the study to find out the different types of communication media use in the organizations selected during the study, the response was analysed and presented in the table 3.3

Type of communication media used by org in PE	Frequency	Percent
Broadcast	4	60.0
Print media	2	20.0
Social media	2	20.0
Total	10	100.0

To study the use of communication media contribute to educating the public on conservation and from the findings above a mean of 3.5462 which is nearly three quarter of the respondents agree that indeed communication media use is important as a strategy to reach out to the community. These findings support findings by Burgess (1990) that media's ability to change the course of the environmental crisis is immense and that media has a critical role to play in helping to halt and reverse the future expansion of environmental problems and to maintain existing efforts in the community. Also, Aoyagi-Usui (2008) in his study in Japan revealed that most of the Japanese public get its information about environment issues from television and daily newspapers and Schoenfeld et al., 1979; Slovic, 2000 who agree that mass media are very influential tools for widening public awareness of environmental issues.

To study influence of Broadcast media on informing the public on conservation of the wetland, from the findings it indicates that a mean of 3.0353 which shows more than half of the respondents agree with the statement that broadcast media contributes to public education on conservation. Similarly, Dobson (1997) informs that the broadcast media, (radio and television), in all their variations, have established themselves as the most powerful forms of media or potential source of environmental information in world today. UNEP (1997), also agrees that these broadcast media represent a major channel through which information on environment can be conveyed to the people.

To ascertain the influence of print media use which include newspapers, journal and books on public education for conservation of the wetland whereby a mean of 2.9565 with a std deviation of .51491 was found. This shows that more than half of the respondents also agree that print media use as a strategy for reaching out to the community on information about conservation is important however still find that broadcast media mostly used.

On the influence of use of social media as a strategy in public education linked to communication media use on conservation of wetland, Findings indicated that social media can be useful media to reach out to the community with a mean of 2.6522. Using social media means educators are allowing their voices to be heard to audiences that otherwise may not be reached via traditional media (Carr, 2011b). Tyson and Snyder (1999) in their examination of the effectiveness of direct mail video campaigns used to move the public towards the acceptance of positive values and attitudes in long-term initiatives that focus on the improvement and protection of local natural resources and found out that Video delivered through the mail has a very good acceptance by the public. This study finding shows the resourcefulness and the potentiality of use of social media as a strategy of public education and would contribute in influencing the attitudes of the community.

4. Conclusions and Recommendations

Based on the findings of the study on influence of communication media use, it is concluded that the strategy influences the attitudes and behaviour of the community which would further influence conservation of wetlands which are becoming vulnerable to human destructions. The ability to communicate to the public on regular period would yield positive results in their behaviour and attitudes on wetlands. The findings also indicate that communication media use is a resource that would be make conservation of the wetlands embraced in the community. the County government as well as the National government should tap the potential of media in promoting public education on wetland conservation as well as encouraging the community to embrace information through media. Therefore there is need to work with media on promoting public education on conservation of wetlands and more so encourage the media practitioners to support the institutions such as NEMA, WRAU, MEWNR, CBO'S, NGO'S, County governments in educating the public on conservation of wetlands.

References

- [1] Monicah, Paul O (2017). *Influence of communication media use as a public education strategy in conservation of Kingwal wetland in Nandi County* (unpublished)
- [2] Burgess, J. 1990. *The production and consumption of environmental meanings in the mass media report*. Bath: Bath University press.
- [3] Carr, N. (2011). Winning Hearts and Minds. American School Board Journal, 198(5), 36-37. Retrieved from EBSCOhost.
- [4] Dobson, K. 1997. Hopes for the future: Restoration ecology and conservation biology. Istanbul: TESEV publications.
- [5] Gichuki, N.N., H. A. Oyieke and G.G. Ndiritu, (1998). *Assessment and monitoring of wetlands for conservation and development in drylands: A case study of Kajiado district, Kenya*.
- [6] Hansen, A. 2007. *Introduction: The mass media and environmental issues*. London: Leicester University press
- [7] Jensen, K. (2004). The action competences approach in environmental education. Environmental education research, 3(2):50-2.
- [8] Kalirajan, K. & Shand, R. (1985). Types of education and agricultural productivity: a quantitative analysis of Tamil Nadu rice farming. Journal of Development Studies, 21, 232–243.
- [9] Kareri, R.W., (1992). The sociological and economic values of Kenya's wetlands. Proceedings of the Kenya Wetland Working Group Seminar on wetlands of Kenya. National Museums of Kenya, Nairobi, Kenya: 99-107
- [10] Laekemariam, D. 2000. Environment protection and mass communication in Ethiopia. Proceedings of the symposium of forum for social studies, Addis Ababa, Forum for Social Studies. pp 179-202
- [11] Morgan, J. (1997). Geo-graphing: writing the world in geography classrooms. London: Institution of Education.
- [12] Momanyi, S. & Ariya, G. (2015). Sustainable Wetland Resource Utilization Through Eco-Tourism Development For Poverty Reduction: A Case Study Of Kingwal Swamp, Kenya. *European Journal of Business and Social Sciences*, 4 (02), 56 – 73.
- [13] Moore, Peter D. (2008). *Wetlands*: Revised Edition. Bang Hermitage (Facts on File, Inc.), New York. 270 p.
- [14] Nwabueze, C. (2007). Environmental communication: Perspectives on green communication and information management. Enugu: Daisy Press.
- [15] Niering, W. (1985). Conservation and Management Assessment of Ondiri Wetlands. Knopf: New York. 638 p.
- [16] Nyhus, P., Tilson, S. & Tilson, R. (2003). Wildlife knowledge among migrants in southern Sumatra, Indonesia: implications for conservation. *Environmental Conservation*, 30, 192–199.
- [17] Ogunjinmi, A.A, Onadeko, S.A and Ogunjinmi, K.O. (2013). Media coverage of nature conservation and protection in Nigeria National Parks, International Journal
- [18] Okoro, N. & Nnaji, G.O. (2012) Press coverage of environmental pollution in the Niger Delta region of Nigeria. A Content Analysis of the Guardian, Vanguard, Daily Sun and Thursday Newspapers, Journal of Humanities and Social Science, 3(2) 34-46 Biodiversity and Conservation, 5 (10), 687-695.
- [19] Oso, L. (2006). Framing the environment: Press coverage of an environmental problem. In Nigeria Journal of Communications. 4 (1&2)
- [20] Sonja, M.K. (2015). Conservation or Exploitation? Assessing the Education Impact of Accredited Zoological Institutions. Master's Thesis, University of Waterloo, Canada.
- [21] Sterling, E., J. Lee, & T. Wood (2007). Conservation education in zoos: an emphasis on behavioural change. In Zoos in the 21st Century: Catalysts for Conservation? pp. 37-50, Cambridge University Press, Cambridge.
- [22] Shuyt, K. D. (2005) 'Economic consequences of wetland degradation for local populations in Africa', Ecological Economics, vol 53, pp177–190
- [23] Shuttleworth (2008). Descriptive research Design. Retrieved Sep 16, 2017 from Explorable.com:
- [24] Thenya, T., 2001. *Challenges of conservation of dry land shallow waters*, Ewaso Narok swamp, Laikipia District, Kenya. *Hydrobiologia* 458: 107-119
- [25] Thomson, Peter. Nieman. 2002. Radio Uses Sound and Script to Transport Listeners to a Place. Reports, Vol. 56, Issue 4, p70.
- [26] UNEP (2007). Public Environmental Awareness and Education. *Public Awareness review journal*.
- [27] United Nations. (2010). General Assembly adopts landmark texts on protecting coral reefs, mitigating ill effects of chemical munitions dumped at sea. UYS, HHM & BASSON, AA 1991: Research methodology in nursing. Pretoria: Kagiso Tertiary
- [28] World Bank Group (WBG). 2005. World Development indicators. (Online) Available from <http://www.WorldBank.Org/data/wid> 2005/ (Accessed) September 2009
- [29] Zedler, J. B., and S. Kercher, (2005). *Wetlands resources: status, trends, ecosystem services, and restorability*. Annual Review of Environment and Resources 30:39-74.