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Understanding why landholders choose to participate or withdraw from conservation programs: A case study from a Queensland conservation auction $\stackrel{\circ}{\sim}$

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ABSTRACT

Ensuring adequate participation by private landholders in a conservation scheme is a challenge for program managers around the world. This paper uses a case study of the Vegetation Incentives Program from Queensland, Australia, to contribute additional information to the literature on influences on participation in conservation, and to offer insight into ways to improve program design to optimise participation. The research is particularly of interest to programs that include a tender mechanism or conservation covenant in their designs. Participation in the Vegetation Incentives Program was limited outside two small geographic areas, with the result that the budget was not expended. A survey of participants revealed that a narrow subset of the rural population was attracted to participate, namely highly educated, experienced landholders with positive environmental attitudes and a low opportunity cost of participation. The research also investigated why some landholders chose to withdraw from the program before full participation. Both qualitative and quantitative methods were used in the analysis. There were a variety of reasons for making the decision to leave, including disliking the requirement for permanent protection, the tender mechanism employed, and not understanding the process well enough. This information can help improve conservation outcomes by understanding where to target limited efforts in a catchment, and clarifying the likely limitations of some aspects of scheme design. © 2014 Elsevier Ltd. All rights reserved.

1. Introduction

There are a multitude of schemes that fund conservation by landholders. However, there is no guarantee that landholders will participate in any funding scheme, and low participation reduces the potential environmental benefit of the intervention. For conservation auctions, participation is particularly important to generate competition and opportunity for cost-effective selection.

Various theoretical frameworks have been used to explain environmental behaviour. Adoption theory uses a variety of psychological, economic and sociological models to explain uptake of technologies and actions (Rogers, 2003). There is a long history of using this framework in association with conservation (eg:

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Baumgart-Getz et al., 2012; Pannell et al. 2006; Mbaga-Semgalawe and Folmer, 2000; Turrell and McGuffog, 1997; Ervin and Ervin, 1982). This body of research is important to understanding participation, as it is likely that landholders will need to be comfortable with the proposed conservation activities before participating in a program. The adoption framework also provides a useful indication of the decision making process that landholders might take when they join/do not join an incentive program (Morris et al. 2000).¹

It is likely that participation in an incentive scheme will also be influenced by a range of factors, such as the characteristics of the farm business, the scheme structure itself, and personal characteristics beyond attitudes. Brotherton's (1989) model posits that both the social and economic characteristics of the landholder ("farmer factors") and the technical and economic characteristics of the scheme ("scheme factors") are important to participation. The







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¹ There are alternative names for these stages, such as Pannell et al.'s (2006:3) process of awareness of the problem or opportunity, non-trial evaluation, trial evaluation, adoption and non-adoption/dis-adoption.

landholder factors can be further split into personal landholder characteristics and those belonging to the property. Wilson (1997) adds "information environment" and "dynamics within the farm district" as important influences. Despite the emphasis on farmer and farm factors, it is important to note that rural landholders may not be producers but rather "lifestyle" property owners who buy properties for non-production related reasons. The framework for influences on participation in Fig. 1 is broad enough to encapsulate the many different factors that can influence participation.

There are some property and community characteristics that appear to consistently and positively influence willingness to participate, such as property size (Ma et al., 2012; Frisvold and Deva, 2012; Wilson and Hart, 2001; Beedell and Rehman, 2000; Luzar and Diagne, 1999; Drake et al., 1999), security of tenure (Lambert et al., 2006; Soule et al., 2000; Crabtree et al., 1998), and a more accepting community, perhaps with higher levels of trust/ lower levels of mistrust (Januchowski-Hartley, 2012; Baumgart-Getz et al., 2012; Wunscher et al., 2011; DeFrancesco et al., 2008; Richards, 2005; Vanclay, 2004). Programs that are aimed at populations with these characteristics are more likely to have a high participation rate.

However, it is generally difficult to generalise about the influence of individual factors - such as demographic characteristics on adoption and participation, with contradictory results from different programs (Baumgart-Getz et al., 2012). The importance of

Landholder characteristics

- >Awareness and knowledge
- \triangleright Past experience
- ≻ Attitude
- Aae
- Education
- AAA Gender
- \succ Succession
- Length of residency

Property characteristics:

- Size
- \geq Industry/use of land
- > Income
- Tenure

Scheme characteristics:

- Amount of financial support
- \succ Funding distribution method
- \triangleright Activities proposed
- ≻ Uncertainty
- \triangleright Transaction costs
- Scheme duration

Community characteristics:

- Community dynamics
- 6 Trust/relationship with government

Fig. 1. Influences on participation. (Adapted from Wilson, 1997).

the different factors is likely to vary for each incentive program and region. This uncertainty is exacerbated by the considerable overlap between the influences of different factors.

Scheme characteristics may offer more opportunity for policy makers to influence the participation outcome. The program characteristics identified in the literature that encourage participation include the level of financial assistance (eg Wossink and van Wenum, 2003; Crabtree et al., 2001; Watkins et al., 1996), providing clear information about the program to reduce uncertainty and improve understanding about the program's goals (Whitten et al., 2013; Baumgart-Getz et al., 2012; Luzar and Diagne, 1999) and flexibility and attractiveness of activities proposed (Mettepenninggen et al., 2013, Pannell et al., 2006; Rogers, 2003; Wilson and Hart, 2001; Morris et al., 2000). It is important to consider the private benefits of proposed actions and the related incentive to carry them out or not (Pannell, 2008). Often shorter term arrangements are preferred over permanent legal arrangements, perhaps due to the greater flexibility offered under a short term arrangement (Rodriguez et al., 2012; Schirmer et al., 2012; Whitten et al., 2013; Van Putten et al., 2011; Hill et al., 2011; Greiner et al., 2008).

This paper uses a case study of a conservation program from Queensland, Australia, to contribute additional information about some of the key factors on this list, namely scheme duration, property size, use of the land, environmental attitude, education, financial support offered, uncertainty, and relationship with government. These are discussed in the results section of this paper. This information can help with various aspects of conservation program design. Firstly, it might be helpful to understand where to target limited efforts in a catchment. Secondly, they can help understand the limitations of a program. For example, if program design reduces the likely participant pool to a certain type of landholder this could be problematic for the desired outcomes. Finally, the research offers insights into improved conservation scheme design, particularly for conservation auctions.

2. Material and methods

2.1. Case study²

This paper uses a case study of Queensland's Vegetation Incentives Program (VIP). The VIP was run as a discriminatory price, single round conservation auction intended to fund private landholders to protect and manage high guality non-remnant vegetation in Queensland. The Queensland Department of Natural Resources and Water $(NRW)^3$ introduced the VIP, with a \$AUS 12 million budget, as part of a financial assistance package that accompanied extensive changes to the State's vegetation management legislation in 2004. The program was run in three phases in 2004, 2005 and 2006.

Greening Australia, an environmental non-government organisation, delivered the VIP in each region. Landholders received a site visit to help them develop a five-year management plan that accompanied the covenant. A very restrictive covenant was designed for the use of the VIP in the first round. This covenant could not be varied between properties and carried significant implications for positive management obligations into the future. Very few tenders were submitted and no tenders were funded as bid prices were considered to be too high for the expected environmental gains. Difficulties associated with phase one led to the introduction of more flexible permanent protection options (along

² This section is based on Comerford (2013).

³ This Department has since changed structure and names several times.

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