A RADIO DRAMA FOR APES? AN ENTERTAINMENT-EDUCATION APPROACH TO SUPPORTING APE CONSERVATION THROUGH AN INTEGRATED HUMAN BEHAVIOUR, HEALTH, AND ENVIRONMENT SERIAL DRAMA

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Abstract

This is a report on how Population Media Center (PMC), based in the state of Vermont in the USA, developed a Swahili-language entertainment-education programme in the Democratic Republic of Congo (DRC) to support attainment of measurable objectives in the Jane Goodall Institute's (JGI) 2012-2022 Conservation Action Plan (CAP) for the Eastern DRC. The PMC initiative consisted of a 156-episode radio serial drama titled *Pambazuko* ("New Dawn") that aired from February 2016 to August 2017. *Pambazuko* was one of three unique serial dramas broadcast in the DRC by PMC, the other two being *Vivra Verra* ("Time Will Tell") in French and *Elembo* ("Footprint") in Lingala.

The Project

CAPs have been used for decades by traditional, on-the-ground conservation teams to develop focused strategies and measures of success related to environmental conservation objectives. Social and behaviour change communication (SBCC) and entertainment-education (EE) interventions are starting to now be included as programmatic communications support for CAPs. This partnership between JGI and PMC highlights a growing recognition within the conservation community that 1) affecting human behaviour is essential to success of environmental conservation efforts, and 2) mass-media SBCC is an important and tactically needed tool in shifting human behaviours - at scale - in support of conservation efforts. In this instance, the focus was great ape conservation, but the whole field of conservation is currently undergoing a paradigm shift - moving to expand and strengthen the long-standing model of maintaining protected areas via a strategic inclusion of human communities adjacent to or otherwise impacting the viability of said protected areas.

The goal of the DRC CAP is viable populations of Grauer's gorillas, an endemic species, and chimpanzees in eastern DRC and their ecological diversity, together with the integrity and viability of their habitat, are ensured by the commitment of communities and authorities at all levels, forming a source of national pride.

PMC's *Pambazuko* drama supported JGI's CAP strategies of "raising awareness and involving the population in conservation," and "enforcing law within the landscape". With technical advisement from JGI, PMC's creative team designed storylines that addressed deforestation and reforestation, encroachment into national park areas, and the consumption of non-bush meat diets (to reduce actual and perceived market demand for bush meat and hence reduce the incentive to hunt the apes).

In terms of CAP's strategy of "enforcing law within the landscape" *Pambazuko* promoted awareness and respect of DRC's laws on great ape protection and modelled attitudes against poaching. Other storylines included maternal and reproductive health, family planning, primary and girls' education, early marriage, gender-based violence, and child protection. PMC's multi-issue drama design strategy allows dramas to illuminate the relationships between social, health, and environmental issues for the audience.

The drama helped to raise public awareness on many issues, including family planning, reproductive health, gender-based violence, and nature conservation - in particular, conservation of the habitats of the great apes and chimpanzees, and prevention of poaching of these endangered animals. "Nature conservation is the business of all" was our tagline in epilogues for episodes that featured specific scenes related to nature conservation.

The story of Jaribu, one of the transitional characters in *Pambazuko*, illustrates how change can happen. Twenty-year-old Jaribu transforms from being a person who engages in negative and illegal activities to a nature conservation champion. Jaribu lives in poverty and is under the influence of Pili Pili, his friend (and negative character). Jaribu has been a poacher and illegal trafficker of natural resources and prohibited species. After many setbacks in this life, and thanks to the good advice and influence of his sister Feza, Jaribu gives up his evil ways and not only finds work as a ranger, but becomes involved with an organisation involved with the protection of nature.

A national multi-stage cluster cross-sectional survey, representative of the target population, stratified by rural/urban residence and province was conducted with a total sample of 2545 reproductive aged individuals (52% women [n=1319], 48% men [n=1226]) between September and December 2017.

The survey collected information on demographic factors and key programmatic indicators, as well as measures of respondent's exposure to the radio serial drama. Changes in knowledge, attitudes, and behaviours on key programme indicators as a result of exposure to the radio serial drama were evaluated by comparing listeners (listened one or more times per week) and non-listeners to the radio serial drama.

Multivariate comparisons were made by using odd ratios generated from logistic regressions to determine whether differences are statistically significant

after controlling for potentially confounding factors such as sex, age, number of children, marital status, education, residence, and religion.

Ever heard of *Pambazuko*: 30%

- Regular listenership (listened one or more times weekly): 16%
- Estimated more than 680,000 Congolese heard of *Pambazuko*
- Estimated more than 350,000 Congolese regularly listened to *Pambazuko*
- Cost per regular listener: $2.86

Family Planning Indicators

When asked, "Do you think that most people in your community use family planning to delay or avoid pregnancy?" almost one out of two listeners (48%) vs. 32% of non-listeners responded "Yes" (differences are statistically significant, p<.001). When asked, "Do you think that most people in your community use family planning to delay or avoid pregnancy?" listeners were 1.8 times more likely than non-listeners to respond "Yes" (adj. odds ratio = 1.774 [CI=1.420-2.217], p<.001, controlling for sex, age, number of children, marital status, education, residence, and religion).

More than one out of five listeners (22%) vs. 13% of non-listeners said that their ideal family size is three children or fewer (differences are statistically significant, p<.001). Listeners were 1.8 times more likely than non-listeners to say that their ideal family size is three children or fewer (adj. odds ratio = 1.762 [CI=1.274-2.438], p<.001, controlling for sex, age, number of children, marital status, education, residence, and religion).

More than one out of two listeners (51%) vs. 41% of non-listeners said that they were currently doing something to delay or avoid a pregnancy (differences are statistically significant, p<.003). Listeners were 1.4 times more likely than non-listeners to say that they were currently doing something to delay or avoid a pregnancy (adj. odds ratio = 1.354 [CI=1.0111-1.811], p<.042, controlling for sex, age, number of children, marital status, education, residence, and religion).

When asked, "Do you think you will use a contraceptive method to delay or avoid pregnancy in the next six months?" almost two out of three listeners (58%) vs. 38% of non-listeners responded "Yes" (differences are statistically significant, p<.001). When asked, "Do you think you will use a contraceptive method to delay or avoid pregnancy in the next six months?" listeners were 2 times more likely than non-listeners to respond "Yes" (adj. odds ratio = 2.030 [CI=1.617-2.548], p<.001, controlling for sex, age, number of children, marital status, education, residence, and religion).

Environmental Protection Indicators

When asked, "What do you think are the causes of environmental degradation?" almost three out of four listeners (74%) vs. 62% of non-listeners responded

"Deforestation" (differences are statistically significant, p<.001). When asked, "What do you think are the causes of environmental degradation?" listeners were 1.8 times more likely than non-listeners to respond "Deforestation" (adj. odds ratio = 1.751 [CI=1.361-2.253], p<.001, controlling for sex, age, number of children, marital status, education, residence, and religion).

Almost seven out of ten listeners (69%) vs. 52% of non-listeners stated that they strongly agree with the statement "Someone who kills, sells, buys, transports or detains a chimpanzee or gorilla can be imprisoned" (differences are statistically significant, p<.001).

Listeners were 1.9 times more likely than non-listeners to state that they strongly agree with the statement "Someone who kills, sells, buys, transports or detains a chimpanzee or gorilla can be imprisoned" (adj. odds ratio = 1.895 [CI=1.497-2.400], p<.001, controlling for sex, age, number of children, marital status, education, residence, and religion).

Almost three out of five listeners (56%) vs. 45% of non-listeners stated that they strongly agree with the statement "Having a small family size will have less impact on the environment" (differences are statistically significant, p<.001). Listeners were 1.4 times more likely than non-listeners to state that they strongly agree with the statement "Having a small family size will have less impact on the environment" (adj. odds ratio = 1.385 [CI=1.109-1.729], p<.004, controlling for sex, age, number of children, marital status, education, residence, and religion).

More than one out of three listeners (66%) vs. 59% of non-listeners stated that they strongly agree with the statement "Protecting the habitat of gorillas and chimpanzees is good for my community" (differences are statistically significant, p<.004). Listeners were 1.3 times more likely than non-listeners to state that they strongly agree with the statement "Protecting the habitat of gorillas and chimpanzees is good for my community" (adj. odds ratio = 1.311 [CI=1.038-1.657], p<.023, controlling for sex, age, number of children, marital status, education, residence, and religion).

When asked, "Have you been involved in protecting animal species such as gorillas and other species in danger of extermination during the past year?" almost one out of ten listeners (9%) vs. 3% of non-listeners responded "Yes" (differences are statistically significant, p<.001). When asked, "Have you been involved in protecting animal species such as gorillas and other species in danger of extermination during the past year?" listeners were 2.9 times more likely than non-listeners to respond "Yes" (adj. odds ratio = 2.860 [CI=1.847-4.430], p<.001, controlling for sex, age, number of children, marital status, education, residence, and religion).

When asked, "Have you been involved in protecting the forest in your community during the past year?" almost one out of five listeners (19%) vs. 10% of non-listeners responded "Yes" (differences are statistically significant, p<.001). When asked, "Have you been involved in protecting the forest in your community during the past year?" listeners were 2 times more likely than non-listeners to respond "Yes" (adj.

odds ratio = 1.964 [CI=1.460-2.642], p<.001, controlling for sex, age, number of children, marital status, education, residence, and religion).

Cost Effectiveness of Behaviours Impacted

Family Planning and Reproductive Health
- Condom use: $8.66 (US)
- Spousal discussion of family planning: $9.58 (US)
- Modern contraceptive use: $13.73 (US)
- Female condom use: $20.40 (US)

Environment
    Protected animal species (gorillas & chimpanzees) in danger of extermination during the past year: $8.16 (US)
- Cooked with improved cook stoves during the past year: $13.35 (US)
- Planted of trees in the forest during the past year: $13.73 (US)
- Protected the forest in their community during the past year: $13.73 (US)
- Talked to my neighbour about climate change during the past year: $23.41(US)
- Took measures to adapt to climate change during the past year: $25.50 (US)

As mentioned previously, PMC produced two other radio serial dramas in DRC during the same period. The French language programme, *Vivra Verra* ("Time Will Tell") aired nationally on Radio Okapi from September 2014 to March 2016. *Elembo* ("Footprint" in Lingala) was broadcast from February 2015 until August 2016 over 11 community radio stations in three provinces including the capital Kinshasa.

As with *Pambazuko*, summative/end line evaluation surveys were used to assess the effects of listening to the dramas by the target population on key programmatic indicators. The end line study for the French language drama was conducted by the *Centre de Communication et d'education pour la Santé* (CESD), a Congolese independent research firm, in May 2016. The population-based representative sample consisted of 4000 reproductive-age women (15-49) and men (15-59) residing in four geographical regions of the country (East, West, North, and South).

The end line study for the Lingala drama was conducted by Forcier Consulting DRC in September/October of 2016 with a representative sample of 1920 reproductive aged women (15-49) and men (15-59) from the three broadcast regions in the Democratic Republic of the Congo (DRC) for this drama, namely Equateur, Kinshasa, and Tshopo.

In addition to being representative of the target population, all impact evaluation studies employed multi-stage cluster cross-sectional survey designs, stratified by rural/urban residence. The surveys collected information on demographic factors,

key programmatic indicators, and measures of respondent's exposure to and perceptions of the radio serial dramas.

Desired Family Size

The number of children desired among men aged 15-59 dropped from 7.2 children by more than one child for all the three radio serial dramas, *Vivra Verra* (1.21), *Elembo* (2.63), and *Pambazuko* (1.41). Among women aged 15-49, the number of children desired also dropped but by a lesser amount: from 6.1 children to 5.72 children for *Vivra Verra*, 4.11 children for *Elembo*, and to 5.52 for *Pambazuko*. The greater magnitude in the decline in ideal family size among men can be attributed to the fact that the number of children they desired (7.2) at baseline was much higher than among women (6.1), allowing more room for progress.

Contraceptive Prevalence

The percentage of women using any form of contraception rose from 20.4 percent at baseline to about 50 percent for *Vivra Verra*, 65 percent for *Elembo*, and to about 39 percent for *Pambazuko*.

Vivra Verra
- Listeners were 3 times more likely than non-listeners to agree that adolescents should wait till marriage before having sexual intercourse, p<.001 controlling for various demographic characteristics.
- Listeners were 2.9 times more likely than non-listeners to say that they are able to purchase a female condom if they wanted to, p<.001 controlling for various demographic characteristics.
- Listeners were 2.3 times more likely than non-listeners to say that they know of a place to obtain a male condom, p<.026 controlling for various demographic characteristics.
- Listeners were 1.8 times more likely than non-listeners to say that they are able to purchase a male condom if they wanted to, p<.002 controlling for various demographic characteristics.
- Listeners were 1.7 times more likely than non-listeners to say that they can negotiate condom use with their sexual partner, p<.035 controlling for various demographic characteristics.
- Listeners were 3.5 times more likely than non-listeners to think that a couple has the right to determine the number of children to have, p<.004 controlling for various demographic characteristics.
- Listeners were 2.3 times more likely than non-listeners to say they did so for limiting the number of children as opposed to just spacing pregnancies, p<.006 and controlling for various demographic characteristics.

- Listeners were 2.3 times more likely than non-listeners to say that they think it is possible to have exactly the number of children one desires, $p<.005$ controlling for various demographic characteristics.
- Listeners were 2.2 times more likely than non-listeners to say they visited a health institution in the past 12 months to obtain information about the secondary effects of modern family planning methods, $p<.006$ controlling for various demographic characteristics.
- Listeners were two times more likely as non-listeners to say that in their own opinion, pregnancies late in the reproductive cycle can result in negative health effects for the mother, $p<.017$ controlling for various demographic characteristics.
- Listeners were 1.7 times more likely than non-listeners to say they think they would use a contraceptive to prevent pregnancy in the future, $p<.042$ controlling for various demographic characteristics.
- Listeners were 2.8 times more likely than non-listeners to state that at least one pregnant women slept under a mosquito net the night before, $p<.044$ controlling for various demographic characteristics.
- Listeners were 2 times more likely than non-listeners to say "both of them collectively" when asked "Who should be responsible for financial decisions of the family, the husband, wife or both of them collectively?", $p<.045$ controlling for various demographic characteristics.

Elembo
- Listeners were 4.9 times more likely than non-listeners to say "Education of the children" when asked "For what reasons do you generally approve of family planning?", $p<.044$ controlling for various demographic characteristics.
- Listeners were 2.7 times more likely than non-listeners to say "Mother-in-law" when asked "With whom have you discussed the practice of family planning?", $p<.038$ controlling for various demographic characteristics.
- Listeners were 1.8 times more likely than non-listeners to say "Limiting the number of children" as a reason to approve of family planning, $p<.044$ controlling for various demographic characteristics.
- Listeners were 1.8 times more likely than non-listeners to say "Myself" when asked "Who usually makes decisions regarding your own health, you, your spouse/partner, both of you, or others?", $p<.027$ controlling for various demographic characteristics.
- Listeners were 1.8 times more likely than non-listeners to say "No" when asked "In your opinion is it legitimate for a husband/spouse to beat a wife/partner if she refuses to have sex with him?", $p<.036$ controlling for various demographic characteristics.
- Listeners were 2.4 times more likely than non-listeners to say "Deforestation" when asked what are the causes of environmental degradation, $p<.001$ controlling for various demographic characteristics.

Conclusion

These results show that SBCC and EE can have a significant impact in supporting ecological conservation programmes and other contemporary environmental challenges that can be reduced by changing individual human behaviours and social norms.

The results show that EE dramas can help to shift norms, change behaviours, and amplify voice around various environmental and conservation objectives. This highlights the intersectionality and synergies between the well-established, but still growing, field of Population, Health, Environment (PHE) programming and entertainment-education.

PHE programmes already offer an integrated approach to solving human development and conservation challenges through improving access to health services (including family planning and reproductive health), helping people improve livelihoods, manage natural resources, and conserve the critical ecosystems on which they depend.

This paper shows how EE and targeted SBCC approaches can further expand PHE impacts. Increasingly, conservation practitioners are coming to appreciate that the challenges they are confronting demand the use of strong but nuanced communication strategies that effectively motivate large-scale target audiences. Human action is increasingly being recognised as a powerful piece of the solution, and not just the problem. This paper shows how the SBCC field has embraced the challenge, along with the conservation sector, of shifting human attitudes and behaviours in an effort to overcome some incredibly difficult environmental challenges.

Such efforts help to make the SBCC/EE community more aware of the growing potential to partner with major conservation/environmental players. In their seeking for proven effective approaches to affecting social and behaviour changes relating to environmental protection, the conservation sector is quietly entering the SBCC realm. SBCC/EE implementers now have the opportunity to accelerate this transition and help direct significant investment and planning efforts to put our planet on a sustainable and healthy path.

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