

Is Media Communication Solving Environmental Challenges: The Case of Buea, South West Region of Cameroon

Mbunya Francis Nkemnyi^{1*}, Fualefeh Ndobegang², Leonard Itayi Chirenje³, Naseli Okha Dioh¹

¹Resource Centre for Environment and Sustainable Development (RCESD), Cameroon. P.O Box 30, Buea, South West Region, Cameroon

²Catholic University Institute of Buea (CUIB), P.O Box 563, South West Region Cameroon

³Department of Social Sciences, Faculty of Social Sciences, Great Zimbabwe University, P.O Box 1235, Masvingo, Zimbabwe

*Corresponding author: nmbunyang@gmail.com

Abstract This study assessed the influence of media communication on environmental behavior in Buea, Cameroon. Effective media communication has the potential of motivating friendly environmental habits. However, media communication approaches to influence effective conscious environmental behavior is still a challenge. This study was conducted in Buea, South West Region. Mixed methodology including household questionnaires, in-depth interviews and field observations were used. The main findings revealed that media communication on environmental issues is still conducted merely as a public obligation rather as a tool to influence behavioral change towards the environment. Moreover, media communication was revealed to be very expensive for individuals and institutions that are willing to promote environmental education through the media. Despite the increase in media presence in the study area, media communication has not been able to capture and utilize approaches that can lead to interactive communication, and influence positive environmental habits. There is therefore an urgent need to explore detail strategies that conform to local ethics and has the potential to initiate interactive environmental communication.

Keywords: *environmental habits, media communication, environmental protection, local knowledge, attitude and perception, Cameroon*

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1. Introduction

The right to a healthy environment is a major concern for the "sustainable development agenda" [1]. Grounded in Millennium Development Goal number 7, environmental conservation has become a prominent discourse in sustainable development efforts and strategies for most countries of the world today [2]. However, despite the importance placed on environmental conservation, majority of the livelihood activities worldwide deplete natural resources and generate greenhouse gases, which pose threats to the environment [3,4]. Those engaged in environmental degradation are most of the time either unaware about the impact or are less informed about the negative effects of their unsustainable activities to the environment [5,6]. In some circumstances, they are faced with factors beyond their control [7]. The effects of environmental degradation are evident in the recent global warming trends, which are responsible for climate change [8].

Media communication is fast evolving and if effectively utilized can impact society's behavior towards healthy environmental habits. There is therefore the need to craft

and employ different communication strategies that effectively deliver to the intended target population, through the different media organs that affect their attitudes and perceptions on environmental protection [9,10].

Efficient use of methods, instruments and techniques which are well established in development communication, adult education, social marketing, agricultural extension, public relations, non-formal training and other fields are relevant to affect change [11]. Efficient communication should in this case be able to motivate the link between the subject matter of environmental issues and the related socio-political processes of policy making and public participation. It should be able to bridge the gap between 'hard' technical know-how and 'soft' action-oriented behavioral change [12].

Perceptions and attitude on the environment are to a large extent motivated by cultural contexts, visions, lifestyles and value judgments. In the same line, perceptions and attitudes have been observed to be influenced by public discourse and transparently communicated alternatives [13]. Effective communication has been shown to play a vital role in reducing environmental degradation and thus promoting environmental conservation [14]. Thus, implementation of environmental policies and management

strategies are likely to be unsuccessful if they are not effectively communicated [15]. Communication, education and public awareness provide an important link between science, ecology and people and has been made a strong tool for mainstreaming biodiversity by bringing local perceptions to the attention of decision makers [16]. Communication is a symbolic action which can be a useful tool to influence or transform beliefs and attitudes towards nature and environmental problems [17]. It has the ability to shape our understanding of the natural world and the role of humans and further translates human relationships with the rest of nature. Motivating public participation in environmental conservation programs can tap the potentials of different media [18,19]. The mass media provides one of the most effective, ready-made means of reaching a wide target audience [20].

This paper assessed the impact of communication in addressing environmental challenges in Cameroon, using Buea as a case study. As an attempt to contribute to theoretical knowledge in this area of research, this study is based on the assumption that media communication is capable of positively affecting healthy environmental behaviors.

2. Methodology

2.1. Description of Study Area

Cameroon lies in sub-Saharan Africa, located on the Gulf of Guinea, between latitudes 1.7°N–13.8°N and longitudes 8.4°E–16.8°E. It has five major agro-ecological zones: the inland equatorial forest, maritime equatorial forest, highland tropical, Guinea-savannah, and Sudan savannah [21]. The study area Buea is located in the South West Region of Cameroon (Figure 1). It is bounded to the north by the forest of Mount Cameroon, which extends down to the Atlantic ocean, to the south west by Limbe, to the south east by Tiko, to the east Muyuka and to the west by Idenau. It has an estimated population of 200,000 people [22]. Buea has an equatorial climate with temperatures ranging from 25 to 29°C annually. There are two main seasons: the rainy season which starts from June to October and the dry season which starts from November to March [23]. The main occupation of the indigenes is mostly subsistence farming.

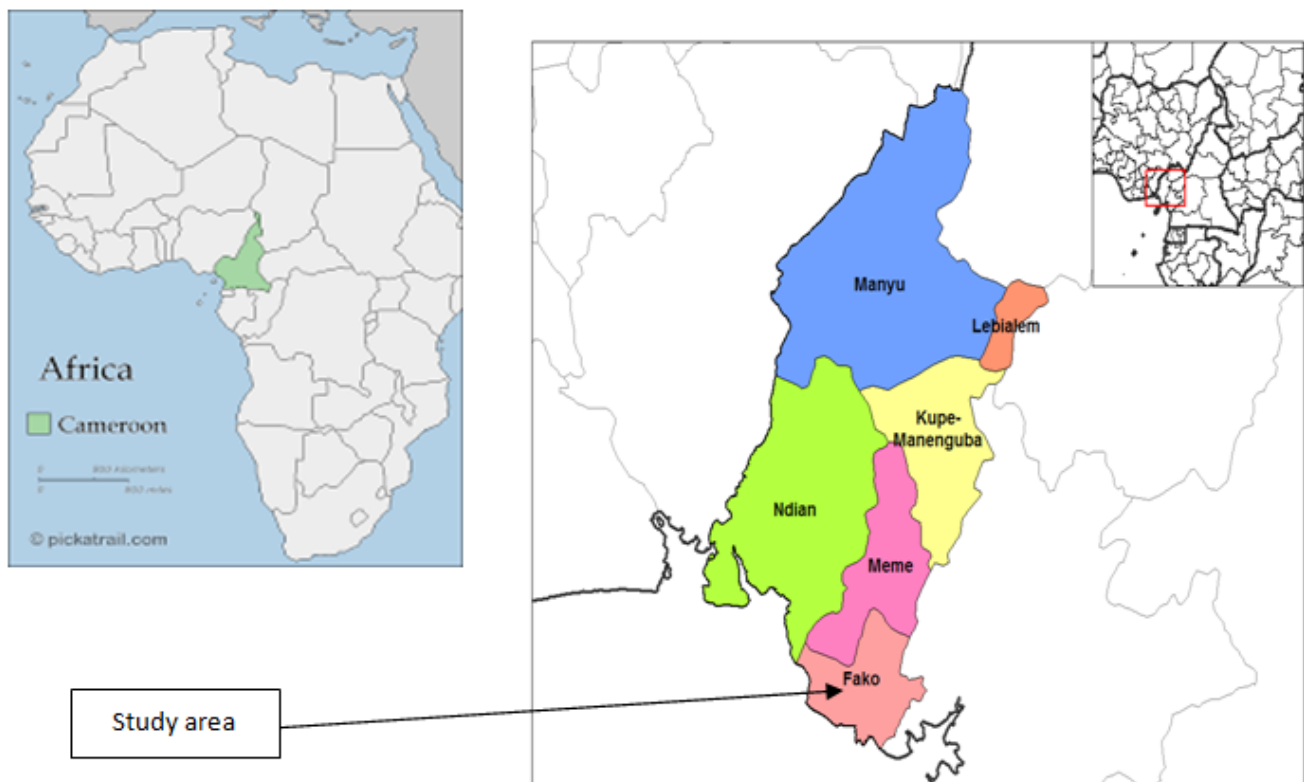


Figure 1. Location of the study area

Source: Pickatrail.com/ [http://en.wikipedia.org/wiki/Southwest_Region_\(Cameroon\)](http://en.wikipedia.org/wiki/Southwest_Region_(Cameroon))

Buea was selected as the study area because it reflects the characteristics of both an urban setting and a rural setting. Buea center is a growing city with industrial activity causing pollution. Meanwhile its peripheries are typically rural, relying mainly on forest activities for livelihood.

2.2. Data Collection Approach

Primary data for this study was collected between the periods of August 2014 through July 2015. Questionnaires, in-depth interviews and participatory observation were the

main methods used in data collection. Three communities were purposely selected to represent the study population. These include Bokwango, Great Soppo and Bokova. These communities were selected to represent the urban and rural characteristics of the study area.

Questionnaire

Questionnaires were used to gather information on media broadcasted programs on environmental protection issues. Also, to explore how the broadcasted messages influenced interviewees to adopt healthy environmental friendly habits. Specifically, questions explored the interviewee's knowledge on environmental challenges,

media responds to environmental challenges, level of media interaction with audience and public opinions on media engagement in environmental communication. The sampling unit was households. In total 75 households were sampled in Bokwango, 64 in Great Soppo and 45 in Bokova.

Interviews

Focused interviews [24] were used to explore media practitioners' and other key stakeholders' perceptions on their communication approaches and to what extent they feel their communications on environmental issues have been useful to their audience. The interviews provided knowledge and better understanding of media efforts and their roles in fostering effective communication. It also explored the changes they faced in enabling effective communication. A total of 14 interviews were conducted. Interviewees were selected from seven media institutions. Two persons were interviewed per institution. Institutions interviewed included Cameroon Radio Television - Buea (CRTV), Mount Cameroon Radio Station, Christian Broadcasting Radio Station, Radio Bonakanda, The Post Newspaper, Divine Mercy Radio and the Regional Delegation of Communication.

Field observation

Field observations enabled the researchers to witness media communication strategies without necessary asking questions. Participant and non-participant observation were used [25]. The researcher participated in media programs on environmental issues run by CRTV and also spent time tracking the newspaper (The Post Newspaper) to note the frequency and quality of communications that were aimed at addressing environmental challenges. This gave in-depth perspective on the case study. In addition, secondary data dealing with media communication and the environment, including other relevant literature on the case study were also collected and reviewed.

2.3. Data Sorting and Analysis

Three different perspectives were employed in data analysis: literal, interpretative and reflexive [26]. Literal analysis enabled the interpretation of data in their literal form. By using interpretative analyses, data collected were interpreted based on the demography of the study area, the researcher's experience and expertise. Finally, reflexive analyses drew from interpretative and literal analyses to compare the results obtained with other studies in order to provide a more robust contextualized analysis.

Information collected during the interview survey was processed first by coding [27]. Coding during field work was used to review the field notes and to dissect information meaningfully, while keeping the relations between the parts intact. The different answers were classified according to the main themes linked to the research questions. The information obtained was processed to describe the different processes of media communication and its challenges.

Data collected from the questionnaire survey were cross-checked for consistency and completeness in the field. Administered questionnaires were reviewed constantly in the field and questionnaires that missed out relevant information for data analysis were rejected and the household replaced in the field by another randomly selected household.

SPSS version 20 was used for descriptive analyses. Chi-Square test (χ^2) was used to analyze the extent to which significant differences occurred in respondents' characteristics and their environmental attributes. This helped in explaining the effects of media communication on environmental behavior. The combination of qualitative and quantitative data provided in-depth analyses of the effects and the potentials of the media in promoting positive environmental habits.

3. Results

3.1. Community Awareness on Biodiversity Loss

The study revealed that 98.9% of the respondents were aware of environmental degradation. However, this awareness was not necessarily as a result of media influence but attributed to individual observations and peer communications. Environmental degradation was understood by the studied population as the decrease in forest resources and loss of vegetation cover, which in turn causes frequent landslides and decrease in stream water volume. Respondents also attested that they have noticed prolonged dry seasons recently. This has altered the farming seasons and farm outputs. Some respondents also noted that the loss of trees is leading to climate change, which has adverse effects especially on the local agricultural system (slash and burn with no irrigation systems). Slash and burn agriculture system was also noted as a major threat to deforestation and land cover changes. Using Chi-square, the study established that, there was no significant difference in respondents opinions in environmental degradation across the three study communities ($\chi^2=0.671$, $p=0.05$, $df=2$). The level of education and occupation of the respondents did not also significantly affect their awareness on environmental degradation ($\chi^2=1.470$, $p=0.05$, $df=4$ and $\chi^2=29.334$, $p=0.05$, $df=12$ respectively).

3.2. Effectiveness of the Media in Conveying Environmental Messages

In order to understand how the media influenced behavioral change towards the environment, we assessed the different media channels through which respondents received communication about the environment. The different means of media communication in the study area included television (TV), radio and newspaper communication (Figure 2).

The radio (57.0%; $n=105$) was attested to be the main medium through which respondents received environmental communication. Radio was the most used because it was the least expensive device to obtain and maintain which receives radio signals. Many respondents attested that their mobile phones had radio receivers. This enabled them to be able to listen to the radio when they are out door or at work.

The TV (32.1%; $n=59$) was ranked as the second medium through which environmental communication was received. The TV was reported to be more entertaining compared to the radio. However, many respondents were more attached to the radio because of the fact that it could be carried around.

The newspaper (10.9%; n=20) was ranked as the third medium through which environmental communication was received. Many respondents did not prefer the newspaper for media communication because they would rather listen to news than read it. To others, the cost of buying newspapers daily was expensive. A newspaper is sold averagely at 300 FRS, which is equivalent to about 70 US dollar cents. Respondents attested they will prefer to spend this sum on food, clothing or transportation. In addition, some respondents were also of the opinion that newspapers are for politicians and civil servants to monitor the debates in their career. The internet was not mentioned as a tool for receiving media communication on local environmental issues.

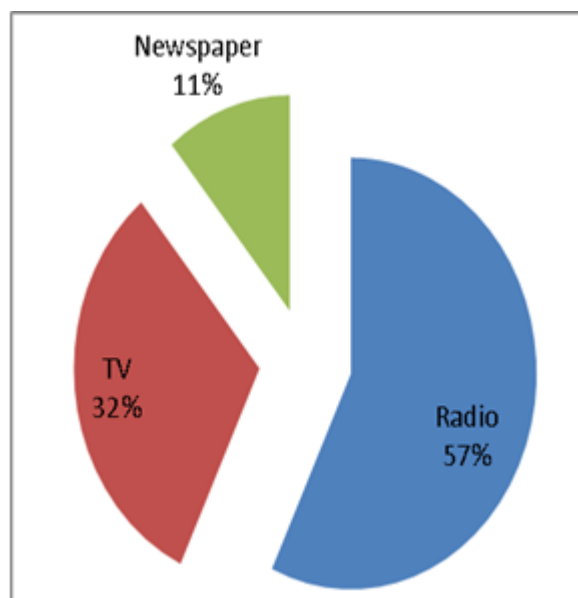


Figure 2. Media effectiveness in transmitting Environmental communication

Further questioning on how frequent the different media communication tools broadcasted information on environmental challenges also ranked the radio the main media through which communication on the environment was received. Two radio stations (CRTV and Radio Bonakanda) were noted to have a regular broadcast of 30 minutes each per week, addressing different environmental issues. The other radio and media stations assessed had no specific programs talking about environmental challenges. However, they also reported environmental challenges and issues from time to time. The willingness of respondents to take actions and adopt healthy environmental behavior was also assessed and respondents were also asked to state if their willingness to take action was influenced by media communications on environmental issues.

Based on the above evaluation, it was established that willingness to take actions by the respondents was not as a results of the influence of communication from the media. However, data analyses revealed that 2.7% (n=5) has no intention to take actions, 59.2% (n=109) were willing to take actions in the nearest future and 32.6% (n=60) has at least once taken some steps to contribute to environmental conservation. This included tree planting, adoption of environmental friendly farming methods, proper management of household waste, the use of cooking stoves that conserve fuel wood and participating in

environmental education in their communities. Furthermore, 3.3% (n=6) were fully engaged in environmental conservation by working with programs/institutions that were promoting environmental conservation.

3.3. Media Challenges to Effectively Communicate Environmental Issues

Media practitioners highlighted that inadequate materials (field vehicles, strong signal antennas, cameras and video cameras and voice recorders) for coverage, inadequate staff with knowledge on environmental conservation concepts were major challenges amongst others. The lack of interest in conservation activities by the general public was also a major drawback in effective communication (participatory observations). Media practitioners hinted that they hardly received feedback and challenging questions from the environmental programs they present. In this line it is difficult for them to identify the exact needs of the public and to design programs that may suit these needs. The public/audience also attested that they will prefer more entertaining programs compared to environmental programs, which are often less entertaining and appear to be too formal and boring. Related constraints to media communication on environmental issues (Figure 3) also included amongst others inadequate knowledge on the long term impact of environmental degradation, limited and poor access to information on media receivers (high cost of newspapers, poor radio signals and language constraints). The above constraints presented by media houses on why they were unable to effectively engage in communication on environmental challenges were analyzed to be linked to the fact that media management policies do not place environmental conservation as a priority action. As such, there is very little channeling of resources from the authorities to assist the communication that could effectively promote environmental protection efforts.

Data analyses also revealed that it is expensive to disseminate environmental protection communication through the media as individuals and institutions. This is a drawback to individuals/institutions willing to promote environmental conservation through the media. "...It cost a lot of money to pay a newspaper producer to publish news about activities promoting environmental conservation..." noted an interviewee working for a conservation institution. "...It's expensive to get a media practitioner to attend and report activities of private individuals/institutions that are geared toward environmental conservation". "It is even more expensive to go on radio to talk about environmental activities. I personally think the media is more interested in public events like the World Environment Day and the Earth Day. I have also observed that reporting of most events are to fulfill public obligation and not to influence behavioral change..." noted another interviewee working for an environmental protection institution. Media houses were observed to be more profit driven and thus pay more attention to commercial announcements, politics and football news. Most environmental news in the newspapers according to our field observations were motivated by non-profit organizations and none of the environmental news headings were observed to feature as a major news item in the newspapers evaluated.

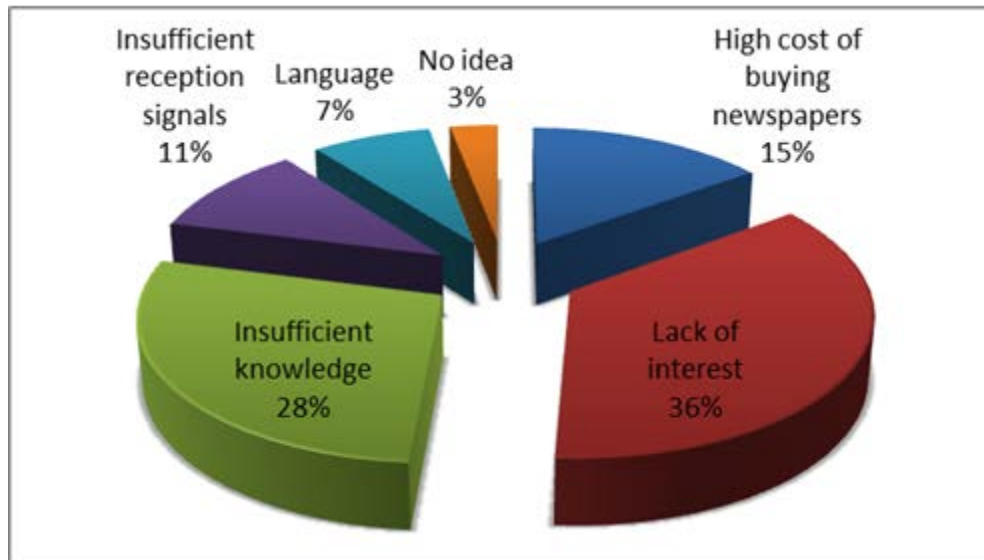


Figure 3. Constraints of environmental communication

4. Discussion

Effective communication on environment and biodiversity loss is essential for managing environmental degradation. However, the identification of what is the right approach and means to channel this information to the audience is a challenge [9]. In line with this study, media communication has proven to be one of the means through which information on environmental protection can be channeled [18]. The radio (57.0%; n=105) strongly stands out as a tool for media communication on environmental protection. This is linked to the diverse tools through which radio signals can be received and also on the fact that these tools can be carried along. Radio as a main tool for media communication on environmental issues is in line with the study of Shrestha (2005), which showed that in Nepal, India and Vietnam the radio is the most used medium when raising awareness on the need to conserve natural resources among local people. The radio is also revealed as the fastest and most powerful communication tool, reaching huge masses of rural people and breaking the barrier of literacy [29,30]. However, the effectiveness in communication is not just about how many people are reached but how the information has impacted the receiver.

The results of this study show that although about 98.9% of the respondents were reached out through the media and have at least listened to environmental protection communications, less than 40% were actually willing to take actions that will contribute to environmental protection. This implies the communication transmitted had low potentials to influence listeners' perceptions and behavior. In this line, we argue that local media are not yet equipped to develop innovative programs that actually capture local attention and encourage behavioral changes towards environmental conservation. In line with the results of this study only 3.3% (n=6) of the interviewees were evaluated to be fully engaged in actions that contributed to environmental protection. Their full engagement was however linked to the fact that they were all working for environmental protection institutions. This

implies that the general public is still not equipped to participate in environmental protection. As per this study, media communication was reported to be more of a public obligation rather than as an action aiming to bring change of perception.

Changing attitudes through media communication requires the development of programs that go beyond information dissemination to build on the relationship between the communicator and the audience [31]. It requires figuring out what moves people on an emotional and practical level and then designing strategies that will speak to the needs of the audience. This will imply that media communication programs aiming at promoting environmental protection should be designed to capture the culture and special characteristics of the audience. This goes in line with the argument that information alone has not proven to be a successful means to promote voluntary behavior change to protect the environment [32,33]. The results of this study revealed that 98.9% of the study population was aware of environmental degradation but less than 5% were actually taking action.

The lack of clarity of what environmental conservation means is creating a gap between science and the general public, including decision makers who design and implement biodiversity policies [34]. Media houses in this study area were revealed to be less interested in communications involving environmental issues. The study recorded only two regularly aired environmental programs in two media houses (CRTV Buea and Radio Bonakanda) out of the 7 media houses evaluated. The results of this study also revealed that constraints presented by media houses on why they were unable to effectively engage in communication on environmental protection were linked to the argument that media management policies do not place environment protection as a priority action. In this line, we argue that, if the reporting of environmental issues is given as much attention as political issues, media communication on environmental protection is liable to shape individuals' actions toward adopting environmental friendly behavior. However, for effectiveness to be ensured there is also need for more in-depth research to inform implementation of

media programs on environmental protection to meet specific local needs.

In line with the results, we posit that media communication on environmental protection in the study area will benefit from policy advocacy. Policy advocacy should be geared towards the need for the government to increase support to environmental issues and to pay as much attention to environmental degradation issues as political issues. Given the fact that the long term impacts of environmental degradation will be very expensive to resolve, it is prudent that measures are implemented to avoid them. Secondly, there is the need for media communication programs on environmental protection to focus on applying local knowledge when they are being implemented. Local knowledge brings conservation concepts to the understanding of the local people and also encourages local people's participation. If local knowledge is considered as a necessity in communication, the participation of local people will be enhanced. Thirdly, producers of media programs in environmental protection should make them entertaining; this makes the programs more attractive to compete with other media programs which usually draw the attention of a wider audience. Placing incentives (prize awards) on media programs on environmental protection could be employed to increase the programs' ability to compete with other media programs. Fourthly, platforms for knowledge exchange between key stakeholders both at the national and international scale should be increased to provide forums for the development of innovative approaches to environmental communication. This will go a long way in the crafting and implementation of effective outreach programs in the environmental conservation campaigns.

5. Conclusion

Media communication as a tool to shape behavior on environmental protection in Buea, South West Region of Cameroon has not been of any impact. Despite the potential of radio communication to influence behavior due to its outreach capabilities, this opportunity is less utilized in the study area. This is attributed to the limited attention placed by policy makers and the management of media houses on environmental issues in Cameroon. This adds up to insufficient expertise in implementing media programs on environmental protection. Furthermore, the high cost of disseminating media communication on environmental protection is also a major drawback. Individuals working in the field (non-profit organizations) are not motivated to engage in media dissemination because of the cost involved. Media communication on environmental protection is more in the hands of media practitioner and the minority who can afford the high cost media dissemination. This limits the chances of interactions between media practitioners and local people. Media communication was also revealed to be less interactive. This study argues that for media communication on environmental protection to be able to shape individual perceptions and change attitudes, it should go beyond merely disseminating information and provide platforms for interactive communication. Interactive communication will facilitate the identification of the correct and effective information as well as

approaches required to influence positive behaviors toward the environment.

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Competing Interests

There are no competing interests in this paper.

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