



## Analysis

## Discourses on Public Participation in Protected Areas Governance: Application of Q Methodology in Poland



Krzysztof Niedziałkowski<sup>a,b,\*</sup>, Ewa Komar<sup>a</sup>, Agata Pietrzyk-Kaszyńska<sup>c</sup>, Agnieszka Olszańska<sup>c</sup>, Małgorzata Grodzińska-Jurczak<sup>d</sup>

<sup>a</sup> Mammal Research Institute, Polish Academy of Sciences, Białowieża, Poland

<sup>b</sup> Institute of Philosophy and Sociology, Polish Academy of Sciences, Warszawa, Poland

<sup>c</sup> Institute of Nature Conservation, Polish Academy of Sciences, Kraków, Poland

<sup>d</sup> Jagiellonian University - Institute of Environmental Sciences, Kraków, Poland

## ARTICLE INFO

## Keywords:

Narratives  
Nature Conservation  
Natura 2000  
Co-Management  
Local Communities

## ABSTRACT

Effective public participation in decision-making concerning protected areas requires supportive legal provisions, practices and narratives. While there has been a wide interest in organisational aspects of participation in protected areas, discursive questions concerning the attitudes toward participation among stakeholder have received relatively little attention. Using Q methodology we investigated attitudes of 53 respondents, representing key stakeholder groups (local communities, NGOs, scientists, protected area staff, foresters, public officials, general public), toward the involvement of local communities in managing various forms of biodiversity conservation in Poland. We found three main discourses (1) positive toward participation and recognizing the conservation and development goals of protected areas; (2) sceptical toward participation and nature-centred; (3) cautiously open to participation and developmental goals of protected areas but highlighting organisational difficulties. There were diverse attitudes toward participation within stakeholder groups signalling potential for compromise among them. All three discourses opt for a mixed model of governance balancing central and local influence, which diverges from traditional centralized practices. They differ over barriers to participation, highlighting either insufficient capacity of administration or lack of knowledge and interests of local people. These differences indicate wider socio-political tensions that should be acknowledged during participation.

## 1. Introduction

People living close to protected areas often oppose them because they feel they face restrictions which are not matched by benefits from these areas (Wells, 1992). Opening planning and management of protected areas to local people can take many forms, such as consulting decisions, negotiations, referenda, public hearings, citizen panels, advisory committees or management of protected areas by communities themselves (Renn, 2006). Such local participation, understood as a process where local communities take an active role in making decisions that affect them (see Reed, 2008, p. 2419), helps to include their interests and values in decision-making and mitigate conflict (Borrini-Feyerabend, 1996; Stoll-Kleemann and O'Riordan, 2002). Furthermore, it might discontinue injustices that they could have been exposed to, such as displacement, restricted access to livelihood resources, and restriction of cultural practices (Mitchell and Brown, 2003). Also, local people, being closest to the ecosystem and coexisting with it for a long

time may bring traditional knowledge and emotional bonds with the area, which might improve conservation. In contrast, when ignored, local communities may negatively affect the natural values of protected areas (ibid.). These considerations informed a new paradigm (Lockwood et al., 2006; Phillips, 2003) or a new narrative (Hutton et al., 2005) in protected areas, according to which they should be planned and managed with, for and sometimes by local communities. This paradigm, although not without its critics (Locke and Dearden, 2005; Wilshusen et al., 2002), became an established reference point for conservation strategies in different parts of the world, supported by international conservation organizations such as IUCN and UNESCO. The European Union also increasingly acknowledges the importance of public participation in biodiversity conservation, although its practical implementation is still assessed as unsatisfactory (Rauschmayer et al., 2009).

People's values related to biodiversity conservation and ways in which they can be explored and incorporated into policies has been a

\* Corresponding author at: Nowy Świat 72, 00-330 Warsaw, Poland.

E-mail address: [kniedzialkowski@ifispan.waw.pl](mailto:kniedzialkowski@ifispan.waw.pl) (K. Niedziałkowski).

subject of research within ecological economics (Martinez-Alier, 2002). Informed by the concept of post-normal science (Funtowicz and Ravetz, 1993), this strain of economics acknowledges that uncertainty in socio-ecological systems is unavoidable, the quality of decision-making is crucial and values concerning the environment can be diverse and incommensurable. Consequently, there are no technical, value-free, objective solutions to policy problems and public involvement in policy-making is required to include possibly wide range of public values (Dryzek, 2013). Tacconi (2000, p. 97) within his ecological economics framework for biodiversity conservation argued that “the decision-making process should be participatory” and “the appropriate degree of participation will be influenced by a combination of factors, such as the scale of the problem and the resources available for the planning and implementation phases”. He also asserted that power and conflict at various levels need to be addressed as they influence ecosystem use and will not be automatically tackled by participation.

Understanding perspectives of stakeholders – those who are affected by or can affect a decision (Freeman, 1984) – is crucial for exploring effectiveness and justice of participation (Paloniemi et al., 2015). Barry and Proops (1999, p. 344) recommended Q methodology to elicit views on environmental issues and policies in ecological economics research “in a way that is responsive to the attitudes held by the respondents, rather than the researchers, while still having a rigorous statistical basis for the extraction of the discourses within the population”. Furthermore, it can identify common and controversial issues and perspectives in the population, which is important because policies directed toward commonly shared concerns would be likely to enjoy social and political support, and be effective (ibid.). Alternatively, knowing which issues might be criticized and by whom may help to develop policies in a way most likely to achieve wide acceptance (Barry and Proops, 1999; Steelman and Maguire, 1999). In recent years, the number of papers investigating discourses relating to environmental policies by means of Q methodology has grown, addressing a range of policy interventions from fire management in Australia (Ockwell, 2008) to wildlife management in Norway (Bredin et al., 2015). However, participatory governance of protected areas remains under-researched. Among few Q studies touching upon this issue one can enumerate a paper by Cairns et al. (2014) investigating discourses on conservation of the Galapagos Islands, a study by Kamal and Grodzinska-Jurczak (2014) looking at the attitudes toward biodiversity conservation on private land, and a paper by Gall and Rodwell (2016), who included participation among important factors influencing social acceptance of marine protected areas. So far, however, there were no Q studies focusing on perceptions concerning the participation in protected areas governance. We aim at filling this gap by examining the case of Poland.

For the most of the 20th century, governments of then socialist countries from Central and Eastern Europe took almost all decisions concerning biodiversity conservation, which created a path persisting even in the new democratic context after 1989 (Petrova, 2014). In Poland, since the 1990s nature conservation legislation has increasingly included participatory provisions (Niedziałkowski et al., 2015), but their practical implementation remained challenging (Cent et al., 2010). As suggested by Lowndes and Roberts (2013), to be effective, new rules should be supplemented by narratives and practices that support them. Therefore, to explore the discursive background of protected areas governance in Poland we investigated perceptions of 53 stakeholders using Q methodology (Brown, 1980). We were interested if there are signs of ideas supporting the new paradigm of protected areas, open to participation and oriented both at natural and social goals of protected areas, as represented by key groups of stakeholders (local people, NGOs, scientists, foresters, protected area staff, public officials), which have been usually involved in discussions around protected areas in Poland (Grodzińska-Jurczak and Cent, 2011; Niedziałkowski et al., 2012; Pietrzyk-Kaszyńska et al., 2012). We also wanted to explore perceived barriers to implementing participatory practices into protected areas governance in Poland.

## 2. Background to Q Methodology

Q methodology is a research method proposed by William Stephenson (1935) to quantitatively study individuals' subjectivity. It enables a structured approach to identifying people's understandings of particular issues by describing significant differences in respondents' attitudes (Brown, 1993). A key tenet of Q is that subjectivity is communicable and can be systematically analysed. Q methodology can identify and characterize ways of thinking about an issue but it cannot quantify the prevalence of those ways of thinking (Brown, 1980). Results of a Q study describe a population of viewpoints, not a population of people (Risdon et al., 2003; Van Exel and De Graaf, 2005). Q method requires a relatively small number of possibly diverse respondents but the sample does not have to be representative of the population (Neff, 2011). Consequently, results cannot be generalised. The Q methodology has been extensively covered by Brown (1980, 1993), McKeown and Thomas (1988), Van Exel and De Graaf (2005), and Watts and Stenner (2005) and its application of the methodology to environmental research discussed by Webler et al. (2009). Therefore, in this paper we provide only the basic tenets of this method.

The Q methodology involves following phases: (1) Building the concourse – collecting of statements about the subject from a wide range of sources; (2) Constructing the Q-set – selecting a subset of statements from the concourse which represents all existing opinions; usually the Q-set includes 40–50 statements (Van Exel and De Graaf, 2005), but may vary from 15 (Carr and Heyman, 2012) to 60 (Visser et al., 2007); statements are randomly assigned a number and presented to respondents on separate cards – the Q deck – in the form of sentences, pictures or objects; (3) Constructing the P set – selecting respondents, usually decision-makers and opinion leaders (Webler et al., 2001) to represent anticipated viewpoints of key stakeholder groups (e.g. local people, public officials, scientists); (4) Q sorting procedure – respondents arrange statements into a forced quasi-normal distribution with x axis from “most disagree” to “most agree”; usually the range covers from – 4 to + 4 or from – 5 to + 5; (5) Post Q sorting interview – carried out to clarify opinions of the respondents and facilitate interpretation of the results; (6) Factor analysis – revealing key ideal viewpoints in the community; usually conducted by software (e.g. PCQ, PQMethod) which examines correlation matrix of all Q sorts to identify factors (discourses) that capture the main dimensions of similarity between the Q sorts; factors are extracted based on their eigenvalues and then rotated (typically using varimax orthogonal rotation) to indicate how well participant's ideas are depicted by each of the factor descriptions (Neff, 2011); (7) Factor interpretation – proceeds primarily based on factor scores, i.e. the score for a statement representing the average of the scores attributed to that statement by all of the Q sorts associated with the factor (Brown, 1993). All scores of a factor constitute a composite Q sort of a factor showing how a hypothetical person with a 100% loading on that factor would have arranged all the statements of the Q-set (Van Exel and De Graaf, 2005). The interpretation of the factors may be facilitated by information from the post-sorting interview.

## 3. Methodology

In our study, the concourse, defined as “statements related to the participation of various groups of actors in decision-making regarding protected areas” was gathered based on a comprehensive review of scientific literature, nature conservation journals and magazines, conferences and workshop reports, and minutes of parliamentary meetings. We also used material from participant observation during focus groups with local people and experts organized in five different locations in Poland within the project LINKAGE (“Linking systems, perspectives and disciplines for active biodiversity governance”) as well as data gathered during the meetings of the Natura 2000 local cooperation group “Białowieża Forest”. Finally, we analysed 70 interviews with



**Table 1**

Key statements for each discursive group ordered according to the z-scores, beginning from the highest ranked statements (More agreement) and from the lowest ranked statements (Less agreement). Statements are distinctive for each discourse at  $P < 0.05$  and those distinctive at  $P < 0.01$  are marked with an asterisk. The statements with highest or lowest z-scores (corresponding to  $-4$ ,  $4$  Q sort values) but not belonging to the distinguishing characteristics are shown in *italics*.

Discursive group/name of the discourse	More agreement	Less agreement
A/nature conservation open to participatory decision-making	<ul style="list-style-type: none"> <li>• *(4) Involving local people into decision-making will make them understand and accept restrictions connected with nature conservation</li> <li>• *(32) Educating local communities about natural values is necessary for effective conservation</li> <li>• (19) Managing protected areas should consider conservation and socio-economic goals</li> <li>• *(22) Local representatives should participate in decision-making concerning protected areas</li> </ul>	<ul style="list-style-type: none"> <li>• (45) <i>Good managing solutions can only come from the central level</i></li> <li>• (25) Protected areas should be managed only by local people</li> <li>• (13) <i>Only conservation experts should take decisions on protected areas</i></li> <li>• *(7) Compromise is impossible because of different goals and values</li> <li>• *(17) Local people know what and how to protect and do not need regulation</li> </ul>
B/naturecentric conservation sceptical of local participation	<ul style="list-style-type: none"> <li>• *(32) Educating local communities about natural values is necessary for effective conservation</li> <li>• *(44) Local people do not know enough to assess natural values of protected areas</li> <li>• *(10) Local people benefit from natural values of protected areas and should accept restrictions imposed to save these values</li> <li>• *(42) Laws are interpreted in favour of development of natural areas</li> </ul>	<ul style="list-style-type: none"> <li>• (17) <i>Local people know what and how to protect and do not need regulation</i></li> <li>• (25) <i>Only local people should manage protected areas</i></li> <li>• *(15) Natural values of protected areas survived solely due to local people only</li> <li>• (30) All conservation actions and restrictions should depend on the consent of local people</li> <li>• *(8) People affected by nature conservation should be duly compensated</li> </ul>
C/pragmatic perspective on participation	<ul style="list-style-type: none"> <li>• *(2) Advisory bodies of protected areas should include local representatives</li> <li>• (26) <i>Local socio-economic conditions should be considered when managing protected areas</i></li> <li>• (46) <i>Economists, sociologists and lawyers should be involved in conservation planning</i></li> <li>• *(24) Insufficient financial and human resources compromise local participation</li> <li>• (19) Managing protected areas should consider conservation and socio-economic goals</li> </ul>	<ul style="list-style-type: none"> <li>• (25) <i>Protected areas should be managed only by local people</i></li> <li>• (17) <i>Local people know what and how to protect and do not need regulation</i></li> <li>• (45) <i>Good managing solutions can only come from the central level</i></li> <li>• (30) All conservation actions and restrictions should depend on the consent of local people</li> <li>• (10)*Local people benefit from natural values of protected areas should accept restrictions imposed to save these values</li> <li>• (23)*Local participation should use direct, personal methods</li> </ul>

and accept restrictions connected with nature conservation [4\*: 4] and, when their suggestions are considered, it might reduce conflicts [12\*: 2]. Additionally, without acceptance of local communities, it is difficult to effectively carry out conservation measures [41\*: 2]. Local communities should be involved by means of direct, personal methods, such as open meetings, group discussions and individual meetings [23: 2]. Also advisory bodies of protected areas should include representatives of local people [2\*: 3]. Education of local communities is crucial for effective conservation of protected areas [32\*: 4] but it is also important to use knowledge of local community which complements expert knowledge with regard to natural values of protected areas [33\*: 3].

Discourse A, strongly rejects decision-making that is decidedly shifted toward a central [45: -4] or a local [25: -4] level. It also opposes management dominated by nature conservation experts only [13: -4]. The representatives of discourse A reject the idea that it is impossible to reach compromise on managing protected areas because of different goals, definitions and values represented by various social groups [7\*: -3] and that each concession to local communities will lead to the escalation of demands [40\*: -3]. Unlike proponents of discourses B [28: 3] and C [28: 3], proponents of discourse A are ambivalent if attitudes of local communities are shaped by influential groups which pursue their particular interests and not the common good [28\*: 0].

#### 4.2. Interpretation of Discourse B - Naturecentric Conservation Sceptical of Local Participation

According to discourse B, local communities do not know enough to assess natural values of protected areas [44\*: 4] and they should be educated about these values to conserve protected areas effectively [32\*: 4]. Local people cannot tell the difference between various forms of nature conservation and restrictions involved which creates a serious

barrier to engage them in managing protected areas [37\*: 3]. Discourse B is neither positive nor negative regarding the statement that local community has knowledge of natural values of protected areas which complements expert knowledge [33\*: 0]. Consequently, representatives of this discourse are ambivalent if local communities should participate in decision-making concerning protected areas [22\*: 0] and that advisory bodies of protected areas should include their representatives [2\*: 0].

There is strong conviction in discourse B, that because local people take advantage of natural values of the areas they live in they should accept restrictions required to save these values [10\*: 4]. This fits in a wider perception that conservation of nature, understood as a public good, should be put before private interests [3\*: 2]. Local communities, however, are mainly interested in local economic development and their involvement in managing protected areas would considerably compromise conservation objectives [11\*: 2]. This is facilitated by interpreting existing laws are in favour of investments and not conservation of the area [42\*: 3]. Thus, discourse B is ambivalent if managing of protected areas should consider both conservation and socio-economic goals [19\*: 0], which contrasts with discourses A [4] and C [3]. A focus on nature in managing protected areas in discourse B might contribute to the relatively mild support for the statement that economists, sociologists and lawyers should participate in conservation planning [46\*: 1].

Proponents of discourse B oppose the view that natural values of protected areas survived only due to the local people [15\*: -4]. Neither do they agree with the idea that all restrictions concerning nature conservation should depend on the consent of local communities [30: -3]. Furthermore, they negatively assess the notion that people affected by nature conservation should be compensated financially [8\*: -2]. They also strongly disagree with the view that only local community should manage protected areas [25: -4] and with the

statement that local people know what requires protection and do not need top-down legal regulations [17: - 4]. At the same time, discourse B similarly to discourses A and C, opposes the view that good solutions concerning protected areas can only come from the central level [45\*: - 3], however, here this opposition is the weakest. This perspective is also sceptical that only experts should manage protected areas [13\*: - 1] or form advisory bodies [31\*: - 1], but again, against discourses A [13: - 4], [31: - 3] and C [13: - 3], [31: - 3] this scepticism is weaker.

### 4.3. Interpretation of Discourse C - Pragmatic Perspective on Participation

Proponents of discourse C cautiously agree that representatives of locals should participate in decision-making concerning protected areas [22\*: 1] and react very positively to including them into advisory bodies of these areas [2\*: 4]. However, in their view involving local people in managing nature conservation is difficult due to the insufficient financial and human resources [24\*: 3]. This might contribute to the degree of disagreement with the idea that involving local people should use direct methods such as meetings and group discussions [23\*: - 1]. There is also ambivalence within discourse C that involving local people, while costly in a short term, reduces costs of future conflicts [36\*: 0]. Another potential reason for this cautious approach to local participation is the perception that public officials dealing with nature conservation at various levels lack knowledge and skills to engage local people into decision-making [43\*: 2]. Therefore, proponents of discourse C, similarly to the proponents of discourse A, are adamant that economists, sociologists, and lawyers should support conservation biologists in conservation planning [46: 4]. Another barrier to participation, according to discourse C, is the lack of effective legal procedures and organisational mechanisms [14\*: 1].

Representatives of discourse C do not believe it is possible to avoid discontent and sense of injustice among people affected by nature conservation [27\*: 2]. Education might be helpful [32\*: 2] but discourse C is not as enthusiastic here as other discourses. Proponents of this discourse also agree that if only experts were managing protected areas it would entail excessive restrictions to the local community [34\*: 2]. They are ambivalent to the statement that each concession to local communities will escalate their demands [40\*: 0], which contrasts with discourses A [40\*: - 3] and B [40\*: - 2]. Similarly, discourse C reflects a degree of disagreement that people who live in naturally valuable areas and take advantage of their values must accept restrictions required to save these values [10\*: - 1]. Among the three discourses discourse C displays also the least level of disagreement with the statement that nature conservation prevents local community from meeting their economic needs [1\*: - 1], suggesting that the proponents of this discourse are aware that some economic needs might indeed be compromised. Still, they are very far from vesting management of protected areas into the hands of the local communities only [25: - 4] or even from granting local communities the right to veto actions and restrictions concerning nature conservation [30: - 3]. They strongly doubt that local people know what and how to protect and do not need regulation [17: - 4]. At the same time, discourse C strongly concurs with the statement that managing of protected areas should consider both conservation and socio-economic goals [19: 3] and very strongly

supports taking local socio-economic conditions into account when creating management plans for protected areas [26: 4]. It also vehemently opposes domination of decision-making by central authorities [45: - 4].

### 4.4. Consensus Statements and Key Differences Among Stakeholder Groups

We found four consensus statements, i.e. statements that do not distinguish between any pair of discourses at  $P > 0.01$  and  $P > 0.05$  (marked with an asterisk). Representatives of all discourses to some extent disagreed that it is too time consuming and too expensive for the local communities to engage in managing protected areas [16; A: - 1; B: - 2; C: - 1] and that public institutions responsible for nature conservation do not care about the local input [18; A: - 1; B: - 2; C: - 2]. They were also ambivalent about the statement that before introducing conservation measures it is crucial to ensure that locals have decent living conditions [21\*; A: 1; B: 0; C: 0]. Finally, members of all discursive groups were relatively positive toward taking into account local socio-economic conditions when creating management plans for protected areas [26; A: 2; B: 3; C: 4]. Apart from that, all discursive groups were strongly against transferring managing protected areas either to local people [25; A: - 4; B: - 4; C: - 4], or to central authorities [45; A: - 4; B: - 3; C: - 4], or to conservation experts [13; A: - 4; B: - 1; C: - 3].

The most contentious issues were connected with the assessment of the role, characteristics and responsibilities of local people. The key statement that local representatives should participate in taking conservation decisions regarding protected areas was distinguishing for factors B and C at  $P < 0.01$  [22; A: 3; B\*: 0; C\*: 1]. Usually discourse B differed considerably from two other discourses providing for high variance across z-scores of discourses. This regarded statements that local communities do not know enough to assess natural values of protected areas [44; A: - 1; B\*: 4; C: - 1], that they should accept restrictions to save natural values which they benefit from [10; A\*: 1; B\*: 4; C\*: - 1], that local communities are mainly interested in local economic development and their participation would compromise conservation objectives [11; A: - 2; B\*: 2; C: - 2] or that existing laws are usually interpreted in favour of investments and not conservation [42; A: - 1; B\*: 3; C: - 2]. Sometimes, however, other discourses stood out, e.g. discourse A regarding the statement that locals can participate in all stages of conservation decision-making [35; A\*: 1; B: - 3; C: - 3] or discourse C, when claiming that there is a lack of financial and human resources to carry out effective participation [24; A: 0; B: 0; C\*: 3] and sceptically assessing the use of direct, personal methods of participation [23; A: 2; B: 1; C\*: - 1]. Key dividing questions for paired discourses, based on the difference between z-scores of statements, were mapped in Table 2.

With regard to the distribution of discourses among four aggregated stakeholder groups: (1) local people and local representatives (8 respondents); (2) NGOs/scientists/experts (17 respondents); (3) regional/national public officials/protected area staff/foresters (14 respondents); (4) general public (6 respondents), there were some patterns discernible (Fig. 1, see also supplementary materials for disaggregated data). The small-n sample size, however, characteristic for a Q study, did not allow for generalisations and these patterns should be treated with caution as

**Table 2**  
Key controversial questions concerning local participation in protected areas governance.

Discourses A–B	Discourses A–C	Discourses B–C
Should local people be involved?	How to involve local people?	Who should bear the costs of conservation?
How locals should be involved and to which extent?	What will be the effects of the participation?	What are the interests and priorities of local communities?
Do local people have knowledge supplementing scientific knowledge?		Do they know anything about natural values?
What should be the priorities of protected areas?		Should they be educated to increase conservation effectiveness?

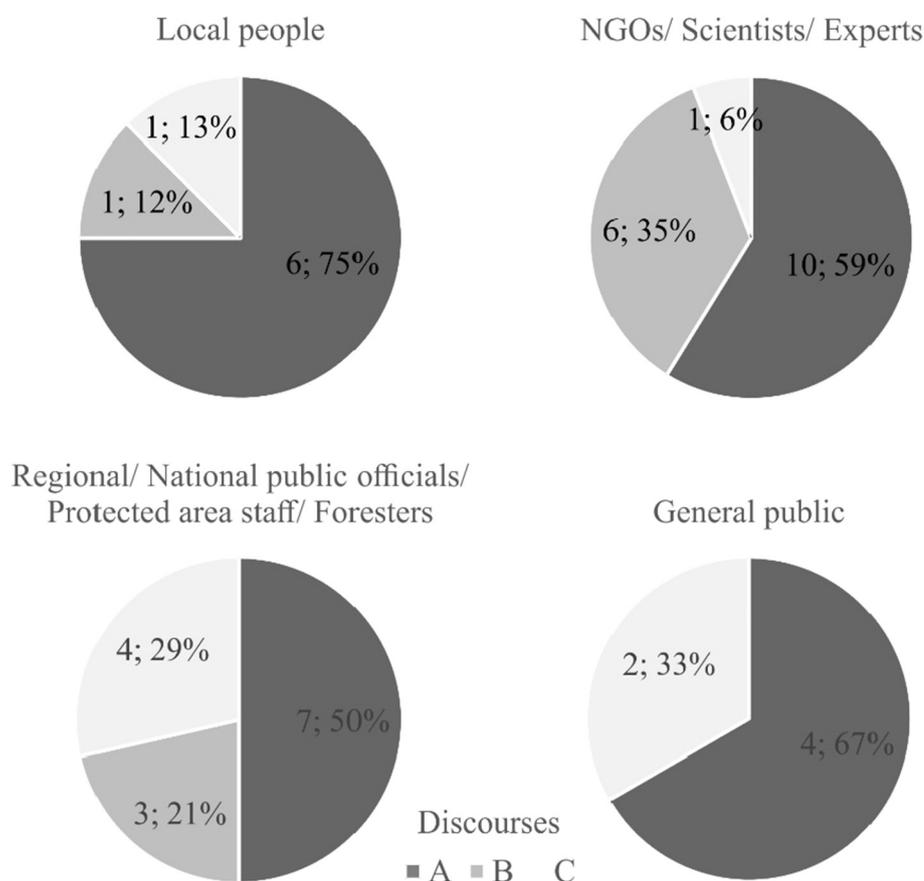


Fig. 1. Distribution of discourses among key stakeholder groups.

‘working hypotheses’ (Ockwell, 2008, p. 278), however, it offered insight into potential attitudes of the groups involved. In all four aggregated stakeholder groups discourse A, open to participation and treating locals as partners, dominated with between 50% (public officials/protected area staff/foresters) and 75% (local people) of respondents loading on that factor. Nature-centred discourse B was, not surprisingly, strongly represented among NGOs, scientists and experts (6 respondents – 35% of loadings from this aggregated group) but also found some support among public officials, protected areas staff and foresters (3 respondents – 21% of loadings) and was even represented by one respondent from the local group. However, it was absent among respondents representing the general public. Pragmatic discourse C found considerable share of supporters among the general public (2 respondents – 33%) and aggregated group of public officials, including protected areas staff (4 respondents – 29%), less so among local people (1 respondent – 13%) and NGOs/scientists/experts (1 respondent – 6%).

## 5. Discussion

This paper is the first published Q study focusing on attitudes toward participation in the governance of protected areas at a national level. Our results identify three main discourses two of which (A and C) supported participation but differ in terms of suggested methods, barriers and expected effects of participation. One discourse (B), close to traditional conservationist paradigm, was more sceptical about the need for participation and differed from two other discourses in terms of the perception of interests, knowledge and responsibilities of locals. Despite these differences, all discourses supported governance of protected areas that balances local and central influences as well as to a various degree were open to local knowledge. Consequently, they point to a shift toward more inclusive narratives.

The relative openness to participation among our respondents might

be partly explained by the experiences with the implementation of the EU Natura 2000 network of protected areas in Poland - the first larger attempt to legally introduce participation in protected areas governance (Niedziałkowski et al., 2015). Although the assessment of the process is mixed (Cent et al., 2014), such initiatives provided some advantages and gave various actors relevant experience. The fact that many public officials and conservationists learned their lesson from the problems with almost exclusively nature-centred Natura 2000 implementation (Ferranti et al., 2013) is supported by the only consensus statement that all discourses agreed with i.e. that local socio-economic conditions should be considered when creating management plans for protected areas. Another reason for the positive attitudes to participation may come from recognition that it would be difficult to protect biodiversity effectively without local people when actions on private land both within protected areas (Kamal et al., 2015) and outside of them (Mitchell and Brown, 2003) are increasingly needed. In the democratic context of decision-making in Poland local actors can increasingly mobilize political support against conservation measures (Franklin, 2002). At the same time, Petrova (2014) warns that the positive attitude to participation may be oriented at meeting bureaucratic goals and organisational aims rather than be understood as an opportunity for a fair deliberative process contributing to the joint production of “truths” and “values” (Habermas, 1984).

For local people, discourses viewing participation more positively, offered more options than the traditional top-down conservation without demanding a full local control of protected areas. They stressed both development and conservation goals of protected areas which provided space for the economic aspirations of local actors. This concurs with findings of Cairns et al. (2014) that local people loaded mainly either on the discourse which supported both goals or on a discourse which perceived conservation as detrimental to the development and advocated more bottom-up approach to decision-making. In our study, there was no discourse overtly critical to conservation and

all but one locals loaded on discourses A and C, supportive for combining conservation and developmental goals of protected areas.

Positive attitudes toward participation were dominant in all key stakeholder groups identified in the study. The more traditional conservation discourse, sceptical of participation, was represented to a lesser degree – mainly among the groups of NGOs/scientists/experts and public officials. So far studies on local attitudes toward biodiversity conservation document that respondents express a generally positive view of participation (Gall and Rodwell, 2016; Kamal and Grodzinska-Jurczak, 2014) or indicate that some groups of stakeholders view it negatively (Blicharska et al., 2011) or positively (Hoover and Stern, 2014). The nuanced picture of attitudes within key stakeholder groups implies a potential for finding a common ground despite different values and beliefs concerning nature. This confirms the observation of Swedeen (2006) that Q method may help to locate sometimes unexpected areas of agreement and to advance new solutions despite the history of conflict. Furthermore, the differences identified within stakeholder group hint at factors other than belonging to a particular stakeholder group, which influence attitudes toward local participation.

As to the barriers to participation, discourse A did not see any major problems. Discourse C, which we associate with conservation practitioners, stressed that public officials lack knowledge and skills to engage local people. It also alluded to insufficient financial and human resources. These barriers seem relatively easy to fix and should be considered when designing policy interventions. Discourse B, however, associated with conservationists, pointed to the lack of knowledge among the locals concerning various types of protected areas and observed that due to the perceived preoccupation of local people with economic development their involvement in managing protected areas might be detrimental to nature conservation. These suggested barriers point to wider socio-political and economic factors of protected areas governance. Actors involved in deciding about protected areas represent contrasting perspectives on biodiversity, methods of its protection, the role of the humans in the environment, on division of power and control between local people, governments and international bodies, access to local resources, and the definition and instruments of local development (Blaikie and Jeanrenaud, 1996; Escobar, 1998). According to some authors, fixes oriented at achieving compromise around scientifically specified objectives are not likely to produce intended environmental outcomes as they do not address socio-political aspects of protected areas governance - divergent values and perspectives and key power and distributional effects of conservation interventions (Cairns et al., 2014; Sheil et al., 2016).

Our results indicate that these socio-political barriers to participation include also beliefs of stakeholders concerning local people, their values and priorities. Discourse B, the closest to the traditional conservation narrative (Hutton et al., 2005), stands out perceiving locals as mainly economically driven, with limited knowledge of natural values of their local environment and, consequently, as one of the main threats to the conservation of protected areas. At the same time this discourse implies that the costs connected with conservation restrictions should be borne to a large extent by locals themselves. Two other discourses disagree, but even within them, some attitudes reflect the traditional approach to protected areas and local people. This is particularly visible in reactions to the statement suggesting that to achieve effective conservation local communities need to be educated about natural values and conservation needs. Discourses A and B strongly supported this statement, while discourse C was slightly less enthusiastic. Its proponents, which included a few people working “on the ground”, might be more sceptical toward the effectiveness of “cognitive fixes”, i.e. changing attitudes and behaviours by providing information (Haberlein, 2012, p. 4). To achieve societal consensus around conservation various incommensurable values and beliefs concerning nature, local development, distribution of costs, benefits and power should be highlighted and recognized during protected areas governance rather than downplayed as “information deficit” Cairns et al. (2014). Notwithstanding, as

pointed out by Tacconi (2000), conservation education is often a tool to make local people pay for conservation initiatives that are beneficial to national and international communities. In his view, despite the lack of conservation education, local people will meaningfully participate when presented with real benefits from conservation.

Fundamental differences in values and beliefs were reported in literature on conservation related conflicts in Poland (Blicharska and Van Herzele, 2015; Cent et al., 2013; Niedziałkowski, 2016). Our results hint at the gap in discussing economic and socio-political implications of biodiversity conservation during protected areas still mainly defined and managed in a traditional way. However, in our study values and beliefs alternative to the dominant vision of nature and its conservation were reflected only to a limited extent. This may have been caused by our concourse and Q-set, which mainly included statements operating within the dominant paradigm of nature conservation rather than challenging its basic assumptions and definitions. It might have also stemmed from the fact that most of our sources were either officially published or included material from relatively formal meetings and workshops, where actors might have felt less inclined to voice opinions challenging official scientific discourse. Also when selecting the Q-set we reduced the number of similar statements from the concourse leaving those more encompassing but also less specific which admittedly made the Q-set less radical. The attitudes challenging the traditional perception of protected areas are required to adopt a more argumentative participation (Hirsch et al., 2011; Hoppe, 2010). Still, there is also much space for improving participatory practice within existing structures and frames.

In robust institutional arrangements a combination of rules, practices and narratives shapes individual behaviour (Lowndes and Roberts, 2013). In our paper we show that narrative mechanisms are in place for a more meaningful participation. Elsewhere we have observed that legal mechanisms supporting local input are also increasingly incorporated into the legislation (Niedziałkowski et al., 2015). Thus, what might still prevent wider participation in protected areas governance are practices – informal rules based on particular values and beliefs that “in periods of transition may prove especially tenacious and resistant to change, existing in parallel – or even direct contradiction – to formal rules (...) neutering or subverting the intended changes in values and/or power relationships” (Lowndes and Roberts, 2013, p. 58). Therefore, we suggest that there is a need to centre further research on informal practices of actors involved in participation processes within protected areas governance.

## 6. Conclusions

The Q study revealed three distinct discourses concerning participation of local communities in decision-making regarding protected areas. They ranged from a very optimistic perspective characterized by a positive picture of local communities and little perceived barriers to their involvement, through cautious approach with a mixed view on local participation, highlighting organisational and administrative barriers, and to the sceptical approach which perceives local communities as a threat to key natural values of protected areas. The results point to the plurality of narratives around participatory protected areas governance which contradicts simple discursive dichotomy between conservationists and locals. Furthermore, they reveal a considerable openness of key stakeholder groups to more participatory decision-making. There are some patterns of actors subscribing to the discourses but the discursive groups are relatively heterogeneous, which signals a spectrum of opinions within the stakeholder groups and a space for compromise among them. Respondents also recognize that the times of centrally dominated nature conservation in Poland have passed and that there is a need to provide local communities with some impact on decision-making concerning protected areas. To do it effectively one should increase the participatory skills of public officials and improve funding, but also, more importantly, recognize and embrace the

diversity of perspectives on nature, development, local people and distribution of costs and benefits connected with protected areas.

## Acknowledgements

The authors thank all of the anonymous participants who shared their views on public participation in protected areas governance. We are also grateful to two anonymous reviewers for their comments on an earlier version of the manuscript

## Funding

The research leading to these results has received funding from the Polish-Norwegian Research Programme operated by the National Centre for Research and Development under the Norwegian Financial Mechanism 2009–2014 in the frame of the LINKAGE project [project contract number POL-NOR/196105/2/2013].

## Appendix A. Supplementary materials

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.ecolecon.2017.11.018>.

## References

- Barry, J., Proops, J., 1999. Seeking sustainability discourses with Q methodology. *Ecol. Econ.* 28, 337–345.
- Blaikie, P., Jeanrenaud, S., 1996. Biodiversity and human welfare. In: UNRISD Discussion Papers, Available from: [http://www.unrisd.org/80256B3C005BCCF9/%28httpAuxPages%29/ACA8333A4CB1D7F980256B67005B68F5/\\$file/dp72.pdf](http://www.unrisd.org/80256B3C005BCCF9/%28httpAuxPages%29/ACA8333A4CB1D7F980256B67005B68F5/$file/dp72.pdf).
- Blicharska, M., Van Herzele, A., 2015. What a forest? Whose forest? Struggles over concepts and meanings in the debate about the conservation of the Białowieża forest in Poland. *Forest Policy Econ.* 57, 22–30.
- Blicharska, M., Angelstam, P., Antonson, H., Elbakidze, M., Axelsson, R., 2011. Road, forestry and regional planners' work for biodiversity conservation and public participation: a case study in Poland's hotspot regions. *J. Environ. Plan. Manag.* 54, 1373–1395.
- Borrini-Feyerabend, G., 1996. Collaborative Management of Protected Areas: Tailoring the Approach to the Context. IUCN, Gland, Switzerland.
- Bredin, Y.K., Lindhjem, H., van Dijk, J., Linnell, J.D.C., 2015. Mapping value plurality towards ecosystem services in the case of Norwegian wildlife management: a Q analysis. *Ecol. Econ.* 118, 198–206.
- Brown, S.R., 1980. Political Subjectivity: Applications of Q Methodology in Political Science. Yale University Press, New Haven, CT.
- Brown, S.R., 1993. A primer on Q methodology. In: *Operant Subjectivity*. 16. pp. 91–138.
- Cairns, R., Sallu, S.M., Goodman, S., 2014. Questioning calls to consensus in conservation: a Q study of conservation discourses on Galápagos. *Environ. Conserv.* 41, 13–26.
- Carr, L.M., Heyman, W.D., 2012. "It's about seeing What's actually out there": quantifying fishers' ecological knowledge and biases in a small-scale commercial fishery as a path toward co-management. *Ocean Coast. Manag.* 69, 118–132.
- Cattell, R.B., 1966. The scree test for the number of factors. *Multivar. Behav. Res.* 1, 245–276.
- Cent, J., Grodzińska-Jurczak, M., Nowak, N., 2010. Ocena efektów małopolskiego programu konsultacji społecznych wokół obszarów Natura 2000 [evaluation of the effects of the public consultation programme concerning Natura 2000 sites in Małopolska region]. *Chrońmy Przyrodę Ojczystą* 66, 251–260.
- Cent, J., Mertens, C., Niedziałkowski, K., 2013. Roles and impacts of non-governmental organizations in Natura 2000 implementation in Hungary and Poland. *Environ. Conserv.* 40, 119–128.
- Cent, J., Grodzińska-Jurczak, M., Pietrzyk-Kaszyńska, A., 2014. Emerging multilevel environmental governance – a case of public participation in Poland. *J. Nat. Conserv.* 22, 93–102.
- Donner, J.C., 2001. Using Q-sorts in participatory processes: an introduction to the methodology. In: *Social Development Papers: Social Analysis. Selected Tools and Techniques* 36. pp. 24–49.
- Dryzek, J.S., 2013. *The Politics of the Earth*. Oxford University Press, Oxford.
- Escobar, A., 1998. Whose knowledge, whose nature? Biodiversity, conservation, and political ecology of social movements. *J. Polit. Ecol.* 5, 53–82.
- Ferranti, F., Turnhout, E., Beunen, R., Behagel, J.H., 2013. Shifting nature conservation approaches in Natura 2000 and the implications for the roles of stakeholders. *J. Environ. Plan. Manag.* 1–16.
- Franklin, S., 2002. Białowieża Forest, Poland: representation, myth, and the politics of dispossession. *Environ. Plan. A* 34, 1459–1485.
- Freeman, R.E., 1984. *Strategic Management: A Stakeholder Approach*. Pitman, Boston.
- Funtowicz, S.O., Ravetz, J.R., 1993. Science for the post-normal age. *Futures* 25, 739–755.
- Gall, S.C., Rodwell, L.D., 2016. Evaluating the social acceptability of marine protected areas. *Mar. Policy* 65, 30–38.
- Grodzińska-Jurczak, M., Cent, J., 2011. Expansion of nature conservation areas: problems with Natura 2000 implementation in Poland? *Environ. Manag.* 47, 11–27.
- Haberlein, T.A., 2012. *Navigating Environmental Attitudes*. Oxford University Press, Oxford.
- Habermas, J., 1984. *The Theory of Communicative Action. Volume one: Reason and the Rationalisation of Society*. Polity Press, Cambridge, UK.
- Hirsch, P.D., Adams, W.M., Brosius, J.P., Zia, A., Bariola, N., Dammert, J.L., 2011. Acknowledging conservation trade-offs and embracing complexity. *Conserv. Biol.* 25, 259–264.
- Hoover, K., Stern, M.J., 2014. Team leaders' perceptions of public influence in the US Forest Service: exploring the difference between doing and using public involvement. *J. Environ. Plan. Manag.* 57, 157–172.
- Hoppe, R., 2010. *The Governance of Problems: Puzzling, Powering, and Participation*. Policy Press.
- Hutton, J., Adams, W.M., Murombedzi, J.C., 2005. Back to the barriers? Changing narratives in biodiversity conservation. *Forum Dev. Stud.* 32, 341–370.
- Kamal, S., Grodzińska-Jurczak, M., 2014. Should conservation of biodiversity involve private land? A Q methodological study in Poland to assess stakeholders' attitude. *Biodivers. Conserv.* 23, 2689–2704.
- Kamal, S., Grodzińska-Jurczak, M., Kaszyńska, A.P., 2015. Challenges and opportunities in biodiversity conservation on private land: an institutional perspective from Central Europe and North America. *Biodivers. Conserv.* 24, 1271–1292.
- Locke, H., Dearden, P., 2005. Rethinking protected area categories and the new paradigm. *Environ. Conserv.* 32, 1–10.
- Lockwood, M., Worboys, G., Kothari, A., 2006. *Managing Protected Areas: A Global Guide*. Earthscan, London.
- Lowndes, V., Roberts, M., 2013. *Why Institutions Matter: The New Institutionalism in Political Science*. Palgrave Macmillan, Basingstoke.
- Martinez-Alier, J., 2002. *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*. Edward Elgar Publishing, Cheltenham, UK.
- McKeown, B.F., Thomas, D.B., 1988. *Q methodology*. Sage, Newbury Park, CA.
- Mitchell, B., Brown, J., 2003. Stewardship and Protected Areas in a Global Context: Coping with Change and Fostering Civil Society. In: Minteer, B.A., Manning, R.E. (Eds.), *Reconstructing Conservation: Finding Common Ground*. Island Press, Washington, pp. 297–312.
- Neff, M.W., 2011. What research should be done and why? Four competing visions among ecologists. *Front. Ecol. Environ.* 9, 462–469.
- Niedziałkowski, K., 2016. Why do foresters oppose the enlargement of the Białowieża National Park? The motivation of the state forests holding employees as perceived by social actors engaged in the conflict over the Białowieża Forest. *For. Res. Pap.* 77, 358–370.
- Niedziałkowski, K., Paavola, J., Jędrzejewska, B., 2012. Participation and protected areas governance: the impact of changing influence of local authorities on the conservation of the Białowieża primeval forest, Poland. *Ecol. Soc.* 17.
- Niedziałkowski, K., Pietrzyk-Kaszyńska, A., Pietruczuk, M., Grodzińska-Jurczak, M., 2015. Assessing participatory and multi-level characteristics of biodiversity and landscape protection legislation: the case of Poland. *J. Environ. Plan. Manag.* <http://dx.doi.org/10.1080/09640568.2015.1100982>.
- Ockwell, D.G., 2008. Opening up' policy to reflexive appraisal: a role for Q methodology? A case study of fire management in Cape York, Australia. *Policy. Sci.* 41, 263–292.
- Paloniemi, R., Apostolopoulou, E., Cent, J., Bormpoudakis, D., Scott, A., Grodzińska-Jurczak, M., Tzanopoulos, J., Koivulehto, M., Pietrzyk-Kaszyńska, A., Pantis, J.D., 2015. Public participation and environmental justice in biodiversity governance in Finland, Greece, Poland and the UK. *Environ. Policy Gov.* 25, 330–342.
- Petrova, S., 2014. *Communities in Transition: Protected Nature and Local People in Eastern and Central Europe*. Routledge, Farnham.
- Phillips, A., 2003. Turning ideas on their head: the new paradigm for protected areas. In: *George Wright Forum*. 20. pp. 8–32.
- Pietrzyk-Kaszyńska, A., Cent, J., Grodzińska-Jurczak, M., Szymańska, M., 2012. Factors influencing perception of protected areas—the case of Natura 2000 in Polish Carpathian communities. *J. Nat. Conserv.* 20, 284–292.
- Rauschmayer, F., van den Hove, S., Koetz, T., 2009. Participation in EU biodiversity governance: how far beyond rhetoric? *Environ. Plann. C. Gov. Policy* 42–58.
- Reed, M.S., 2008. Stakeholder participation for environmental management: a literature review. *Biol. Conserv.* 141, 2417–2431.
- Renn, O., 2006. Participatory processes for designing environmental policies. *Land Use Policy* 23, 34–43.
- Risdon, A., Eccleston, C., Crombez, G., McCracken, L., 2003. How can we learn to live with pain? A Q-methodological analysis of the diverse understandings of acceptance of chronic pain. *Soc. Sci. Med.* 56, 375–386.
- Sheil, D., Cohen, J., Colfer, C.J.P., Price, D., Puri, R., Ruiz-Perez, M., Sugandi, Y., Vedeld, P., Wollenberg, E., Yasmi, Y., 2016. The moral basis for conservation – reflections on Dickman et al. *Front. Ecol. Environ.* 14, 67–69.
- Steelman, T.A., Maguire, L.A., 1999. Understanding participant perspectives: Q-methodology in national forest management. *J. Policy Anal. Manag.* 18, 361–388.
- Stephenson, W., 1935. Correlating persons instead of tests. *Character Pers.* 4, 17–24.
- Stoll-Kleemann, S., O'Riordan, T., 2002. From participation to Partnership in Biodiversity Protection: experience from Germany and South Africa. *Soc. Nat. Res. Int. J.* 15, 161–177.
- Swedeen, P., 2006. Post-normal science in practice: a Q study of the potential for sustainable forestry in Washington state, USA. *Ecol. Econ.* 57, 190–208.
- Tacconi, L., 2000. Biodiversity and ecological economics. In: *Participation, Values and Resource Management*. Earthscan, London and Sterling, VA.
- Van Exel, J., De Graaf, G., 2005. *Q methodology: a sneak preview*. Available from: [https://www.researchgate.net/publication/228574836\\_Q\\_Methodology\\_A\\_Sneak\\_Preview](https://www.researchgate.net/publication/228574836_Q_Methodology_A_Sneak_Preview).

- Visser, M., Moran, J., Regan, E., Gormally, M., Skeffington, M.S., 2007. The Irish agri-environment: how turlough users and non-users view converging EU agendas of Natura 2000 and CAP. *Land Use Policy* 24.
- Watts, S., Stenner, P., 2005. Doing Q methodology: theory, method and interpretation. *Qual. Res. Psychol.* 2, 67–91.
- Webler, T., Tuler, S., Krueger, R., 2001. What is a good public participation process? Five perspectives from the public. *Environ. Manag.* 27, 435–450.
- Webler, T., Danielson, S., Tuler, S., 2009. Using Q method to reveal social perspectives in environmental research. Available from: <http://www.seri-us.org/sites/default/files/Qprimer.pdf>.
- Wells, M., 1992. Biodiversity conservation, affluence and poverty: mismatched costs and benefits and efforts to remedy them. *Ambio* 21, 237–243.
- Wilshusen, P.R., Brechin, S.R., Fortwangler, C.L., West, P.C., 2002. Reinventing a square wheel: critique of a resurgent “protection paradigm” in international biodiversity conservation. *Soc. Nat. Resour.* 15, 17–40.