



## Investigating social acceptability for public forest management policies as a function of social factors

Nikoleta Jones <sup>a,\*</sup>, Chrysi Gleridou <sup>a</sup>, Panayiotis G. Dimitrakopoulos <sup>b,1</sup>, Konstantinos I. Evangelinos <sup>a</sup>

<sup>a</sup> Centre for Environmental Policy and Strategic Environmental Management, Department of Environment, University of the Aegean, Mytilene, 81100, Greece

<sup>b</sup> Biodiversity Conservation Laboratory, Department of Environment, University of the Aegean, 81100, Mytilene, Lesvos, Greece

### ARTICLE INFO

#### Article history:

Received 14 April 2011

Received in revised form 5 July 2011

Accepted 18 July 2011

Available online 7 September 2011

#### Keywords:

Social capital

Co-management

State management

Trust

Social networks

### ABSTRACT

Several policy instruments have been proposed in order to minimize the negative impacts of local communities' activities on forests. The present paper presents an empirical survey conducted in a Greek forest area on the island of Lesvos, focusing on citizens' perceptions of alternative management scenarios along with the role of social factors on these perceptions. Our results demonstrate that citizens are supportive of policies which are not solely state-based. Furthermore, higher levels of local social capital are positively correlated with citizens' perceptions in favor of proposed co-management policies.

© 2011 Elsevier B.V. All rights reserved.

### 1. Introduction

Several policy instruments have been proposed in order to minimize the negative impacts of local communities' activities on forests (van Gossum et al., 2009; Weiss, 2000). Traditionally, forest management is conducted through governmental regulations determining the activities that can take place in forest areas (Blouch, 2010; Chowdhury & Koike, 2010; Van Gossum et al., 2009). However, the implementation of regulations is not considered sufficient for the sustainable management of forests (Chowdhury & Koike, 2010). Economic-based instruments, initiated mainly from governmental actors (Weiss, 2000), are alternative measures that have been applied both in public and private forests. Indicative examples are funding mechanisms and subsidies (Weiss, 2000), financial incentives and taxes (Barua et al., 2010; Fortney et al., 2011; Fortney & Arano, 2010). Recent developments identify the need to apply new and softer policy instruments in order to achieve the environmental protection of forests, local economic development and minimization of social conflicts (Chowdhury & Koike, 2010; Matose, 2006; Misra & Kant, 2004; Nayak & Berkes, 2008; Nuggehalli & Prokopy, 2009; Sandstrom & Widmark, 2007). In this context, different types of co-

management frameworks have been applied promoting the cooperation of state institutions with non-governmental actors and citizens (Robson & Kant, 2007a).

Irrespective of the policy instrument applied a significant parameter which should be taken into consideration prior to policy implementation is the level of social acceptability present among local communities and actors involved in management processes (van Gossum et al., 2009). Especially in the case of co-management policies, acceptability is linked with the level of citizens' and actors' participation, which is a significant prerequisite for the successful implementation of such initiatives (Jones, 2010a; Jumbe & Angelsen, 2007). According to the relevant literature, several factors influence community reaction to a proposed policy such as the level of awareness and concern for forests (Baranzini et al., 2010). Furthermore, the proximity to the forest, the changes imposed from a proposed management policy (Blouch, 2010) and the benefits which accompany it, both at the individual and collective level, influence citizens' perceptions of a proposed policy and their level of participation (Jumbe & Angelsen, 2007; Nuggehalli & Prokopy, 2009). In addition, demographic characteristics, such as income, education and age are also regarded as important influential factors (Baranzini et al., 2010; Fortney et al., 2011).

Apart from the above factors, social capital has been recently recognized as an important parameter in environmental policy literature (Becker et al., 2005; Behera, 2009; Gough et al., 2008; Pretty, 2003) and can explain citizens' perceptions of forest policies. In the present paper, social capital will be defined as a combination of cognitive and structural elements, focusing mainly on social trust, institutional trust and social networks (Putnam, 2000). It is expected that communities with higher levels of social capital will be more positive towards forest management

\* Corresponding author. Tel.: +30 22510 36245.

E-mail addresses: [jones@env.aegean.gr](mailto:jones@env.aegean.gr), [nikoletajones@gmail.com](mailto:nikoletajones@gmail.com) (N. Jones),

[pdimi@env.aegean.gr](mailto:pdimi@env.aegean.gr) (P.G. Dimitrakopoulos).

<sup>1</sup> Tel.: +30 22510 36236.

policies and also more willing to participate in co-management projects (Jones, 2010a; Jumbe & Angelsen, 2007; Pretty, 2003).

Regarding institutional trust, several actors are involved in the management of forests, both governmental and non-governmental (Meidinger, 2011). Citizens' perceptions and participation in the context of proposed forest policies are determined by the level of trust of the entities with which they have to collaborate (Gong et al., 2010). In addition, in circumstances where institutions responsible for control actions act ineffectively, illegal activities increase concerning access to the forest from the public and uses of the natural resource (Iftekhar & Takama, 2008; Nayak & Berkes, 2008). As a consequence, the level of trust of institutions significantly influences the level of acceptance of a proposed policy and the relevant behavior of citizens (Jones et al., 2011). Furthermore, development of trust between different actors is essential (Sandstrom & Widmark, 2007) in order to minimize costs of cooperation (Ostrom, 2000) especially during the implementation of participatory management policies (Robson & Kant, 2007b).

The level of trust between individuals is equally important. Social trust may be divided in two main categories: generalized and particularized trust (Uslaner & Conley, 2003). The former refers to trust of other people in general whereas the latter explores the level of trust of specific social groups. Social trust has been positively linked to environmental behavior (Jones et al., 2011; Pretty, 2003) and citizens' reaction towards proposed policies (Jones, 2010a). In communities with high levels of social trust, citizens consider that their fellow residents will support the common good in the context of a proposed policy for the sustainable management of a forest (Pretty, 2003; van Laerhoven, 2010). Thus, in order for high levels of social acceptability to be present, it is important that a sense of collectivity exists between individuals (Ostrom, 1990).

Finally, social networks are also a significant component of social capital (Coleman, 1990) and have been linked to sustainable forest management (Behera, 2009). Social networks refer to the development of organized (formal networks) and non-organized (informal networks) collectivities in a community along with the level of participation of individuals and actors in these networks (Putnam, 2000). Social networks are responsible for the promotion of information concerning activities of environmental management in a community and the actors responsible for these activities (Jones, 2010b; Nuggehalli & Prokopy, 2009), the level of citizens' participation in co-management frameworks (Djamhuri, 2008) and also the level of environmental awareness and responsible environmental behavior (Cramb 2005; Jones et al., 2011). Consequently, social capital is an important social factor which should be taken into consideration during the planning of forest policies.

The present paper presents an empirical survey conducted in a Greek forest area. In Greece, the majority of forest land is state owned (Papachristou et al., 2009; Siry et al., 2005). Furthermore, decision-making processes and policy implementation are conducted by state actors (Kalabokidis et al., 2008; Kassioumis et al., 2004). Some exceptions may be found in the case of forests included in national parks where new management actors have been created consisting of representatives from governmental and non-governmental entities (Papageorgiou & Vogiatzakis, 2006; www.ypeka.gr). Despite these changes, substantial improvements to national forest management are necessary due to the continuing natural and human pressures on Greek forests (Iliadis et al., 2002; Kalabokidis et al., 2008; Papachristou et al., 2009) and the need to shift to more sustainable forest management practices. In this context, the empirical survey had two main objectives: (i) to explore the potential of shifting to more participatory management frameworks and (ii) to investigate the role of social factors on citizens' perceptions of forest management issues. Specifically, the empirical survey was conducted in the forest of Megali Limni, situated on the island of Lesvos, through the distribution of a questionnaire focusing on: (i) the investigation of environmental awareness and environmental behavior of individuals connected with their nearby forest, (ii) the exploration of opinions of the local community on three

alternative management scenarios and (iii) the investigation of the influence of social factor, emphasizing on social capital elements, on citizens' perceptions for the proposed scenarios.

## 2. Methods

### 2.1. Research area

The forest of Megali Limni, situated on the island of Lesvos in the Aegean Archipelagos, was selected for the implementation of an empirical study. The criteria for selecting the specific case study were firstly, the existence of a forest area on which the surrounding communities are dependent and secondly, the existence of small-scale communities allowing the potential of implementing participatory management policies.

The forest of Megali Limni covers an area of 3161 ha and is mainly comprised of *Pinus brutia* trees. Part of the forest has been declared a protected area through the NATURA 2000 Network (GR4110004, GR4110005) (www.ypeka.gr) (Fig. 1). The management of the area is the responsibility of the Lesvos Forest Service and its exploitation is conducted mainly by the local authorities. Several pressures exist on the forest deriving from overgrazing, man-induced fires, illegal forestry and other risks connected with natural causes (Kalabokidis et al., 2008; www.natura.minenv.gr). The human population in the area consists of small communities living on the boundaries of the forest. The largest community is the village of Agiasos with approximately 2500 inhabitants (Hellenic Statistical Authority, 2001). The forest is connected with the social and economic activities of the local communities. Several families are financially dependent on the forest mainly through forestry, agricultural activities and grazing (www.agiasos.gr). Furthermore, eco-tourism activities are being developed in the area.

### 2.2. Sampling and sample characteristics

A sample of individuals was selected from the largest community in the area (Agiasos). The total sampling frame consisted of 1916 individuals (excluding those who were under 18 and over 80 from the total 2500 inhabitants of the village). 400 citizens were initially selected and approached to participate in the survey. After this selection, individuals from the same household or those who were not permanent residents of the village along with those unwilling to participate in the survey were excluded. In the end, 139 questionnaires were completed through personal interviews. From these individuals, 63.8% were male and 36.2% female. The under-representation of women compared to the real population data (2001 census, Male: 49.63%, Female: 50.37%) was due to holding the interviews with the head of each household. The majority (58%) of respondents were from the lowest annual income bracket followed by the second income bracket (€30,000–€60,000: 18.0%). It is interesting to observe that 19.2% of the sample declared that they had no income while only 2.3% of the sample declared an annual income over €60,000. No official income data exist for the population of the research area. The average age in the sample was 41.27 with an age range between 18 and 78 years of age (18–25 years of age: 13.8%, 26–35: 27.3%, 36–45: 22.3%, 46–55: 19.4%, 56–65: 6.5%, 66+: 10.1%). Although no available data exist for the specific age categories in the research area, these percentages are close to the official percentages of the Hellenic Statistical Authority (www.statistics.gr). Finally, regarding educational level, the highest percentage was for respondents who had completed secondary education (12 years of education: 42.1%), followed by students in higher education or graduates of higher education institutions (16 years of education: 21%). In terms of lower educational levels, 4.3% declared that they were illiterate, 17.4% had completed six years of education (elementary) and 13.8% had completed nine years of education (first stage of secondary education). Differences emerge in the real population data concerning mainly secondary (21.96%) and

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات