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To What Extent Is Social Marketing Used in Demand Reduction Campaigns for Illegal Wildlife Products? Insights From Elephant Ivory and Rhino Horn

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Abstract

The illegal wildlife trade is a global threat to biodiversity as well as to public health and good governance. As legislation and law enforcement have been insufficient to protect many wildlife species, conservationists are increasingly focused on campaigns to help reduce demand for wildlife products. Social marketing is increasingly being used to support biodiversity conservation efforts, but the extent of its use has seldom been researched. Based on interviews with conservation practitioners, we assess the extent to which social marketing has been used in demand reduction campaign design. We do this by investigating the level to which demand reduction campaigns met the benchmarks defined by the UK's National Social Marketing Centre. We focus on rhino horn and elephant ivory, two high-profile products in the illegal wildlife trade and in China and Vietnam given their role as key consumer countries. We also investigate how conservation practitioners view the opportunities and challenges of using social marketing in the context of reducing demand for illegally traded wildlife products. Our findings highlight that there are substantial gaps between best practice in social marketing and current practices in the design of demand reduction campaigns. However, several elements of social marketing are widely utilized and a platform exists from which to build more comprehensive behavioral influence campaigns in future. In terms of future needs, practitioners highlighted the need for independent consumer research upon which to build target audience insights, a focus on broader audience segments beyond the product consumers, and the improvement of collaborations across institutions.

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The wildlife trade, defined as the sale or exchange of living organisms, their parts, or derivate products, involves millions of animals, plants, and fungi annually (Broad, Mulliken, & Roe, 2003; Harfoot et al., 2018; Nellemann, Henriksen, Raxter, Ash, & Mrema, 2014). This activity includes a wide diversity of products including, but not restricted to, live animals, ornamental plants, medicinal products, tourist curios, timber, food products, and luxury items (Rosen & Smith, 2010). The trade in wildlife is a major global economic activity, an estimated total value in the many billions of EUR annually and arguably involving every nation on Earth (Harfoot et al., 2018; Nellemann et al., 2014; Rosen & Smith, 2010). It is thus not surprising that this activity is vital to both local livelihoods and national economies, particularly in the developing world (Broad et al., 2003).

While the majority of the wildlife trade is thought to be legal, a considerable portion remains outside the law (Broad et al., 2003), making the illegal trade in wildlife one of the largest sectors of criminal activity worldwide, behind only drug smuggling and counterfeiting (Nellemann et al., 2014). The scale of the illegal wildlife trade, together with the share of this activity that remains unregulated, means it is often responsible not only for impacts on biodiversity but also on public health, economic development, and governance, in both source and consumer countries (Haenlein, Maguire, & Somerville, 2016; Karesh, Cook, Bennett, & Newcomb, 2005; Rosen & Smith, 2010).

Regarding biodiversity, the unregulated wildlife trade can lead to the extinction of species or even entire biological groups. Examples range from the historical near extinction of North American bison (Taylor, 2011) to the recent severe depletion of stocks of blue fin tuna and sturgeon (Gault, Meinard, & Courchamp, 2008). The illegal wildlife trade also impacts public health, for example, through activities such as the cross-border flow of animal products, which have been linked to the transmission of deadly diseases such as Ebola, avian influenza (H5N1), and secure acute respiratory syndrome (Karesh et al., 2005). In terms of economic and social development, the illegal wildlife trade deprives governments, often in developing countries with fragile economies, of large amounts of tax revenue and depletes the resource base of local communities that often depend on nature for subsistence (Broad et al., 2003; Wyatt, 2014). Beyond curtailing the resources available to the state, the illegal wildlife trade also hampers the governance of natural resources by being associated with forms of organized crime and by encouraging corruption, which erodes the rule of law, deters civil engagement, and reduces the trust in the state (Haenlein et al., 2016; Rosen & Smith, 2010; Warchol, 2004).

It is clear that the illegal trade in wildlife presents a substantial challenge, and conservationists have historically tried to counter this through the tightening of regulation and the improvement of law enforcement capacity (Veríssimo, Challender, & Nijman, 2012). Yet, it has become apparent that these supply-side measures alone are not enough to effectively counter the threat of wildlife trafficking (Challender & MacMillan, 2014). This realization has prompted an increased attention toward demand-side initiatives, aimed at influencing the purchasing behavior of consumers (Veríssimo et al., 2012; Veríssimo & Wan, 2018). These campaigns have mostly focused on conservation and in countries where there was a recognized large number of consumers of wildlife products (Veríssimo & Wan, 2018). Given its origins in the business sector and its past success of influencing pro-social behaviors, social marketing has often been hailed as a promising field to be explored by conservationists (Veríssimo et al., 2012). Yet, while the number of demand reduction campaign has increased and social marketing has been repeatedly referenced as a strategy used in demand reduction campaigns (International Fund for Animal Welfare, 2017; Offord-Woolley, 2017; Wallen & Daut, 2018), we know little about the extent to which social marketing best practices have been adopted.

Social marketing campaigns aimed at reducing demand for flagship species threated by the illegal wildlife trade have been happening since the late 1980s, largely led by U.S.-based non-governmental organization (NGO) Rare (Salazar, Mills, & Veríssimo, 2018). These campaigns were initially mostly focused on island-endemic birds threatened by the pet trade but eventually broadened in scope to include a variety of other issues, such as the illegal trade in bushmeat and illegal fishing, with encouraging evidence around impact (Salazar et al., 2018; Saypanya, Hansel, Johnson, Bianchessi, & Sadowsky, 2013; Veríssimo et al., 2018).

In this context, this research has two aims. First to assess the extent to which social marketing is being used in demand reduction campaigns, a field with a robust evidence base of success (Stead, Gordon, Angus, & McDermott, 2007). Second to explore what opportunities and challenges, if any, exist when implementing a social marketing approach to demand reduction for illegal wildlife trade products. To achieve this, we use as a case study the campaigns targeting consumers of elephant ivory and rhino horn, as these products are arguably the two highest profile illegal wildlife products. We then focus on China and Vietnam, as these countries are key consumer markets for these commodities, as well as many other high-profile illegal wildlife products (Olmedo, Sharif, & Milner-Gulland, 2017; Veríssimo & Wan, 2018).

Method

We identified organizations that had managed demand reduction campaigns on ivory and/or rhino horn from 2005 to 2015, based on a review of demand reduction interventions (Sharif, 2014). We focused on campaigns that included ivory and/or rhino horn even if the campaigns were not exclusively targeted toward these products. This research uncovered 18 organizations, including both national and international bodies. The lead author contacted each organization through a combination of e-mail and phone calls. Following limited responses, snowball sampling was used to acquire contacts in as many relevant organizations as possible.

Semi-structured interviews were used to prompt the interviewee to describe the campaign design approach taken with respect to a specific, identified demand reduction campaign. Given the diverse geographic locations of the identified individuals, which ranged across four continents, the interviews were completed via telephone. All interviews were recorded, to enable a full written transcription to be completed.

A pilot interview with one practitioner was conducted to test the question set for relevance and timeliness. Following this, the initial interview guide was revised to better account for time limitations. The interview guide used consisted of an initial set of questions to verify the eligibility of the organization to participate in the study, followed by a focus on the design of a recent campaign and finally on the challenges and opportunities felt by the practitioner on the implementation of demand reduction campaigns (see Table S1, Supplemental Material).

To assess the practitioners' perception of the opportunities and challenges toward implementing a social marketing approach to demand reduction of ivory and rhino horn in China and Vietnam, a series of open question were posed, with the resulting answers analyzed qualitatively for recurrent and emerging themes and frames (see Table S1, Supplemental Material). To ensure free prior informed consent, each participant was sent an overview of the research scope and overarching interview questions before the interview and asked for permission to be interviewed and recorded. To create an interview environment which allowed for open discussion, it was decided to anonymize all quotes.

Data Analysis

To assess the extent to which the design of demand reduction campaigns was using social marketing, we assessed each of the campaigns against the eight social marketing benchmarks (Table 1) developed by the UK's National Social Marketing Centre (Hopwood & Merritt, 2011). To do this, we developed three qualitative levels of evidence: no evidence, some evidence, and substantial evidence (see Table

Table 1. Social Marketing Benchmarks Defined by the UK's National Social Marketing Centre (Hopwood & Merritt, 2011).

Benchmark	Description
Customer orientation	Focuses on the audience, fully understands their lives, behavior, and the issue using a mix of data sources and research methods
Behavior	Aims to change people's actual behavior
Theory	Uses behavioral theories to understand behavior and inform the intervention
Insight	Customer research identifies "actionable insights"—pieces of understanding that will lead intervention development
Exchange	Considers benefits and costs of adopting and maintaining a new behavior, maximizes the benefits and minimizes the costs to create an attractive offer
Competition	Seeks to understand what competes for the audience's time, attention, and inclination to behave in a particular way
Segmentation	Avoids a "one-size-fits-all" approach, identifies audience "segments," which have common characteristics, and then tailors interventions appropriately
Methods mix	Uses a mix of methods to bring about behavior change, does not rely solely on raising awareness

S2, Supplemental Material), based on the amount and kind of information presented for each benchmark by practitioners.

Results

Seven interviews were completed representing seven organizations identified as having been involved in ivory and rhino demand reduction campaigns in China and Vietnam between 2005 and 2015 (Table 1). Four organizations declined to participate, and seven did not reply to repeated contacts (see Table S3, Supplemental Material).

Are Social Marketing Benchmarks Being Met?

Considering the eight social marketing benchmarks measured for each of the seven organizations, 21 were found to fall in the "no evidence" category, 31 in the "some evidence" and 4 in the "substantial evidence." Thus, only 7% of the benchmarks analyzed had a robust body of evidence to support them. Nonetheless, all campaigns demonstrated evidence of partially fulfilling at least one of the eight benchmarks, with the majority demonstrating evidence toward three or more. All campaigns demonstrated at least some evidence of research toward a customer orientation and segmentation, while no campaigns demonstrated attention to competition (Figure 1).

There was strong heterogeneity among the campaigns investigated. One campaign demonstrated at least 'some evidence' against all benchmark criteria, with 'substantial evidence' against four of the eight criteria. On the other hand, one campaign demonstrated 'some evidence' against one of the criteria (Customer Orientation) whilst showing 'no evidence' of use of any of the other benchmarks.

How Is Social Marketing Being Used?

Below we detail the experiences of conservation practitioners regarding each of the social marketing benchmarks (Hopwood & Merritt, 2011).

Customer orientation. All campaigns evidenced some elements of customer orientation. One practitioner described that, in addition to assessing the individual's social status, groups, profession,

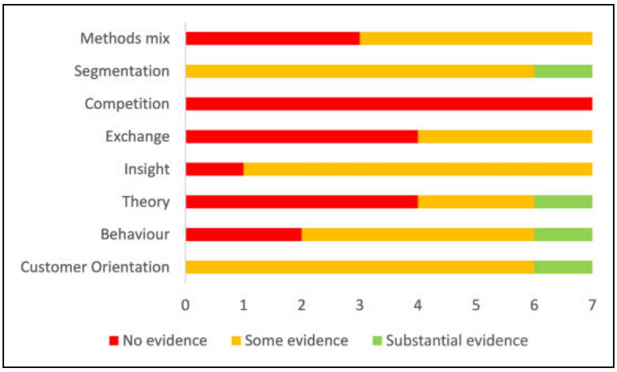

Figure 1. Summarized results measuring evidence against social marketing benchmark criteria of the National Social Marketing Center (Hopwood & Merritt, 2011).

and income, it was most important to assess: "What are the motivations for consumption?" (IN1). This perspective was shared by another campaigner who outlined the example of engaging with rhino horn users who believed that consumption could cure cancer: "Obviously, they didn't care if the rhino in Africa becomes extinct . . . a lot of people said 'the last rhino in Vietnam became extinct and nothing bad happened to us'" (IN2). This led the practitioner to conclude that: " . . . it's really important to understand the customer view and the motivations for why they do what they do" (IN2).

While a research-backed customer orientation was recognized as important by most respondents, there were time and resource restrictions that constrained its application, one interviewee described: "It's very difficult to reach rhino horn consumers themselves, they are a very small group of people" (IN6). This led to challenges to performing robust consumer research: " . . . of course, research takes time, so we said, 'we have to start it (the campaign) by using our instincts and understanding about (the) Vietnamese (people)'" (IN6). Therefore, the perception of the need for action dominated: "So, we started the campaign without formal research" (IN6). Similarly, another campaigner referenced the challenge with research: "time constraints, and money constraints (offer) lots of reasons (why) often missing was the initial consumer research to understand actually who was purchasing or consuming" (IN5). Similar to IN6, this meant that at the point of designing and executing a demand reduction campaign, "we had a lot of anecdotal information . . . but we didn't actually have any hard evidence" (IN5).

Based upon the experience of working with multiple conservation NGOs, one interviewee perceived that " . . . a lot of campaigns kind of assume what the consumer wants, what the consumer needs, and how they can get it." (The campaigners do) "not really put themselves in the position (of the consumer) and "do not really take on research" (IN2). This perspective was evidenced in the interview with another campaigner, who, in regard to ivory consumers in China and the need for research, described: " . . . I don't really have time to really understand who are the very top two percent of the people who are driving most of the ivory trade. I know who they are." Which led them to the position that: "I don't need to do research to know how to influence them" (IN3).

Behavior. There was limited evidence of a focus on behavior as the ultimate goal of a campaign. Practitioners often stated their belief that changing an individual's *attitude*, *awareness*, and *intention* leads to a change in behavior, even if there very limited evidence to support this claim (Kelly & Barker, 2016): "We can't necessarily say that someone's consumer opinion is . . . driving that behavior. We believe that in many cases, it is" (IN4), "We believe changing people's attitudes (to) persuade them not to use rhino horn or other wildlife products takes time" (IN6). This view was often evidenced without referring to particular audience groups: “We’re looking to change consumer awareness and consumer behavior on the grand scale” (IN4). This broad approach focused upon research into attitudes and beliefs rather than specific behaviors: “We want to know . . . how many people really believe that rhino (horn) has medicinal effects, how many people believe that the government should ban the domestic sale of a product like ivory” (IN4).

One campaigner described taking a more comprehensive approach to behavioral assessment, which also utilized behavioral analysis from campaigns outside of conservation: “Step one is be very clear about which behavior you want to change.” “Is it the gifting of ivory?” “Is it the purchase of Ivory for investment use?” “Is it the purchase of ivory as chopsticks?” interviewee (IN1) Further, they outlined how their campaign design considers how and when purchase decisions are made: “What sort of choices are made opportunistically or . . . deterministically? . . . the behavior change approach that you use will be very different for each of those types of purchase behavior” (IN1).

Theory. Most practitioners made no use of behavioral theories in their campaign design. One interviewee believed that whilst there could be value in utilising behavioural theory: “No, actually, I’m afraid to say . . . our budget was really limited”? (IN3). Another individual shared a similar response for a different reason: “Not a lot, not a lot at that time . . . the process was kind of quite new for everyone.” While being clear that: “ . . . a lot of those theories apply . . . to different components of the work . . . we didn’t dig deeper into those theories’ (IN5). However, in practice, due to time constraints and the relative lack of experience in designing behavioral influence campaigns, ultimately, approaches were often focused on: “ . . . learning by doing it, rather than learning the theory and then applying . . . it” (IN3). Another campaigner asserted that academic theory had little value in the context of rhino horn demand reduction in Vietnam: “We are Vietnamese, we understand what they think, what informs them, what makes them change their behavior” (IN6).

The most comprehensive use of academic behavioral theory was evidenced in the campaign design discussed by IN1: “There are huge amounts of behavioral change theories, concepts and models of change.” This practitioner was also the only to consider theory outside of traditional “Western” literature: “We wanted to look at the Chinese and Vietnamese language literature (to assess) what is and isn’t working and spheres beyond nature conservation.”

Insight. We found that most practitioners used specific insights, although many of which came from direct experience. One practitioner explained their approach to uncovering actionable insights: “It’s about getting under the skin of the person that’s consuming and understanding, without judging, why they are buying” (IN1). In some instances, insight gathering was interpreted as a macro-level exercise: “ . . . in public outreach, we do surveys, we do posts, we get public sentiments . . . (if) we understand public sentiments, then it helps us plan . . . strategies . . . ” (IN3).

One common discussion point related to the existence of a dual legal/illegal supply market and how this may be referenced in campaigns: “Because China has that legal market, it removed any stigma attached with the ivory trade” (IN3). The insight in this case was that the communications should not focus on the legal status of a product, as this was not perceived to be important by the target audience. Avoiding negative messaging or messaging that conflicted with the target audience beliefs was also raised in the context of individual consumers of ivory, with one campaigner, citing a consumer who said: “I’m inherently a good person, and, also, I don’t pull the trigger” (IN1). Another example, cited by more than one respondent was that messaging related to the extinction of rhino, was mostly ineffectual: “People told us; ‘well, dinosaurs went extinct, and we’re still here, so what’s the problem?’” (IN1). Another campaigner described this as consistent with providers of traditional medicine in Vietnam. In work with this group, a description of rhino horn as “not a medicine” was not useful, as it “implied that their beliefs were wrong, and so that offended them” (IN3). Changing the description to “I am not a miracle medicine” was deemed acceptable, and this insight was subsequently utilized in further communications.

However, there were examples of insights, which did lead to the use of negative messaging in campaigns, for example, when discussing that there may be rhino horn with infused toxins “Then a lot of people started to care, and listen very carefully” (IN2), and also the use of imagery, which showed the impact of rhino poaching: “ . . . we really touched these people’s emotions . . . showing the dying rhino with the horn being cut off” (IN6). A key insight expressed by several respondents, consistent with the earlier findings on behavior and customer orientation, uncovered that for buyers and consumers: “There is pressure to be successful . . . to be perceived as being successful, as a key driver for their consumption” (IN5). Another campaigner went further: “Some people . . . buy it because it represents cultural heritage, or because it represents the quality of the material. It’s very strong, and they think they’re imbuing the characteristics when they wear it” (IN1).

Exchange. There was evidence across several campaigns of a focus on how an exchange of benefits for the desired behavior may be positioned. One campaigner described: “Our target audience was these older men who were consuming quite often for status and this feeling of success.” They went on to use campaign messages related to the benefits exchange: “You show your leadership and your strength, and your integrity is the reward” and “You want to stand out in your peer group because you can afford to consume rhino horn . . . you stand out as a strong, very successful person because you choose not to” (IN5).

Another interviewee also positioned the idea of creating an exchange of behavior for personal benefit and emphasized the use of negative message frames: “ . . . you embarrass them . . . if they are wealthy people, it makes them feel embarrassed to use it in front of their peers or their friends” (IN6). In this context, the non-use leads to the benefit of avoiding embarrassment. This negative positioning was also utilized, in part, by another campaigner who positioned the exchange in terms of personal reputation protection for the individual: “It could be an illegal piece here in China for example, or it may not be, but there is that risk of illegality. There’s also this kind of reputational risk now that’s associated with you” (IN1).

A different approach related the exchange in terms of benefits for society or community: “You might want to think of it more creatively, in collectivist cultures where patriotism holds such a strong value across society” (IN1). This campaigner went on to say, in the context of campaigning toward Chinese tourists, that the benefit of the individual behavior is one toward broader society “ . . . actually the benefit goes to China, that’s a bit counter intuitive in a way, because a lot of behavioral change approaches are about promoting the direct positive to individuals” (IN1).

However, the concept of a tangible exchange in the short term was recognized as a challenge: “If (we) ask them to do something, they would want to see . . . some short term benefit, as they wouldn’t look with . . . a long term view . . . ” (IN2). In some settings, related to indirect targeting of consumers, short-term rewards were evidenced: “When we work with the hospital, we have to have compensation for the doctor” (IN2). For the students, a reward was formal recognition via a title, and status, as ‘an ambassador, and the students really love it . . . they really love the feeling of importance” (IN2).

Competition. We found no substantial evidence of pre-campaign analysis of what competes for the time and attention of the target audience. Despite this, competition was recognized as an important element by two of the respondents: “Competition plays a really important role . . . in terms of just getting their attention” (IN5). However, competition was mainly thought of in the context of promoting the desired message: “Competition for advertising space and attention physically is enormous . . . generally in their daily lives” (IN5). Another campaigner recalled the placement choice of outside communications designed to reduce the demand for ivory: “ . . . (the) space was next to an entire street full of ivory shops” (IN3). The practical challenge of being able to access the best spaces for advertising was identified as a constrain, as campaigners often rely on the goodwill of the media owners selecting placement locations.

One campaigner described that since ivory and/or rhino horn are seen as a social status symbols, demand reduction campaigns are effectively competing in the luxury goods market: “I’m not entirely sure that we appreciated just how competitive that space was and how to develop messaging that could stand up against all of those competitors. . . . it has to stand up against all of these multi-million dollar marketing campaigns or they won’t even look at it” (IN5). Finally, competition should also influence which audience segments are prioritized: “ . . . the reason we didn’t go for older women because we just felt we couldn’t come up with a message that would compete (with the motivation of) . . . ‘I want to buy rhino horn because I believe it cures cancer, and my six year old granddaughter has cancer’” (IN5).

Segmentation. All campaigns evidenced at least basic audience segmentation, with segments including direct and indirect users and to a lesser extent social influencers, in particular traditional medicine practitioners and business leaders.

- Youth (children and students)

The focus on this segment was built upon the perception that *older people* have a mind-set that would “probably not change” (IN2). One campaigner said: “I think it’s been shown pretty clearly that (the) younger (population) in countries like Vietnam do have influence on what their parents or grandparents choose to buy, to consume” (IN4). One campaigner described the use of peer-to-peer influence, including volunteer students designing their ideas for campaigning among schools. Another interviewee outlined the targeting of students and teachers with a rhino horn demand reduction campaign in Vietnam: “We do believe that that trickles up as far as generational consumer behavior. So that is an example of finding a target audience that is persuasive and . . . not . . . actually consuming themselves” (IN4). Nevertheless, another campaigner was cautious in regard to relying on this group as a core audience segment: “The children also have influence on parents . . . definitely children have a voice to their parents, but to what extent? Do they even know that their parents give rhino horns as a business gift or use it in their social circles to show their status, their class?” (IN6).

- Individual consumers

There was some evidence of more in-depth, individual buyer/consumer segmentation and a prioritization based upon potential impact: “What would give us the biggest impact in terms of conservation, if we were successful in changing their behavior?” (IN5) and: “We identify where the problem is greatest, where we feel like we have the resources and the ability to persuade public opinion in those areas” (IN4). The segmentation outlined by one campaigner was particularly focused: “It’s mainly rich, older men in Vietnam who are consuming rhino horn, as well as people who believe that it does have curative effects for cancer” (IN4). Another highlighted: “The women’s reason for buying was quite different to the men’s reason for consuming” (IN5). Referencing previous work completed in Vietnam in regard to behavioral change related to health, water, and drug use, which identified that the female group as likely to be “very very hard to change their behavior . . . (so) we prioritized the . . . men” (IN5). However, at an individual purchaser level, some practitioners did not prioritize groups in any way: “We went out just as a general public awareness campaign. We didn’t really segment . . . we feel in terms of public messaging, we do . . . just for the public, no separation of target audience” (IN3).

Methods mix. All campaigns demonstrated a strong focus on *promotion*, primarily through large-scale advertising: “We try to reach as many Vietnamese people as possible, through the TV, mass media, printed, online newspapers, Radio, those typical ways" (IN6). In regard to place and promotion, a challenge exists in terms of the funding required for advertisement space "where we could get a lot of the rich or powerful people . . . we cannot afford to buy ad space in that place" (IN6). An example of the limitations of relying on just one method was cited by one practitioner, regarding outdoor advertising for a bear bile demand reduction: "The problem is that people pass by the billboard and they have a millisecond to look . . . they thought that we were advertising bear bile" (IN6).

There was some evidence of methods used in addition to *promotion*, recognized as just a part of the methods mix by one campaigner: "It's not just a matter of us hiring celebrities to do PSAs (Public Service Announcements) that are flashy and seen all over" (IN4). Other methods including *product*, as a tool to support the desired behavior, were evidenced: " . . . we reached out to . . . over 50 Vietnamese CEO's to sign a pledge never to consume, purchase, give as a gift, rhino horn" (IN4). Additionally, the context of indirect targeting through children and grandchildren of potential consumers was described: "The aim is to influence parents and grandparents; one tool is a pamphlet which contains a signed commitment" (not to consume rhino horn; IN2).

Other indirect approaches outlined, which considered a wider methods mix involved targeting social, for example, working with doctors and patients together, at a point when the patient may be using or considering using rhino horn, demonstrating the method of *Place*. Other influencers, including religious leaders, were also considered as a combination of *Place* and *promotion*: "We find other key opinion leaders in different sectors of the society to help us spread the message and mobilize Chinese society to stigmatize ivory" (IN3). Finally, the consideration of *product* through branding was also considered, particularly in targeting youth audiences: " . . . for the young people we try to create something that looks trendy . . . like this is a new lifestyle. This is what people in the west are doing and it is really cool" (IN2).

Opportunities and Challenges of Using Social Marketing

Practitioners highlighted three key themes: the need for a research-led approach to capture consumer insight; the limitations faced in terms of time, funding, and staff capacity; and finally, the potential to broaden the target audience to include those who influence consumers.

The need for consumer research. Regarding consumer research, it was felt that, despite some progress in this area: "There is a gap between the research and the campaigns" (IN2). Consumer research was described as "really important (because the) people we are targeting are not scientists or conservationist . . . and we try to makes things really simple, easy for them to understand . . . " (IN2). This was highlighted as an ongoing challenge, as the specifics of demand can be "like fashions, that come and go" (IN2).

A key challenge with consumer research was its ability to effectively measure behavior: " . . . in surveys they say that they will not consume ivory, but we just felt that there is something missing" (IN3). This perspective was consistent with other interviewees, two of whom stated: "Typically, it's not really something conservation organizations should do. It's beyond their mandate" (IN1). It was thus suggested that researchers should be neutral: " . . . it should be partners, not conservation NGO's going out to talk to consumers. If it is a conservation NGO, they tend to change what they will say" (IN5).

One campaigner felt that there is overlap in the research carried out by different NGOs and thus potential for the sharing of results and data to avoid duplication. Another participant agreed, adding: "There's a lot of movement to try to get greater streamlined activities delivery by a lot of NGO's . . . I think that's a very worthwhile ambition." (IN1). However, it was felt that research methodologies were often not robust and that organizations have traditionally been reticent to share results.

The resource challenge: Time, funding, and skill set. Lack of resources, in particular time, funding, and staff capacity, was consistently cited as a challenge to taking a comprehensive social marketing approach to demand reduction. Regarding funding, one practitioner stated: “It’s about competition for money, because there is not a lot of it in reality . . . . Even if you look within conservation and compare what is spent on on-the-ground protection versus demand reduction . . . the imbalance is enormous” (IN5).

These challenges are further exacerbated by time constraints of conservationists: “I just feel we’re running against time to change behavior. I’m sorry to say . . . I don’t have time to stop and learn” (IN3). Another limitation related to the background and skill set of many conservationists: “Most of us became biologists because we would much rather be in the forest working with animals” (IN5). Therefore, a consistent view was: “I’m just dealing from my experience . . . I’m just learning along the way” (IN6), as: “Most of us don’t know how to start it” (IN5).

Practitioners agreed that international and domestic conservation organizations should collaborate more to optimize the use of resources and improve chances of success. An example of this is the tension between applying general behavioral theory to campaign design while ensuring it remains tailored to the local context: “I’m not saying that you can’t apply them [behavioral theories], but there are things that influence it in a regional or national context. . . . a lot of success was born in messaging and conservation in the west . . . countries in a very different place economically and priority wise, and had a very different cultural view of what animals are for” (IN5). It was further described that differing cultural perspectives may be evidenced in campaign messaging: “they have a lot of ideas, but they just have no clue about Vietnam or how Vietnamese people think. . . . the message can be really nice in English . . . but it just doesn’t work in our culture . . . ” (IN6). Yet, collaboration was not always easy: “ . . . when we give them comments, for example, they don’t want to change it, they just think, ‘oh, I’m an expert in education’” (IN6).

The potential to broaden the target audience group. Previous campaigns had a strong focus on individual consumers, whether actual or potential, with a lesser focus on secondary audiences who could act as influencers: “I think we do want to make sure that we educate both the consumers and also people who might be persuading potential consumers not to use rhino horn” (IN4). Another campaigner, sharing this view, offered examples of the individuals who may be included as “Key Opinion Leaders”: “ . . . these people come from all different fields. From religious areas, some are politicians, some are artists and musicians . . . ” (IN3). Another example were the children and grandchildren of potential buyers and consumers. It was felt that this group may provide hope for the future but that may not be enough: “The younger generation in Vietnam are definitely changing things in a positive way, but for rhinos we are just desperate for impact today” (IN6). Another example were retailers and traditional medicine providers, one described targeting this group as: “ . . . incredibly important, and I think that’s something that to be honest I think is missing” (IN5).

Law enforcement and the role of government was discussed as an important element: “So, if the government (says) . . . ‘this is not acceptable Vietnamese behavior’, there will be people . . . who would follow that” (IN5). Although the findings indicate that not all organizations view this as a demand reduction activity: “All of that fits under a supply reduction heading. You can certainly use social marketing approaches with those” (IN1). Nonetheless, it was accepted that there is value in this activity and that: “Some conservation organizations do see that raising awareness of law and strengthening penalties and deterrence, and then communicating those penalties, is absolutely something that’s about demand reduction” (IN1).

Discussion

Demand reduction is increasingly recognized as a key part of tackling the illegal wildlife trade. Social marketing is often mentioned as a framework that can guide demand reduction efforts toward a greater probability of success. Our results show that while a few social marketing concepts have gained a degree of acceptance among practitioners working on reducing demand for rhino horn and elephant ivory, the majority of social marketing benchmarks were not fully met, a result that mirrors other areas where social marketing is applied (McDermott, Stead, & Hastings, 2005). Nevertheless, there is a recognized need to implement these benchmarks more comprehensively in future demand reduction campaigns and thus improve how social marketing is used in the context of the illegal wildlife trade.

While our results have limitations in scope given the number of organization that either declined to participate or were not responsive, this shortcoming is mitigated by the heterogeneity of the organizations in our sample. These include organizations working at both the national and international level and with a focus on the wildlife trade but also broader biodiversity conservation. Thus, we believe we have captured a representative picture of the demand reduction efforts in China and Vietnam for elephant ivory and rhino horn.

The use of social marketing in demand reduction campaigns. Customer orientation and segmentation were the two most comprehensively integrated social marketing benchmarks. Yet the evidence base on which these are implemented is often dominated by conventional wisdom and personal experience. However, this may be changing with Olmedo, Sharif, and Milner-Gulland's (2017) finding that conservation NGOs are increasingly using market research companies to better understand their target audiences. It is worth noting, in this context, the tendency for practitioners to focus on undefined groups, often described as the "general public," largely due to the perceived urgency to change society as a whole and not waste time focusing only on one group, something that is a broader trend across biodiversity conservation (Kanagavel, Raghavan, & Veríssimo, 2014). Also, despite the widespread focus on children as social influencers, the evidence is mixed as to their efficacy, with little evidence from the field of biodiversity conservation available and research from other fields showing that this influence is dependent on product categories and parenting styles, among other factors (Mangleburg, 1990).

As detailed above, there was a focus on personal experience and anecdote when it came to the use of actionable audience insights and behavioral theory. Regarding the former, it is worth highlighting the use of social media as a new source of audience information, although it should be noted that it is likely that those who follow conservation NGOs on social media are substantially different psychographically to the consumers conservationists are hoping to influence, which means insights derived in this way are likely to be biased. Regarding the latter, some practitioners also questioned the validity of existing theories given their origins in a Western cultural paradigm. This is an issue that has received limited consideration in the conservation science and social marketing literature, although there are reasons to believe that there are important differences, which should be further explored (Chuang, Hsu, Wang, & Judge, 2015).

These cultural differences were highlighted by practitioners also in the context of framing campaigns as exchanges, with some campaigns emphasizing personal benefit while others focused on the national and collective benefits, a focus that may be most adequate in East Asia where societies are more collectivist (Kastanakis & Voyer, 2014). The challenge of framing environmental social marketing campaigns as exchanges is that in contrast with sectors such as public health, where the benefit is clear and accrues to the individual making the change, benefits from biodiversity conservation are often diffuse and accrue to society as a whole.

There was limited evidence of a focus on behavior when determining the goals of a demand reduction campaign, a limitation likely driven by the misguided but persisting belief that simply generating awareness will eventually lead to behavioral changes (Kelly & Barker, 2016). Nonetheless, even when it comes to these weaker indicators, most demand reduction campaigns do not have measurable goals, which makes them difficult to evaluate and use as learning opportunities (Olmedo et al., 2017).

In terms of methods mix, there was an overemphasis on promotion, particularly coupled with mass media, which reinforces the widely documented idea that biodiversity conservation is seen by practitioners as a crisis discipline, where action must happen immediately and reach should be maximized, an emphasis that is linked with the focus on awareness described above (Curzon & Kontoleon, 2016). It should be nonetheless highlighted the multiple references to place in the form of influencers, such as religious leaders, although as highlighted for other benchmarks, their participation in demand reduction campaigns is rarely evidence-based (Duthie, Veríssimo, Keane, & Knight, 2017). Lastly, there was no consideration of competition when designing demand reduction campaigns, something that is a concern particularly for luxury products such as rhino horn and elephant ivory, where the competition for relevant audience segments is likely to be fierce, making changes in consumer behavior harder to achieve. One aspect not emphasized by practitioners was the potential for substitute products, although the commercialization of synthetic rhino horn has been debated for years (Pandika, 2017). This could be because this topic remains extremely divisive among conservationists, with many that substitutes promote demand for the product as a whole, and with consumers still having a preference for the wild-sourced product, poaching could increase (Pandika, 2017).

Challenges and opportunities for future demand reduction campaigns. One emerging theme was the need to broaden the groups targeted by demand reduction campaigns to also encompass those who have direct and indirect influence on the supply and consumption of elephant ivory and rhino horn. Considering the social context around the target audiences is likely to be important in achieving and sustaining behavioral change, and several demand reduction campaigns are increasingly using key opinion leaders to try to influence consumers of wildlife products (Duthie et al., 2017). Notwithstanding, the evidence base on the identification and strategic use of key opinion leaders for behavior change in biodiversity conservation is currently very thin (Duthie et al., 2017), which means that more research is needed to evaluate whether the current use of key opinion leaders is effective.

In line with this, practitioners also recognized the need for in-depth consumer research to guide campaign design. Given how central the understanding of the target audience is for any social marketing initiative, it is clear that rigorous consumer research is a cornerstone of any effective campaign. Practitioners also emphasized the need for consumer research to be carried out by independent bodies, rather than conservation NGOs, as a way to deal with the social desirability that could influence research outcomes. While this is an important issue, it is likely that simply dealing with this aspect of social desirability will not be enough to be able to elicit robust estimates of the use of many of the key wildlife trade products, given how socially sensitive these behaviors can be. The use of specialized techniques will likely be needed to obtain robust estimates of behavior prevalence, particularly in situation where the behavior is also illegal (Nuno & St John, 2015).

It was also argued that demand reduction efforts were hampered by constraints of time, skill set, and funding. Practitioners repeatedly described that campaign impacts needed to be felt in the short term if they are to succeed in protecting elephants and rhinos. This was felt to contrast with the length of time required to design and deliver impactful behavioral change campaigns. In terms of skill set, none of the campaigners described themselves as a trained marketer, or experts in human behavior, with most having a scientific background in natural sciences. They felt this had an impact on both relevant skills and personal motivation for executing social marketing campaigns. Funding concerns were also a consistent challenge in terms of competing organizational priorities, funds available for more rigorous consumer research, and for building staff capacity.

Promoting more substantive institutional collaboration was seen as a potential way to tackle the lack of resources described above and improve our understanding of the dynamic social and cultural context in which demand reduction campaigns are involved. By sharing data, insights, and learning from past experience, NGOs could not only avoid duplication of effort but develop synergies between demand reduction efforts, by, for example, using messages that build on each other or by using unified branding elements that incrementally increase the recognition of these campaigns by the target audiences. The private sector could also play an important strategic role, both through working with market research companies to carry out consumer research and with establish social marketing professionals to improve the use of behavioral insights in campaign design. Academics could also be important partners in addressing the constraints around the need for high-quality research and the limitations around social science expertise, aiming to build staff capacity that allows for longer term impact beyond a single campaign.

Reducing demand for illegally trade wildlife products remains a daunting challenge but is also the only long-term solution to stop this global threat. Social marketing has proven in areas such as public health that it can be a valuable framework to drive behavior change (Stead et al., 2007), but its key principles should be fully adhered to if we are to increase our chances of success, particularly on high-value products such as elephant ivory and rhino horn. Future research should focus on rigorously evaluating the impact of past demand reduction campaigns to derive learning insights that can inform future demand reduction interventions.

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