A Social Marketing Approach to Environmental Education for Extreme Drought in Brazil

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Background

- Brazil retains 15% of the world's freshwater supply, yet many of its states still experience severe drought
  - Connected with pervasive deforestation, poor land management in the Amazon and Atlantic Forest
- Interior of São Paulo state is critical for conservation
  - Private lands retain Atlantic Forest fragments and water sources that charge the Cantareira Reservoir System, which provides water to over 8 million people
  - IPÊ—Instituto de Pesquisas Ecológicas assists landowners with land management, including government-demanded reforestation to protect water resources
- Drought is a complex and increasingly common socio-environmental problem
  - People's education, life views, and behavior shape their understanding of drought
  - These factors may influence landowners' decision making with regards to protection of water resources

Landowners must navigate government regulations, climatic changes, and dynamic economic opportunities

Forest Code demands protection of streams and springs; rural properties must register through government system

- Community-based Social Marketing (CBSM) provides a framework to identify barriers and benefits of adopting certain behaviors and develop programs that reflect the target audience's needs

MDP Practicum Objectives

- Demonstrate advantages of CBSM to improve environmental education and extension programs at IPÊ
- Understand rural landowners' perceptions of current drought, as well as their needs for improved land management, via the CBSM process
- Incorporate findings from CBSM process into IPÊ's environmental education and extension activities
- Foster the growing partnership between IPÊ and UF's Tropical Conservation and Development Program

Can Community-based Social Marketing help IPÊ tailor environmental education programs to the needs of rural landowners?

Methods

The project employs an adapted approach to CBSM to allow for the identification of key barriers and benefits of rural landowners adopting selected behaviors in the municipalities of Nazaré Paulista, Piracaia, and Joanópolis

Pragmatic, mixed-methods approach to capture both qualitative and quantitative data

Field work occurring over two periods: 1) August-December of 2015 and 2) Summer (May-June) 2016

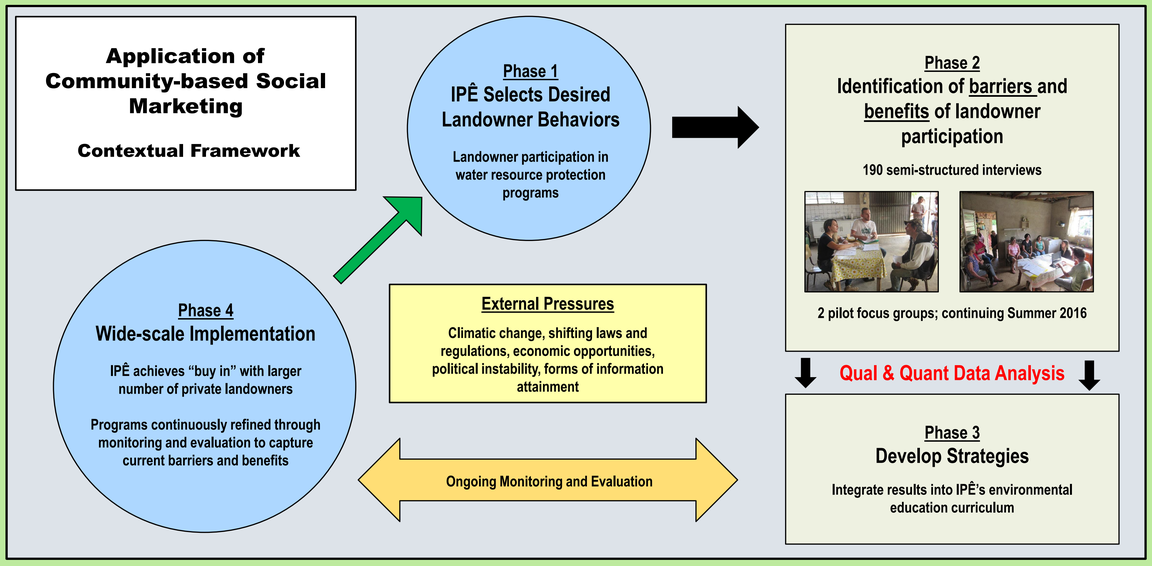
August-December 2015

- 190 semi-structured interviews with landowners using Magpi smartphone app
- Two exploratory, recorded focus groups in Joanópolis
  - One group of men, one group of women

Summer 2016

- Will conduct four modified focus groups (two in Nazaré, two in Piracaia), incorporating lessons learned from pilot and the analysis of interview responses
- Will work with IPÊ to incorporate findings into environmental education curriculum

State of São Paulo	Nazaré Paulista	Piracaia	Joanópolis
Coat of Arms			
Est. Population Size (2015)	17,794	26,688	12, 725
No. Interviews	42	63	85
No. Focus Groups	Summer 2016	Summer 2016	2 (pilot)



Analysis

- Quantitative: R Studio dedicated statistics software
- Qualitative: Framework analysis, sorting focus group responses into themes and sets of ideas
- Curriculum review with IPÊ's environmental educators, identifying opportunities to better capture the current needs of rural landowners

Implications of Study

- Cantareira's water levels recovering in 2016, but climatic uncertainty carries potential of continued drought
- Project findings may refine IPÊ's environmental education objectives as pressures increase and land-use decision making becomes more complex

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