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Socio-cultural diversity and public preferences for coral reef management options in Indonesia

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ABSTRACT

Conflicting views and perceptions of how to define and resolve the issues at hand are at the heart of longstanding debates in natural resource management. As a result, a better understanding of public perceptions is vital. The study of public perception of marine conservation and management has seen an increase in recent decades. However, little research has been undertaken of the social-cultural constructs or 'cultural biases' underpinning peoples' perceptions. This paper aims to uncover people's cultural biases, and to investigate the plurality of their perceptions, using the case of coral reef protection. It does so with the help of the Cultural Theory pioneered by anthropologist Dame Mary Douglas. Results from a sample of 375 individuals in three different locations in Sulawesi, Indonesia, are presented that confirm Douglas' Cultural Theory. This paper concludes with the suggestion that polyrational solutions, *i.e.*, policy solutions that emerge from creatively combining and accommodating the different ways in which people perceive and organize social-environmental interaction, are necessary in achieving a sustainable policy outcome.

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1. Introduction

Public participation and stakeholders' involvement play important roles in enhancing the effectiveness of marine resource governance – by ensuring a better fit of programs to public needs, increasing public acceptance towards the program, and/or triggering public assistance in their implementation (Mascia, 2003; Dalton, 2006; Dalton et al., 2012). Despite many calls for such participation in coral reef management, practical implementation has met with different levels of success (Alder, 1996; Christie, 2004). This may partly be the result of clashing perspectives. People perceive the environment through perceptual lenses colored by their worldviews, as a result of which conflicts might easily arise about what is right, what is wrong, what is equitable, and what is the most appropriate solution to a particular problem (Thompson et al., 1990; Meader et al., 2006). Everyone wants a healthy coral reef, but how healthy it needs to be and at what cost, and who should bear that cost, are often highly disputed.

In order to achieve more satisfactory public participation in

natural resource management, it is therefore important to understand people's perceptions of the problems and their solutions (Jefferson et al., 2015; Gelcich and O'Keefe, 2016). Most studies of public perceptions in a resource management setting have focused on people's perceptions towards the enactment of resource management (Suman et al., 1999; Gelcich et al., 2009; Abecasis et al., 2013), on identifying important factors influencing people's perceptions on resource management (McClanahan et al., 2005; Kideghesho et al., 2007), on evaluating the state of natural resources, as well as on the performance of resource management implementation (Knecht et al., 1996; Webb et al., 2004; Roca and Villares, 2008; Kusumawati and Huang, 2015). Less attention has been paid to the cultural biases underpinning people's perceptions and preferences, even though it has suggested that the latter emerge from broader worldviews (West et al., 2010; Hoogstra-Klein et al., 2012; Rayner, 2012; Song et al., 2013; Brennan and Portman, 2017). To date, studies focused on understanding socio-cultural constructs supporting perceptions of marine and coastal resources have been relatively limited (for exceptions, see Langford et al., 2000; Gelcich et al., 2005; Richardson et al., 2005; Brennan (in press)). This study contributes to filling this gap by exploring the socio-cultural diversity that underpins individuals' perceptions of the implementation of a resource management system, focusing

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in particular on the case of coral reef protection in Sulawesi, Indonesia.

This paper argues that there is plurality in people's cultural biases, which can be defined as the norms, values and perceptions that are particular to a certain way of living or organizing (Olli, 2012). However, such biases are not necessarily infinite in number. People's norms, values and perceptions cannot be fully understood in isolation, as these only emerge within the context of more general worldviews. On the basis of this, the article demonstrates the diversity of socio-cultural biases amongst people, using the case of coral reef management in Sulawesi, Indonesia. It employs Douglas' Cultural Theory (CT) to explore these biases, as it can provide an alternative to the conventional attitude-driven approaches to environmental perceptions (Verweij et al., 2006a; West et al., 2010).

2. Cultural theory

Cultural Theory has developed over the last six decades. It originated with the grid–group typology that was proposed by British anthropologist Dame Mary Douglas in the 1970s (Douglas, 1970, 1978, 1982). In her typology, Douglas identified two dimensions of sociality (grid and group), and argued that an individual's involvement in social life can be captured and assessed according to these two dimensions. 'Grid' stands for the degree to which role differentiation and stratification constrain the behavior of individuals. This dimension describes how different people are positioned in a particular social domain, and how they take on different roles. At one end of this dimension, people are relatively free to determine, change and negotiate the rules they live by and the roles that they take up. At the other end, people are highly stratified and regulated; that is to say, relatively inflexible roles and positions, each of which carry specific requirements, are imposed on people (Thompson et al., 1990). 'Group', by contrast, represents the extent to which an overriding commitment to a social unit constrains the thoughts and actions of individuals. This dimension describes the strength of the ties that exist among people. At one end of this dimension, people are closely bonded and have a strong sense of connectedness to others, while at the other end, each person is mostly self-centered and has little sense of unity (Thompson et al., 1990). Douglas' work is rooted in the work of some of the founders of social science, but especially in that of sociologist Durkheim (Verweij et al., 2006a, b; Tansey and Rayner, 2009; Cerroni and Simonella, 2014). For instance, Douglas' grid closely corresponds with Durkheim's concept of regulation, while her group resembles his notion of social integration (Durkheim, 2006).

Contrary to Durkheim (who did not combine his two dimensions), Cultural Theory derives four different ways of organizing social relations by assigning two values (high and low) to grid and group. The resulting four patterns of social interaction are usually labelled *individualism*, *fatalism*, *hierarchy* and *egalitarianism*. Hierarchy combines a high degree of both stratification and collectivity; individualism is low on both stratification and collectivity; fatalism is high in stratification and low in collectivity; and egalitarianism scores high on collectivity, but low on stratification (Thompson et al., 1990). It is important to note that Cultural Theory has developed over time. It now mostly focuses on the resulting four quadrants, and not on the original two dimensions – though these underlying dimensions remain important as they show that the four cells of the approach's typology meet the methodological criteria of being mutually exclusive and jointly exhaustive.

Taking another leaf from one of Durkheim's book (1985), Cultural Theory also posits that each of its patterns of social relations instills, and is supported by, a particular set of norms, values, perceptions and preferences. These include views of nature and human nature,

time horizons, risk attitudes, as well as preferences for management options, technological choices and normative ideals.¹ The set of norms, values, perceptions and preferences that corresponds to a pattern of social interactions is called a 'cultural bias (or worldview)'. Together, patterns of social relations and cultural biases are called 'ways of life' or 'social solidarities' in Cultural Theory. The advantage of using Cultural Theory is that it ensures that individuals' perceptions and preferences are understood within the broader context of their worldviews (Schwarz and Thompson, 1990; Thompson et al., 1990). Cultural Theory agrees to the uniqueness of subjective individual positions, but still maintains that behind all this diversity a limited number of ideal-typical biases can be detected. These can be described, in part, as follows.

In an egalitarian social setting, nature is perceived as ephemeral, as the world is fragile and intricately interconnected. It is believed that any small disturbance can lead to a complete collapse of the system. The only solution for environmental problems is therefore voluntary simplicity. Everyone should hold equal power, and be involved in the solution. This bias encourages people to live and act together, as well as to take great care of the environment. Fairness is seen as equality of result, while blame is often placed on markets and authorities.

In a hierarchical setting, nature is viewed as predictable, and robust within limits. Only the authorities and experts are believed to be able to determine these limits. Risk-averse planning, government intervention and market controls are encouraged to ensure that human activity is kept within bounds. Humans are perceived as imperfect, but controllable and redeemable through firm and enduring institutions. Authorities and experts know how best to address a situation. Fairness is determined by law (authority), and blame is put on those who do not follow the law.

In an individualistic social setting, nature is perceived as robust, and always able to recover from any exploitation. Therefore, this way of life promotes experimentation and entrepreneurial action, and rejects any sort of government regulations. People are seen as inherently self-seeking and atomistic, and the preferred management institution is the one that works with the grain of the market. Fairness is defined as equality of opportunity, which should ensure that those who invest the most get out the most.

In a fatalistic setting, nature is viewed as capricious and essentially unknowable. In this setting, people are expected to be fickle and untrustworthy, and one therefore has to focus on maintaining and (if at all feasible) improving one's position vis-à-vis others (Coyle, 1994). Power considerations and survival are dominant themes, and fairness cannot be expected to be achieved in this life. This particular way of life is the hardest to observe in real life, particularly if one uses a survey-type of assessment, as those with a fatalistic mindset may not be willing to honestly participate. However, this bias is an important part of the theory, as it is able to capture disillusionment, power abuse and other nefarious parts of social life that are sometimes neglected by other theories.

Thus, Cultural Theory's four cultural biases help to view social and environmental issues from four alternative policy perspectives. Cultural Theory takes an additional step in arguing that successful solutions to pressing social and environmental ills tend to flexibly combine all these alternative policy perspectives. Such forms of governance are usually called 'clumsy' or 'polyrational' solutions

¹ Cultural Theory is therefore a "theory of preference formation", to quote Aaron Wildavsky's presidential address to the American Political Science Association (Wildavsky, 1987). Of course preferences can and should be distinguished from, norms, values and perceptions. But, according to Cultural Theory, all these dispositions (including preferences) tend to cluster as they emanate from the same source: ways of organizing social relations.

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