



Research paper

Contested beliefs about land-use are associated with divergent representations of a rural landscape as place



Nerida M. Anderson^{a,b,*}, Rebecca M. Ford^a, Kathryn J.H. Williams^{a,b}

^a School of Ecosystem and Forest Sciences, The University of Melbourne, Australia

^b Cooperative Research Centre for Forestry, Australia

HIGHLIGHTS

- Identifies divergent meanings attributed to rural landscapes and plantation forestry.
- Quantitatively demonstrates an association between representations of rural landscapes and beliefs about plantation forestry.
- Social representation framework useful for understanding conflicting beliefs about land use.

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ABSTRACT

Rural land use change is frequently characterised by conflicting beliefs about the likely social, economic or environmental consequences of a new or unfamiliar land use. How a land use is perceived, interpreted, and understood, is an important determinant of public response and attitudes towards that land use. Understanding factors influencing the formation of beliefs and attitudes towards a land use can help land planners anticipate and manage land use conflict and promote culturally sustainable landscapes. Previous qualitative study has demonstrated an association between conflicting beliefs about large scale plantation forestry, a contentious land use occurring in many parts of the world, and diverse meanings attributed to the rural landscape. This association is tested in a large scale postal survey (n = 930) of residents in north-west Tasmania. Consistent with the previous qualitative study, results indicate an association between conflicting beliefs about the likely outcomes of plantation forestry and contrasting representations of the rural landscape. Plantation forestry was more likely to be associated with negative beliefs about outcomes, and evaluated negatively, by people representing the rural landscape as a place for nature conservation and amenity than those representing the landscape in terms of production. These findings support the proposition that beliefs about a land use are shaped within the social context of shared place meanings in a way that promotes existing representations of the rural landscape.

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1. Introduction

If land use planning decisions are to be culturally sustainable, policy makers and land use planners need to understand factors underlying social responses to land use change (von der Dunk, Gret-Regamey, Dalang, & Hersperger, 2011). How a land use is perceived, interpreted and understood, is an important determinant of public response and attitudes towards that land use (Brunson & Shindler, 2004; Meyfroidt, 2013; Williams, 2014). This has been demonstrated in a number of contexts, including the expansion of wind

power installations (Firestone & Kempton, 2007; Waldo, 2012; Wolsink & Breukers, 2010), the installation of high voltage electricity transmission lines (Aas, Devine-Wright, Tangeland, Batel, & Ruud, 2014; Batel & Devine-Wright, 2015; Soini, Pouta, Salmiovirta, Uusitalo, & Kivinen, 2011), and rural land use changes such as the expansion of afforestation, residential development, cropping and dairying (Williams & Schirmer, 2012). However, although a number of studies have investigated attitudes and perceptions of land uses and land use change (e.g. Hardesty, Lawrence, Gill, & Roger, 1993; Henderson et al., 2015; Olenick, Kreuter, & Conner, 2005; Rogge & Dessein, 2015; Slemp et al., 2012), these studies are largely silent about underlying processes shaping beliefs, and, in particular, why groups of individuals differ in their beliefs about the likely outcomes of contentious land uses (Meyfroidt, 2013). To address this gap, this study draws on environmental and social psychology to examine the association between shared place meanings

* Corresponding author at: School of Ecosystem and Forest Sciences, Baldwin Spencer Building, The University of Melbourne, Parkville, VIC 3010, Australia.

E-mail addresses: neridama@unimelb.edu.au (N.M. Anderson), fordr@unimelb.edu.au (R.M. Ford), kjhw@unimelb.edu.au (K.J.H. Williams).

attributed to a rural landscape in north-west Tasmania, and beliefs and attitudes towards large scale plantation forestry.

Competing interpretations of rurality and place meanings are implicated in many land use conflicts (Duenckmann, 2010; Friedland, 2002; Genereux, Ward, & Russell, 1983; Scott, 2008; Woods, 2006). Empirical studies have, for example, demonstrated place meanings to be an important factor in the formation of local environmental concerns (Brehm, Eisenhauer, & Stedman, 2013) and attitudes towards farming methods (Egoz, Bowring, & Perkins, 2006), as well as an important factor in attitudes to proposed water management initiatives (Jacobs & Buijs, 2011). Other studies demonstrate contrasting attitudes and levels of opposition towards off-shore wind farm developments to be related to differences in symbolic meanings and levels of place attachment (Devine-Wright & Howes, 2010). Similarly, beliefs about tidal energy converters by residents within two villages in North Ireland were found to be related to differences in the place related meanings attributed to each village (Devine-Wright, 2011b). However, although the importance of adopting a place based approach to understand public response to land use change is increasingly recognised (e.g. Batel & Devine-Wright, 2015; Davenport & Anderson, 2005; Smith, Siderelis, Moore, & Anderson, 2012; Spartz & Shaw, 2011), to date little empirical research has specifically examined the relationship between divergent representations of the rural landscape within the same geographical location, and conflicting beliefs about land use within that location. Drawing on the multidisciplinary concept of place and social representation theory from social psychology, Anderson, Williams, and Ford (2013) contend that divergent beliefs about a contentious land use, large scale plantation forestry, are socially constructed within the context of shared meanings attributed to the rural landscape. While this contention was explored using a small scale qualitative approach, the current paper extends this work by reporting on a large scale survey to examine whether the proposed relationship can be empirically demonstrated within a large sample of the population in north-west Tasmania, Australia.

The establishment of large scale timber plantations on land previously used for more traditional agriculture provides an opportunity to examine the relationship between diverse place meanings and beliefs and attitudes about land uses. Although promoted within many national forest policies (see for example Freedman, 2007; MCFFA, 1997), the expansion of large scale forestry plantations (or afforestation) on land formerly cleared for agriculture has met with local opposition in many countries (Schirmer, 2007). While research in Australia has demonstrated plantation forestry to be associated with a range of both positive and negative social, environmental and economic impacts (e.g. Warman & Nelson, 2016; Mercer & Underwood, 2002; Schirmer, 2000; Schirmer & Kanowski, 2001; Williams, 2014), the visual appearance of large scale plantation forestry is consistently identified as a cause for community concern (e.g. Fléchar, Carroll, Cohn, & Ní Dhubbáin, 2007; Karjalainen, 2006; Tyrväinen & Tahvanainen, 2000). Plantation forestry significantly alters the appearance of traditional agricultural landscapes (Carroll, Ní Dhubbáin, & Flint, 2011), disrupting normative expectations of rurality and imaginings of how the rural landscape should look and function (Barlow & Cocklin, 2003; Karjalainen, 2006; Kassioumis et al., 2004; Neumann, Krogman, & Thomas, 2007). However, the presence of contrasting attitudes and beliefs about plantation forestry identified in a number of studies (e.g. Carroll et al., 2011; O'Leary, McCormack, & Clinch, 2000; Williams, 2009) suggests afforestation does not conflict with all perceptions of rurality. This study draws on theory about the social nature of knowledge formation (Howarth, 2006a) to provide a different understanding of factors shaping diverse beliefs about land use consequences amongst members of the general public. It is proposed that beliefs and attitudes towards

plantation forestry are shaped by versions of knowledge that are socially constructed within the context of place meanings and representations of the rural landscape.

2. Theoretical framework

2.1. Rural landscapes as places

There continues to be discussion in the literature about the relationship between landscape and place (see for example Cheng, Kruger, & Daniels, 2003; Soini, Vaarala, & Pouta, 2012; Stephenson, 2010). In this paper, the rural landscape is conceptualised as 'place', a symbolic landscape attributed with multiple and potentially conflicting meanings (Greider & Garkovich, 1994, p. 1). The meanings individuals attribute to the rural landscape are not solely a product of the physical features of the landscape but are also socially constructed, defining how people think about the landscape, and the types of activities and behaviours considered appropriate within those landscapes (Cheng et al., 2003; Genereux et al., 1983; Greider and Garkovich, 1994; Soini et al., 2012).

Within the proposed theoretical framework, the existence of multiple shared meanings or representations of the rural landscape is integral to understanding the coexistence of conflicting beliefs about plantation forestry. Reflecting a "radical re-ordering" in the way humans use rural space (Holmes, 2006, p. 142), rural landscapes within western developed countries have become increasingly heterogeneous, attributed with multiple and frequently contested meanings (Duenckmann, 2010; Egoz et al., 2006; Hovardas, Korfiatis, & Pantis, 2009; Mahon, 2007; Quétier et al., 2010; Rogge, Nevens, & Gulinck, 2007). Land use conflict arises when groups attributing different meanings to the landscape have incompatible expectations for the activities considered appropriate within those landscapes, and see some land uses as impeding a particular version of meaning (Cheng et al., 2003; Di Masso, Dixon, & Pol, 2011; von der Dunk et al., 2011; Woods, 2003). In this respect, rural landscapes are implicated in socio-political processes where individuals and groups engage in place-protective behaviours by seeking to control and impose particular meanings on a place, including the types of activities and behaviours occurring within those places (Cheng et al., 2003; Di Masso et al., 2011; Stedman, 2002; Williams & Patterson, 1996).

A number of authors have investigated the multiplicity of meanings attributed to rural landscapes. For example, Frouws (1998), and later Hermans, Horlings, Beers, and Mommaas (2010) identified three socio-political discourses encompassed in debates about the future of 'rural' in the Netherlands: an agri-ruralist discourse combining an agrarian social dimension with a productivist sub-discourse; a utilitarian discourse focusing entirely on economic dimensions; and a hedonist discourse emphasising cultural dimensions within the rural landscape. Elands and Wiersum (2001) identified two further socio-political discourses within the European Union: a community sustainability discourse and a nature conservation discourse. Using a photo-based Q-methodology, Anderson et al. (2013) identified four contrasting representations of the rural landscape in north-west Tasmania: a multifunctional space focusing primarily on environmental, amenity and lifestyle related services; a space primarily for agricultural production; a space defined by care, management and stewardship of the land; and a space for the conservation and the protection of ecosystem services. Competing representations of rurality inherent in these and other work (e.g. López-i-Gelats, Tàbara, & Bartolomé, 2009; Scott, 2008) essentially reflect variability in the precedence afforded production, consumption and protection values in the way humans use rural space (Holmes, 2006).

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