



# Dry promotions and community participation: Evidence from a natural field experiment in Brazilian fishing villages



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## ARTICLE INFO

### Article history:

Received 19 December 2013

Received in revised form 8 April 2015

Accepted 21 April 2015

Available online 15 May 2015

### JEL classification:

C93

O33

### Keywords:

Behavioral economics

Community participation

Common pool resource

Cooperation

Natural field experiment

Promotions

## ABSTRACT

This paper investigates the role of dry promotions for community participation in eight Brazilian fishing villages. We randomly promoted some fishermen to assistants before the start of an environmental program, increasing their responsibilities but not providing any monetary compensation. Thereafter, we study whether they engage more in conservation behavior during this program. The data shows that promoted fishermen provide substantially more effort, which suggests that such promotions may be a cost-effective tool to stimulate cooperation and community participation.

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## 1. Introduction

The management of common pool resources challenges resource users, managers, and policy makers on all continents. Probably most rival and non-exclusive resources such as fisheries and forests are overexploited and many are already depleted. Yet, there is hope that more common pool resources can be sustained than predicted by standard economic theory (Hardin, 1968). The seminal works by Ostrom (1990, 2000, 2010) and others (Baland and Platteau, 1996; Berkes and Folke, 1998; National Research Council, 2002) provide numerous examples of successful community management and suggest that community participation is crucial for resource users to cooperate in sustaining resources.

While there is also evidence for mixed success of community participation, it seems that early involvement of beneficiaries is crucial (Olken, 2007; Banerjee et al., 2010; Duflo et al., 2014). For this reason we investigate a potential novel tool to immediately stimulate community participation: *dry promotions*.<sup>1</sup> By dry promotions we mean promotions that affect the position within a hierarchy, may affect responsibilities, but do not involve material benefits. Yet, like non-monetary gifts (Falk, 2008) or awards (Kosfeld and Neckermann, 2011) they may still increase recipients' cooperativeness if they trigger reciprocity (Rabin, 1993; Fehr et al., 1997; Charness and Rabin, 2002; Dufwenberg and Kirchsteiger, 2004) or increase social status (Ball et al., 2001; Auriol et al., 2008; Arieli et al., 2009).

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<sup>1</sup> Dry promotions are common in academia. For example, the promotion to Head of Department typically increases responsibilities but not salary.

We experimentally investigate the impact of dry promotions on community participation during an environmental program that we implemented in eight traditional fishing villages in Brazil. One main goal of this environmental program was to start mitigating overfishing by familiarizing fishermen with a different catch technology. To initiate this process, the program provided all participants with materials to manufacture new shrimp traps that exploit shrimp resources less than the shrimp traps that they typically used. Already before the start of this environmental program, we randomly promoted approximately one-third of the participants to ‘assistants’. Assistants received a certificate and a telephone card. Their only task was to give this telephone card to other participants who wanted to get in touch with us. As the setting is remote and many participants did not have cellphones, we could in this manner enable participants to get in touch with us in a timely manner and assign a responsibility in a natural manner. We measure the participants’ engagement in conservation behavior by the quantity of shrimp traps that they manufactured. Our conjecture is that promoted participants participate more in community management and consequently manufacture more shrimp traps.

We find indeed that the promotion substantially increased engagement in conservation behavior. Fishermen, who were promoted manufactured *on average* 23% more traps and provided in total approximately 12 h more community work than fishermen who were not promoted. In addition, we find suggestive evidence that the efficacy of the promotion depends on the participants’ environmental perceptions and that optimistic environmental perceptions about mitigating overfishing are important for the promotion to have an impact.

To the best of our knowledge this is the first experimental study on the relevance of dry promotions for cooperation, community participation, and community resource management. Our study contributes to the literature on community resource management (Baland and Platteau, 1996; Agrawal, 2001; Cavalcanti et al., 2013) and may be of practical relevance for researchers, policy makers, and managers interested in tools to increase the effectiveness of community participation (Olken, 2007; Banerjee et al., 2010; Chavis, 2010; Labonne and Chase, 2011; Bjorkman and Svensson, 2009; Duflo et al., 2014).

Our study is also related to the literature on gifts (Al-Ubaydli et al., 2006; Gneezy and List, 2006; List, 2006; Alpizar et al., 2008; Falk, 2008; Bellemare and Shearer, 2009; Kube et al., 2012) and awards (Kosfeld and Neckermann, 2011), and empirical and theoretical work on status and social recognition (Besley and Ghatak, 2008; Ariely et al., 2009). This literature suggests that gifts and awards can motivate agents to overcome free-riding incentives because many individuals are reciprocal and strive for social recognition or social status.<sup>2,3</sup> Our dry promotion also likely benefits from these two behavioral responses. One important difference between gifts and promotions is that gifts in contrast to promotions are unlikely to affect social status.<sup>4</sup> One important difference between awards and our promotion is that awards are distributed based on merit whereas our promotion was distributed based on luck – it was a randomly allocated positional good.<sup>5</sup>

Importantly, these differences render it possible that such random promotions are applicable in different circumstances than gifts and awards. They may be particularly useful when there is little information available about individual achievements (thus the implementation of awards is difficult), social status plays an important role (thus the distribution of gifts may not trigger an optimal response), and no funds are available for costly awards or gifts. Such environments are probably not unusual when external actors help implementing social programs whose success depends on community participation.

## 2. Field setting, environmental program and natural field experiment

### 2.1. Field setting

The field setting for this natural field experiment on dry promotions and community management is in northeastern Brazil in the state of Bahia. We study community management in eight small traditional fishing villages that are located around a lake. Fishing is the main profession in these villages and provides the fishermen with income and nutrition. Many fishermen focus on catching shrimp. Fishermen go fishing the whole year and for typically six days per week. Shrimp are a common pool resource and there is open access to the shrimp resources. There are no legal regulations with regard to the catching of shrimp.

The shrimp population in this lake appears to be in dramatic decline. Many fishermen are concerned about overfishing and can in recent years barely support livelihood needs. Many are convinced that the excessive use of shrimp traps called ‘Garrafas’ has significantly contributed to this decline. Garrafas are traps made of plastic bottles in which all sizes of shrimp; i.e. small, infertile, and fertile shrimp are caught. This type of trap was introduced in the 1980s and has replaced the more traditional ‘Cofos’ trap. Cofos are traps made of bamboo of palm tree stem and proper roots in which in comparison to the

<sup>2</sup> However, this evidence also suggests that gifts and awards do not always trigger the desired behavior (Al-Ubaydli et al., 2006; Gneezy and List, 2006; List, 2006) or only marginally (Alpizar et al., 2008).

<sup>3</sup> The evidence comes from laboratory and field studies showing that gifts and awards can sometimes motivate employees to provide more effort for their employers or motivate individuals to donate more. We are not aware of any study investigating the power of gifts and awards for community participation and community resource management.

<sup>4</sup> It seems plausible that gifts that significantly increase material wealth also affect social status if individuals associate material wealth with social status. However, the studies on gifts typically use gifts of very low material value that are very unlikely to significantly affect material wealth.

<sup>5</sup> Although participants were promoted based on luck, the promotion may still trigger reciprocity (as receiving a certificate can arguably even in the absence of intent be interpreted as a kind action) and affect social status as social status can be achieved or ascribed.

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