



Project Cane Changer

Tapping into Farmers' Identities to Protect the Great Barrier Reef

Challenge

The Great Barrier Reef off the coast of Queensland, Australia is the world's largest coral reef system. Among the UNESCO World Heritage sites, it is one of the most extraordinary natural wonders of the world. Unfortunately, climate change and unsustainable agricultural practices threaten its existence.

Excess runoff from sugarcane farms into the Great Barrier Reef is one of the main factors impacting its health. This runoff occurs when the farmers' synthetic fertilizers seep into the waterways and flow into the ocean. In recent decades, the Australian government has tried to encourage farmers to modify their practices through enacting laws and offering economic incentives. Despite these efforts, change has been slow and insufficient.

In response, the Queensland government funded Project Cane Changer to apply a behavioral science approach. Project Cane Changer works with sugarcane farmers to accelerate the adoption of positive farming practices that improve water quality and protect the Great Barrier Reef.

Targeted Behavior

Sugarcane farmers adopt sustainable agricultural practices such as reduced use of chemical fertilizers and improved irrigation and drainage.

Behavioral Solution

To change sugar cane farmers' behaviors around fertilizer application (also called nutrient management), Project Cane Changer boosts participation in an industry-owned initiative that accredits farmers in sustainable sugarcane farming methods called "Smartcane Best Management Practices" (BMP). Cane Changer holds trainings with farmers, their families, and industry experts to promote Smartcane BMP and build their capacity for making sustainable improvements.

Cane Changer's slogan, "Setting the Record Straight," taps into the farmers' desire to be perceived positively and counters the negative perception that they are harming the Great Barrier Reef. By positioning farmers as guardians of the Great Barrier Reef, Project Cane Changer helps create a sense of positive commitment among sugar cane farmers to maintain their stewardship of the reef. Leveraging positive emotion and making the campaign personally relevant to farmers is a clear example of using emotional appeals.

Results

- An approximate 480% increase in adoption of BMP throughout active project areas, which translates to more than 49,000 hectares of sugarcane, the equivalent of 49,000 football fields.
- 48% of the Wet Tropics cane area is now accredited under Smartcane BMP, compared to only 14% before Project Cane Changer began in 2016.
- 285 growers have been newly accredited in Smartcane BMP.
- 2 Queensland Ministers for the Great Barrier Reef have signed contracts to engage in more positive communication with the sugarcane industry.

The Science: Why Emotional Appeals are Effective



Cane Changer’s campaign uses emotional appeals by [personalizing the message](#). The organizers understood that sugarcane farmers cared about being seen in a positive light and not wrongly vilified for harming the Great Barrier Reef, and they crafted a campaign slogan that reflected this insight. The Cane Changer campaign helped the farmers to “set the record straight” and construct a positive social identity, thereby reinforcing the farmers’ commitment to maintain the sustainable agricultural behaviors.

The Cane Changer team also correctly identified that being a farmer and residing near the Great Barrier Reef was central to the identity of the sugarcane farmers. Cane Changer’s research revealed that feeling a part of the community of sugarcane growers was positively correlated with a desire to improve farming practices.¹ Additionally, research indicates that sense of place among residents of Great Barrier Reef area is tied to their positive attitudes and decisions towards the natural environment.²

In tandem with catering to the sugarcane farmers’ identities, Cane Changer’s campaign also fosters a sense of self-efficacy. Self-efficacy is the belief in one’s own ability to succeed in situations or solve challenges at hand.³ Instilling confidence in the farmers’ abilities to protect the Great Barrier Reef was critical to Cane Changer’s success. Research suggests that the degree to which people feel that their actions can influence their environment is directly tied to their willingness to change their behavior.⁴ When people do not feel that their behavior will have an impact, they are less likely to change.⁵ Through trainings and communications that promote the Smartcane BMP program, Cane Changer highlights specific cane growing practices that are within farmers’ control, thereby boosting their sense of self-efficacy and willingness to transition to more sustainable behaviors. Cane Changer helps to demonstrate how emotional appeals can be utilized to help drive behavior change and environmental outcomes.

1 Pickering J., Hong J., Stower R.E., Hong D., Kealley M. (2018). Using psychology to understand practice change among sugar cane growers. *Rural Extension and Innovation Systems Journal* 14: 62–72

2 Larson S., De Freitas D., Hicks C. (2013). Sense of place as a determinant of people’s attitudes towards the environment: implications for natural resources management and planning in the Great Barrier Reef, Australia. *Journal of Environmental Management* 117:226-234

3 Bandura, A. (2004). ‘Social cognitive theory for personal and social change by enabling media’, in *Entertainment-education and social change: History, research, and practice*, eds A Singhal, MJ Cody, EM Rogers, M Sabido, Lawrence Erlbaum, Mahwah, pp. 75-96

4 Pickering, J., Hong, J., Stower, R.E., Hong, D., & Kealley, M. (2018). Using psychology to understand practice change among sugar cane growers.

5 Bandura, A. (1977), *Social learning theory*, Prentice Hall, Englewood Cliffs.