Participatory Community Involvement in the Planning Processes of Building Projects – A Social Psychological Approach[1]

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Abstract

This paper describes a consultancy project aimed at designing and implementing a public participatory process for the planning of two dams in Portugal. This intervention was inspired by a social psychological approach developed by Abrams, Hogg and Marques (2005). The project's three specific aims were: (1) to change perceptions held by the dam developers: i.e., changing the organizational culture, the dominant attitudes and representations company members had towards the local communities, making them more inclusive; (2) to change knowledge about local actors: i.e., increasing the knowledge about the communities in order to create a more comprehensive understanding of them, and (3) to change organizational procedures, i.e., improving the communication strategies of the company with the communities in order to promote public participation and integrate local interests in the final decision. To address these goals, different methodologies were used (e.g., surveys, interviews, focus groups, participative workshops, observation, training sessions), involving both local communities and practitioners, and favoring interactive formats that allowed freedom of expression that fostered participation. Our experience shows that, on the one hand, the company gained valuable insights from the process, with the communities also benefiting in terms of increased confidence in articulating their interests, on the other.

Keywords: conservation ecological behavior; public participation; dam; communication with local communities; inclusive approach

Zusammenfassung

Dieser Artikel beschreibt ein Beratungsprojekt, das das Ziel hatte, einen öffentlichen Partizipationsprozess in der Planung von zwei Dämmen in Portugal zu entwerfen und zu implementieren. Diese Intervention basierte auf einem sozialpsychologischen Ansatz, der von Abrams, Hogg und Marques (2005) entwickelt wurde. Die drei spezifischen Ziele des Projektes waren 1. die Wahrnehmungen auf Seiten der DammentwicklerInnen zu verändern, das heißt, die Organisationskultur, die vorherrschenden Einstellungen der Firmenmitglieder gegenüber der örtlichen Gemeinde zu ändern, hin zu stärkerer Einbeziehung, 2. Wissen über lokale AkteurInnen zu verändern, das heißt das Wissen über die Gemeinden zu erweitern um ein umfassenderes Verständnis der örtlichen Gemeinden zu erreichen und 3. Organisationale Prozeduren zu verändern, das heißt, die Kommunikationsstrategien des Unternehmens im Umgang mit den Gemeinden zu verbessern um öffentliche Partizipation zu fördern und lokale Interessen in die abschließenden Entscheidungen zu integrieren. Um diese Ziele zu erreichen wurden verschiedene Methoden verwendet (z.B. Fragebogenerhebungen, Interviews, Fokusgruppen, Partizipative Workshops, Beobachtung, Trainingssitzungen). Sowohl örtliche Gemeinden, als auch Praktiker wurden einbezogen und interaktive Formate genutzt, welche die Partizipation fördernde, Meinungsäußerung ermöglichte. Unsere Erfahrungen zeigen, dass einerseits das Unternehmen durch den Prozess wertvolle Einsichten gewinnen konnte und dass andererseits auch die Gemeinden profitierten insofern, als sie größeres Selbstvertrauen zur Artikulation ihrer Interessen erlangten.

Schlüsselworte: umweltbewusstes Verhalten, offentliche Partizipation, Dämme, Kommunikation mit lokalen Gemeinden, Inklusionsansatz

1. INTRODUCTION

In the last decades, legislative efforts have been made all over the world to ensure sustainable development (UNCED, 1987, p. 363). One aspect of that goal is the promotion of public participation in environmental decision-making processes as a way to reconcile environmental and economic development. Following international and European directives, the Portuguese legal code was also changed to ensure the rights of the citizens to participate, be informed about and have access to justice in the environmental domain. However, the application of the legislation has not been easy in Portugal (Castro & Mouro, 2011, Gonçalves, 2002; Lima, 2009). Particularly in long and complex environmental projects, the project's owner is expected to implement multiple participation procedures at different points in the process, which they are often not prepared for. In this paper we describe our work as consultants to a Portuguese energy company (EDP – Energias de Portugal) in the development of a participatory process associated with the planning of new dams in Portugal.

Decisions on dams are a classic case study of an environmental conflict (d'Estrée, Dukes & Navette-Romero, 2002) where several different perspectives must be taken into account. Such projects necessarily develop over a long period of time and thus, all participants know that their interaction will have a long duration. The construction of a dam has clear local environmental impact both on nature (impact on ecosystems or biodiversity) and on the landscape of the surrounding communities. In fact, these large-scale projects not only transform the physical landscape, but also often the social and functional characteristics of the location, impacting ways of life, types of social/community relationships and even relationships with space (Devine-Wright, 2009; Stedman, 2002). Legal and technical information play a key role in this decision process, but often there is a high margin of uncertainty regarding the project's exact features. This means the final decision on a new dam can accommodate the interests of many divergent parties; different local actors often want to have an active voice in the process, but frequently either they do not know how to participate or are ignored by the decision makers. Although in a decision-making process such as this, local involvement may prove to be crucial, only recently have project promoters begun to recognize the importance of involving the communities in the process.

The aim of our intervention was to increase the company's awareness of the communities' concerns and to implement regular procedures of communication with local stakeholders that could allow public participation throughout this extended process. This represented a substantial shift in the way the company related to local communities, but was also a challenge for the local agents. In fact, our approach is consistent with the recent perspective

of Rau, Schweizer-Ries and Hildebrand, (2011) that stress the different processes that occur either on the side of the "involved persons" (the community members in our case) and in the side of the "involving persons" (for us the company members). We will begin by describing how we theorized this intervention, and then we will describe how our approach was implemented in two projects for new dams managed by EDP.

2. THE THEORETICAL APPROACH OF THE INTERVENTION

EDP sought to change its former way of relating to local communities during dam construction processes. In order to make more sustainable decisions, they wished to change their usual way of implementing energy projects, which had, historically, excluded many key community agents. In designing a more inclusive intervention strategy, we utilized the psychosocial model proposed by Abrams, Hogg and Marques (2005), which delineates these two perspectives: the old, exclusive one to be abandoned, and the new, inclusive one to be implemented.

In this section, we will start by giving a social psychological characterization of the traditional approach of the company to the relationship with the communities during the construction of new energy structures, followed by a characterization of the new inclusive model that was defined as the future goal. This section will end with an overview of the intervention as well as a definition of its key concepts.

2.1 The traditional view of the relationship with local communities: an exclusive approach

The exclusive model has traditionally dominated dam decision-making methods, particularly for EDP. Decisions involving dam construction were made based on technical opinions and negotiation with a restricted group of entities, excluding the majority of the local agents, who often passively accepted this situation.

From the point of view of the company, this exclusion procedure emerged from two structural characteristics that simultaneously justified and maintained it. First of all, it was linked to a technocratic, centralized and bureaucratic ideology guiding the decision-making process (Douglas, 1987), focusing only on technical contributions. Decisions involving dams were seen as mere technical issues confined to the physical space of the river, where specialists and authorities play the central decision-making roles (Lima, 2009). The relationship with the community was seen as a secondary aspect of the process and was limited to a highly asymmetrical and unilateral communication process – the delivery of

information, normally in technical jargon, inaccessible to the public (Lima, 1995; 2004). Besides this technocratic bias, the members of the company shared a representation of local communities as lacking the resources, interest or ability to participate. Local community members were seen as deficient spokespersons in the decision-making process regarding dams: they were normally considered a homogenous mass of people with limited technical (and even cognitive) resources, and were expected to have a self-centered, egoistical, irrational and emotional attitude towards the problem (Lima, 2004). This appears to be a perfect example of the stereotyping and infrahumanization (Leyens et al., 2000; Viki & Abrams, 2003) of local community members, whose inferior representation helped to explain the low importance given to them in decision-making. Moreover, local communities' participation in the decision-making process was seen as a potential threat to the company's interests, as it entailed an unnecessary delay in the process, and because community goals were perceived as clearly separate from those of the company.

From the standpoint of local agents, this exclusion from the decision-making process was often accepted in a passive and fatalistic manner (Douglas, 1987), which is a logical response from powerless communities to bureaucratic ideology (Zimmerman & Rappaport, 1988). However, the marginalization of local community members sometimes provoked negative reactions among those excluded (anger, resentment and retaliation) and even lead to open conflict (Twenge & Baumeister, 2005; Twenge et al., 2001; Williams et al., 2002; Williams & Govan, 2005) when local agents felt marginalized in decision-making process or when the decision significantly affected their local identity.

2.2 The proposed view of the involvement of local communities: an inclusive approach

The inclusive perspective aims to promote a sustainable decision and therefore to incorporate practices of social participation in such processes. However, in order to achieve these goals, significant changes must be put in place, both by the company and the local communities.

For the company, this change entails adopting a different set of values that favors social participation in the regulatory and legal context of decisions. For example, the Water Framework Directive (WFD, Directive 2000/60/EC of 23 October 2000) defines public involvement as including "information" and "consultation," which must be ensured, but also "active involvement", which should be encouraged. In order to implement these recommendations, the process of decision-making involved in the construction of a new dam should be considered in a broader context: the area to be considered should go beyond the space of the river/dam and include the voices of other interested parties such as the

communities both upstream and downstream; although experts' contributions are essential, the decision must embrace a number of diverse perspectives, including the needs and interests of local communities. In other words, information dissemination to the public is no longer a marginal aspect of the process; it is a mandatory element of the decision-making process, along with the consultation of the local communities' opinions on the project. This collaborative way of making decisions is incompatible with the limited participation model that traditionally occurred**.** Furthermore, working together with communities requires seeing residents as a group of diverse individuals, including agents with relevant knowledge, interests in the process, and useful skills, rather than a homogenous group lacking resources. Community involvement also means that the more powerful group should accept that decisions might be modified according to the contributions of these partners, who can promote local mobilization, and may have goals that coincide with those of the company.

In order to achieve a more participatory environmental decision-making, local communities would need to adapt to this change and learn more proactive ways of participating in the process. There are a number of new skills to be developed and barriers to be overcome in this process (Klandermans, 1997). One of them is learning about opportunities for participation, and trusting the participation process**.** Access to information is fundamental for the participation of citizens and interested parties. However, members of the local community are often unaware of the various routes to participation: they lack information on participation mechanisms in general and on the decision-making process for the dam in particular. Also, confidence in the participation process facilitates the inclusion of interested parties and citizens, but there is a general lack of trust in participatory processes among citizens, and a subjective assessment of their results as ineffective. Another important change within the communities is the motivation to participate and overcome the barriers to active involvement**.** In order to become part of the process, local agents must feel that the problem in question is important to them or to their community (Séguin, Pelletier & Hunsley, 1998). Community members must also believe in their abilities and know what they are being asked to do. Low scientific literacy, a lack of confidence in their abilities, or inhibition in terms of expressing their ideas to more educated individuals (Oskamp & Schulz, 1998) are all barriers that explain the passive role community members often take, even when participation is valued. From the point of view of communities, there is much to be done in order to promote empowerment in this particular domain.

Table 1 compares the two models on several relevant dimensions for this case.

– Please insert table 1 about here –

2.3. Defining the intervention goals

Applying the psychosocial model of Abrams, Hogg and Marques (2005) to this change process gave us an overall understanding of the necessary modifications in the way EDP related to the communities during the decision-making processes associated with the construction of the dams: the transition from an exclusive towards an inclusive approach.

Both in regulatory and in scientific terms, the inclusive processes are preferable to exclusive ones. In regulatory terms, national and European legislation has progressively endorsed decision-making methods promoting local community involvement as a means of ensuring more sustainable decisions, increasingly distancing itself from the exclusive decision-making model. Practices in other countries have also shown positive results using an inclusive approach during similar decision-making processes (McKinney & Harmon, 2007; 2008). The literature from diverse areas of social psychology also supports the use of participatory decision-making processes, finding that they tend to produce better results. For example, various leading organizational authors (e.g., Bass, 1998; Likert, 1961; McGregor, 1960) have shown that participative systems have better performance and a better relational climate, and are thus preferable, especially when the group has experience and expertise (Hersey & Blanchard, 1977). Other literature stresses the importance of participatory procedures for the decision-making process to be assessed as fair (Lind & Tyler, 1988). Research on political decisions shows that they are considered more just if there are opportunities for people to present their positions before decisions are made (Tyler, Rasinki & Spodick, 1985), the public's opinion is considered (Tomkins et al., 2010; Tyler & McGraw, 1986) and if the decision-makers show respect and empathy for people's values (Markell & Tyler, 2008; Tyler, 1994).

Having defined the ideal model to attain, the general goal of our intervention was then to work with EDP to change the approach of the company in relation to the communities living close to the areas where the dams were planned. In order to promote the transition from an exclusive approach to more inclusive involvement of the communities, our work aimed at attaining three specific objectives:

1) To change perceptions: changing the organizational culture, the dominant attitudes and representations of the company members towards the local communities to more inclusive values;

2) To change knowledge: increasing the knowledge about communities in order to create a more complex view of the local communities;
3) To change procedures: improving the communication strategies of the company with the communities in order to promote public participation and to integrate local interests in the final decision.

Before describing in detail how these three goals were addressed, some conceptual clarification should be made about key concepts.

"Public involvement" in the decision-making process, a basic goal of this project, was defined as ongoing communication allowing discovery and learning between the two parties: the company and the local agents. We assumed that an improved communication process would improve the overall quality of the outcome of the decision-making about the dams. In fact, as it allows a broader sharing of information, the discussion of a broader range of viewpoints and the integration of key local knowledge into the project execution, some benefits would be expected, either in the quality of the results, the perceived legitimacy of the process and the participatory skills of those involved (Dietz & Stern, 2008).

It is also important to clarify who was considered a stakeholder in this context, as this concept has gained importance in management theory in recent years. In this work, we used Bryson's (2004) very broad definition of stakeholders as *"people, groups or organizations that must be taken into account by the leaders, managers and directors of an organization" (p. 22),* instead of more restrictive ones that focus primarily on powerful social actors (e.g., Mitchell, Agle & Wood, 1997). This inclusive definition seems more in line with the ethical principles of social justice and democracy, since it gives weight to the interests of the less powerful as well.

3. METHODOLOGY AND RESULTS OF INTERVENTION

We used a highly diversified set of techniques to address the objectives (Horelli, 2002). In this paper, we will discuss these techniques as they relate to the three aforementioned goals, separately. Figure 1 gives an overall picture of the methodologies employed, either directed at the communities or to the company.

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Our intervention focused on two new hydroelectric dam projects, Fridão and Alvito Hydroelectric Dams (respectively FHD and AHD). These dams are two of 10 new dams to be constructed under the Portuguese plan for the production of electricity using renewable energies. The first one is in the North, in a heavily populated area, and the construction of the

dam will lead to the relocation of about 30 households. The second is in Central/Eastern Portugal in a very dry and more sparsely inhabited region. Although they are different projects, in both cases the benefits of the project are clearer at the national than at the local/regional level (e.g. local employment, road construction. The inconveniences of the project, however, are restricted to the local area. They include many types of environmental disturbances during the construction period, and important changes in the landscape and land use that may be integral to the local identity of those living in the area.

3.1. Promoting more inclusive practices in the company

Some of our actions were centered on effecting direct changes to corporate culture. Along these lines, we defined a methodology with EDP to approach each of these processes in an inclusive manner, and weighed the strengths and weaknesses of the company in this area through a participatory workshop with the management staff. This initiative was the first step of a more general bottom-up process to diagnose the organizational needs (McGehee & Thayer, 1961; Noe, Hollenbeck, Gerhart & Wright 2004) in the domain of inclusive and participatory skills. Interviews with different organizational actors, the analysis of organizational documents (focused on the strategy, mission and values of the organization) and the identification of specific examples of inclusive and exclusive decision-making processes in EDP history were also part of this phase. Based on the results of this phase, training sessions with EDP technicians who interact in any way with local communities were developed in order to address the specific problems identified, and to encourage the transfer of the skills learned to their work with the local communities. The specific goals of the training program were**:**

(i) To highlight the signs of cultural change occurring in the company. This goal was addressed by providing an overview of enterprise sustainability values (focused on social sustainability) and stating the support of the company administration.

(ii) To create a more heterogeneous and positive view of the local communities. This goal was addressed by demonstrating the existence of biased attitudes and representations held by EDP technicians regarding local communities and the potential effects of those biases on decision-making processes.

(iii) To develop the skills necessary for successful communication with local social agents (namely being aware of discriminatory practices and avoiding degrading language). We addressed this goal by discussing the current procedures for community involvement and

presenting new procedures based on our theoretical approach, in order to produce a detailed portrait of the communities' views (described below in 3.2).

The first 16-hour pilot training program was conducted with a group of 15 company employees. The change in attitude towards the community members and the participatory process were positively evaluated when compared with a random waiting list of EDP employees that was used as a control group. Also, web instruments to foster the individuation of the local stakeholders were provided during the training, which actively promoted transferability. This was done in order to ensure that the new inclusive approach was really being used in the work with the local communities. As the results showed the efficacy of this pilot training (Table 2), we are now planning a full roll-out to all the members of the company that have contact with local projects, in order to fully propagate this new cultural approach throughout the company.

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3.2. Producing a detailed portrait of the communities' views

Other activities allowed the company to actually have a clearer picture of the different local agents' opinions and concerns. These included a survey, stakeholder identification and interview, and the organization of workshops involving local stakeholders. Below, we will describe these activities and the results obtained in more detail.

3.2.1. Identifying the level of local support for the dam project

A survey was conducted among the residents from each of the sites that were considered for new dams, in order to determine the level of local support for the project and the primary expectations and fears associated with it. A structured questionnaire was designed based on the literature and on previous fieldwork (interviews with local actors and content analysis of local media and blogs). Data collection was done by trained interviewers in face-to-face interviews conducted in the homes of the local residents. This data collection technique was used to maximize the response rate on controversial issues and to allow people with low levels of education to participate in the survey. Participants in these studies were a random, representative sample of the residents in the municipalities affected by each of the projects. 385 residents (60.3% women) were interviewed from one of the sites, 248 (46.4% women) from the other. These surveys allowed us to characterize the general public attitude towards the project (e.g., average level of support for the construction of the dam) and the main expectations associated with the new dam. As Table 3 shows, the levels of support for the dam were very different in the two sites. In the southern site, strong local support was

observed, maintained by two groups of beliefs: strong positive expectations of improved quality of life in the municipality, associated with trust in the local authorities; the second group of beliefs, more general in scope, focused on expectations of increased economic development and perceived procedural justice in the decision making process. In the northern project, the pattern of results showed a completely different picture. In this case, the support for the project was predicted by expectations of increased quality of life, lower levels of perceived threat and higher levels of perceived control over the dam and a positive balance between benefits and costs associated to the project. Additionally, the overall attitude towards the project was more negative (Table 3). In particular, there were strong differences in the opinion of the residents in the municipalities located upstream of the dam (more favorable) and those downstream (more critical).

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The specific information about the ways the dam was perceived in the different communities and the contextual determinants that were salient for each of the municipalities, even for the same project, gave the company a more structured and specific view of the local concerns and hopes associated with the projects.

3.2.2. Identifying and characterizing local stakeholders

In another activity, involving more direct contact with the community, local stakeholders (i.e. the different groups and local agents that make up these communities) were identified and their positions were characterized. This work was done on a case-by-case basis, since each local agent's way of relating with the project also depended on the local dynamics (Carrus, Bonaiuto & Bonnes, 2005). The procedure to identify the local stakeholders took into consideration not only the company's responsibilities (i.e., the entities that the company was legally obliged to involve in the decision making process), but also included three other criteria: representativeness (i.e., elected local authorities and representatives of local groups – for example sports, environmental or local associations such as those of farmers, hunters or fishers), influence (i.e., the impact of that stakeholder on the attitudes of the community – for example directors of local radios or newspapers) and proximity to the local populations (e.g. leaders of charities, schools or health institutions). Local agents' positions were characterized through individual interviews, which were recorded, transcribed and content analyzed, so that we could simultaneously identify response patterns or common mental schemes and

idiosyncrasies. In order to guarantee the quality of the analysis, each interview summary was validated through a follow-up telephone call with the interviewee. These results also show that the stakeholders in the Fridão area were much more critical of the construction of the dam than those in the Alvito area (see Table 4). In the northern site, the arguments against the project usually revolved around concerns about future environmental problems, specifically water quality; the most commonly mentioned advantages were economic (increases in tourism, available employment opportunities, and general economic development in the area).

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3.2.3. Identifying local conservation values

Based on the results of the stakeholder identification activity, we carried out a group activity involving the identification of local conservation values. Specifically, participatory workshops were held with local agents previously identified in the stakeholder interviews. The purpose of these workshops was to promote the involvement of the local stakeholders in the identification of specific conservation values in the dam construction zone. The group methodology used to plan the workshops was adapted from the Landscape Outcomes Assessment Methodology (LOAM) recently developed by the World Wild Fund – Forests for Life Programme (Aldrich & Sayer, 2007; Carney, 1998; Sayer et al., 2006). LOAM is a methodology that deals with the challenges of analyzing conservation values at a landscape level. In its full version, it includes a participatory process of data collection, focusing on the most significant and valued elements in a given landscape, the shared creation of indicators to assess the levels of development of those values and the monitoring of the evolution of those values. The LOAM approach promotes the identification and assessment of five types of values (Carney, 1998; Sayer et al., 2006; Scoones, 1998): economic (such as employment level), environmental (such as biodiversity), human (such as professional specialization), physical (such as quantity and quality of roads) and social (such as quality of public spaces). In our project we only used the fist step of the LOAM methodology: the participatory identification of local conservation values. The selection of this methodology was based on its level of analysis (landscape) and on its participatory nature – attributes that are quite congruent with this inclusive and broad project. This approach also has several advantages, in that it allowed us to build a shared view of local knowledge about the landscape, promoted a broader (regional) approach from the local agents and facilitated communication with the

stakeholders (Abbot & Guijt, 1998; Gottret & White, 2001; Sayer et al., 2006). In addition, the assessment of differences between the five types of values should stimulate a broader view of local values in that landscape.

The workshops took place in the communities, in 3 hour sessions coordinated by the research team. Forty-one local actors participated in the three workshops organized (Table 5). The application of this methodology in the two sites allowed the identification of the most important and consensual elements and values of the landscape. The river, as a fundamental element of the landscape was associated with a very diverse set of values. It was associated with natural resources, but also with heritage (water mills), community ways of life (fishery, canoeing), biodiversity and economic activities (tourism). The variety and specificity of the elements identified were a very good example of the enormous amount of knowledge that the local actors have about their sites. Simultaneously, it produced a very detailed data set of landscape elements and values. Finally, that information was both validated and shared by the group at the same time, reducing the risk of obtaining results that came from highly idiosyncratic perspectives.

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3.2.4. Observing local uses of public spaces

Finally, based on the results of the conservation values identification activity, a series of behavioral observations were made in particularly sensitive or relevant public spaces. These observations were aimed at characterizing the usage patterns of the public spaces directly or indirectly affected by the dam's construction, thereby helping to understand the implications of their alteration and plan new spaces, which could perform similar functions. This option was selected based on the recognition of the fundamental role that public spaces have for community life. First of all, public spaces help to develop and maintain social networks, as people meet casually during their routine activities (such as shopping) or more organized ones, such as local festivities (Manzo, 2003). Also, the use of public spaces is associated with increased subjective and social well being, as it promotes social contact and often the opportunity to experience nature (such as gardens, with a restorative effect, Kopela, & Hartig, 1996; Herzog, Maguire, & Nebel, 2003). Finally, public spaces contribute to the maintenance of social identities, as public spaces are often appropriated by a specific social group (younger or older people, for example, Dines, Cattell, Gesler, & Curtis, 2006). This means that we see public spaces also as social spaces, and thus that the construction of a dam can

influence the quality of social life in those communities. An observational methodology called behavioral mapping (Sommer & Sommer, 1997) was used in three steps to create a description of social behavior in public spaces. The three steps were (i) scoping of places, i.e., based on the LOAM results, public spaces associated with important conservation values were selected; (ii) definition of behavior categories, i.e., construction of an observation grid based on previous work about behavior in public spaces (Ittelson, Rivlin, & Proshansky, 1976; Sullivan, Kuo, & DePooter, 2004). Namely, three main categories were considered: social behavior (e.g., talking, playing cards), non-social active behavior (e.g., running, reading) and non-social passive behavior (e.g., staring, sleeping). (iii) Behavior observation, e.g., trained observers visited the selected spaces, following the procedure developed by Zacharias, Stathopoulos and Wu (2001). In order to have representative samples of the behavioral patterns in each public space, 24 observations were made in each selected spot differing in three variables (2 (season: Summer vs. Winter) x 2 (week-day: weekend vs. working day) x 3 (hour: morning vs. afternoon vs. evening). The results show (Table 6) that the selected local spots have important functions as spaces of social interaction and that, although the number of users during the winter is much lower than in the summer, those public spaces always have an important role in the life of the community.

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3.3. Integrating local interests in the final decision

Through the set of methodologies described above, a large quantity of relevant information was produced to support the decision-making process. This gave the company a much richer, more complex and more detailed view of the communities where the dams are to be built.

This process had other consequences. During this process, as the observations, interviews and workshops were taking place, new communication contexts with local stakeholders were created, substantially increasing the opportunities for community members to express points of view without significant circumstantial pressure or constraints. Moreover, the methodologies implemented created contexts which facilitated the transfer of information to these agents about opportunities to participate in the dam building process and through this direct contact, gave them confidence to overcome perceived barriers to more active involvement. In this way, we aimed at providing local agents with the skills and voice to

combat situations of environmental injustice commonly faced by underprivileged social groups (Lima, 2008).

Our work was also formally used in the decision process. The Environmental Impact Assessment Studies for the two dams included the results from the survey and the local conservation values identified in the LOAM sessions. This was a very important way of including the communities' interests, values and preoccupations in a formal document that influences the decision-making. During the public consultation process, we advised the company about ways to create channels of communication with the communities, both to give specific information about the projected dam and the Environmental Assessment Studies and to inform them on how to participate in the process. Specifically, several meetings were organized in each of the construction sites, in which different experts involved in the EIA study and members of EDP were present to answer to questions from local stakeholders (Table 7). In addition to these public events, the company conceived a more personal approach: they developed small traveling kiosks, where specific information was available about the project. In these spaces, local residents could get information about specific aspects of the project (for example, whether their land would be flooded or not) and received information about how they should proceed to have their voice heard in the process. These two strategies made the public consultation process much more participatory than has been commonly the case in similar projects in Portugal.

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4. CONCLUSIONS

This paper describes an intervention to develop a participatory process associated with the decision making for the construction of two new dams in Portugal. This intervention was the result of consultancy work with an energy company that was promoting the project. The overall goal of this work was to develop a more inclusive and participatory approach to the decision making process, based on two-way communication channels and practices between the company, including its technicians, and the local communities and stakeholders. In order to achieve this, the intervention aimed both at 1) changing the organizational culture, the dominant attitudes and representations of the company members towards the local communities to more inclusive values; 2) increasing the knowledge about communities in order to create more complex view of this social group; and 3) improving the communication

strategies of the company with the communities in order to promote public participation and to integrate local interests in the final decision.

4.1 Considerations about the methodological framework

In this work, the process of assessing and characterizing stakeholders and identifying local values had a dual purpose: first, to provide the company with detailed information on local agents and their concerns and values; second, to serve as a tool to help build the confidence of members of the communities affected by the dam - specifically in their local resources and in the participation process - thus helping local agents to define and express their position and to have this process incorporated into formal participatory mechanisms. In this way, our activity was that of community agents facilitating change at a local level (Oskamp & Schulz, 1998), which was particularly relevant, given the lack of participatory habits in such decision-making processes within these communities.

In our work with the communities, we prioritized individual open-response interviews conducted by a specialized expert in the space of the local agent, interviewed. In the participatory workshops, the proposed tasks were done in small groups, where there was also a venue to express individual positions. These choices in methodology are justified given these populations' lack of power, illiteracy and lack of skills in this type of participation. The more personal means of communication, such as interviews and interactions in small groups, allowed the discussion to be tailored to the audience, with interaction between participants; as such, information was not only gathered, but also given, with regard to the process. Moreover, research shows that large group situations are less favorable to individuals of lower social status. In fact, in this context, they participate less and have less influence (Bonito & Hollingshead, 1997), conform more easily to the positions of more prestigious group members, are less heard than powerful group members when they present crucial information (Hollingshead, 2004) and have more difficulty focusing on the situation, being less flexible and less selective in the information they process (Guinote, 2007). Finally, it is also important to note that, following the suggestions of various authors (Thiessen, Loucks, & Stedinger, 1998; d'Estrée, Dukes & Navette-Romero, 2002), we introduced computer-aided systems whenever possible, along with the interviews, to characterize what stakeholders believed to be the local impacts of dams.

According to the code of ethics of the International Association of Public Participation Practitioners (Michaelson, 1996), participatory processes should provide the necessary

information to the public and facilitate the involvement of people and institutions potentially affected by the project; but overall, they should always include mechanisms allowing local community contributions to influence decisions, and making the process clear and transparent (Dietz & Stern, 2008). Our methodology responded to these requirements and may be described as a facilitation process (Dukes, 1996; Menezes, 2007), since it aimed at promoting dialogue between various stakeholders, without trying to reach a consensus. It also sought to promote that which Horelli (2002) calls participatory planning, i.e. the use of a diversified set of techniques supporting the decision-making process, and ensuring that the needs and interests of local communities are taken into account.

An important question to ask at this point is what"participation" actually means in this project. It has been described in the literature that public participation can occur with different levels of community involvement (e.g., Creighton, 2005; Rau, Schweizer-Ries, & Hildebrand, 2012; Rowe & Frewer, 2000; Thomas, 1995). For instance, Rau and colleagues describe a pyramid of participation distinguishing involving / involved people across four levels of participation: i) information (receiving / demanding information), ii) consultation (gathering / dispersing opinions), iii) cooperation (co-deciding), and finally iv) partnership (sharing / implementing decision-making power). First, it is important to note that the intervention described in this paper (as with any other intervention of our team with local communities) involved information regarding the project. We always kept our affiliation (as members of a research center working for EDP) and goal (of characterizing local communities' perceptions regarding the hydroelectric dam) very clear for both proponent and local communities. Second, a significant part of our intervention can actually be regarded as consultation. More specifically, our interaction with communities was structured in a way were community members would describe their perceptions and expectations regarding the project and we would gather this information for later analysis. Still, in our opinion, our intervention is actually better characterized as cooperation process. In fact, the main difference between consultation and cooperation is that, in the first, the proponent ultimately determines the community information considered in the decision-making whereas, in the second, community information is always considered (to greater or lesser extents). In our intervention, all the data collected was analyzed and assembled in independent reports that incorporated the legal mechanisms for decision-making (e.g., Environmental Impact Assessment Reports, Conformity Reports, Monitoring Reports). We note that both a clear statement of our goals and the incorporation of data into legal decision-relevant mechanisms

protected us from being used and seen as mere credible informants or as interlocutors, manipulating people in order to create acceptance of the dams.

4.2 Considerations about the theoretical framework

Finally, it seems important to clarify our approach. The overall theoretical framework can be described as socio-cognitive, rooted in Social Psychology. Let us focus on some examples of this approach. The process of constructing an attitude, in this case towards dams**,** is based on pre-existing knowledge structures. These knowledge structures affect how new information is perceived and, more importantly, how it is memorized and later used to make inferences (Fiske & Taylor, 1991). It is also known that decision-making processes are variable, and may involve both a more systematic processing of available information as well as more heuristic or simplified processing (Kahneman, Slovic & Tversky, 1982; Gilovich, Griffin & Kahneman, 2002). Each of the parties in conflict has their own mental schemes that give meaning to the situation and limit their action options in a predictable and often stereotyped manner. Along these lines, Putnam and collaborators (Putnam, 2002; Hanke, Gray & Putnam, 2002), described various mental frameworks characterizing the various types of stakeholders in environmental disputes (e.g., the mental schemes of local identity, risk, power, the decision-making process and natural resources). In a situation of conflict, the activation of these previous mental schemes leads to a biased interpretation of other stakeholders' actions, provoking negative reactions that confirm initial expectations. These socio-cognitive processes are highly relevant in understanding the difficulties of changing positions in situations of environmental dispute (d'Estrée, Dukes & Navette-Romero, 2002). In summary, our theoretical framework stresses that cognitive structures frame the interpretation of reality of each of the parties involved, and that changing their relationship is dependent on changing the information shared.

4.3 Final comments

We accepted this challenge to support a company changing its communication strategy with local communities because we are aware that the proposed dam construction projects were far more than the erection of hydro-installations. As academics, it was an opportunity for us to apply our theoretical knowledge of participatory processes to concrete cases, and use it to learn how to build methodologies tailored to our social and cultural reality. The theoretical reflection resulting from this journey, together with our choices in methodology (as summarized in these pages), represent an original approach that we hope will disseminate

in the scientific community, and which may be useful in other processes. As EDP partners in this project, we had a unique opportunity to be part of a deliberate attitude-changing process: to leave old routines and biases behind, embarking on a new path that listens to the interests of communities and uses their opinions to improve the initial project. We know that, in this way, decisions will have more quality, the process will be more legitimate and all parties involved will leave with a broader vision of the project. As citizens, we feel we are helping communities have the voice to make their interests heard and defend their values. We feel we are collaborating in a process of building a better future.

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Endnote

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Table 1: Comparative summary table of two decision-making models

	Exclusive model	Inclusive model
Agents involved	Limited. Experts and a restricted group of entities (e.g. mayors, environmental organizations).	Broad. Experts and a broad group of local entities, including diverse social agents and interest groups.
Decision-making perspective	Technical. A mere technical issue, confined to the physical space of the river.	Technical and social. A technical – but also social and community – issue, including the physical space of the river and its surroundings.
Base ideology	Technocratic. Centralized and bureaucratic, maintaining that only experts should influence the decision.	Democratic. Emphasizes a pursuit of sustainable development and, as such, promotes local participation.
Relationship with local community	Secondary. A secondary aspect of the process, often limited to asymmetrical and unilateral communication: dissemination of information, normally in technical jargon and inaccessible to laypersons.	Essential. An essential part of the process. In addition to unilateral communication (information), it also includes bilateral communication: ensures consultation and encourages active involvement.
Representation of local community	Homogenous and simplified. Lacking the resources, interest or ability to participate. A homogenous mass of people with limited technical (and even cognitive) resources, expected to have a self-centred, egotistical, irrational and emotional attitude.	Heterogeneous and complex. A more complex picture of local communities. Residents are seen as a heterogeneous group including individuals with relevant knowledge, interests in the process and useful skills.
Participation	Potential threat.	Potential opportunity.

	Represents a loss of power and control in the process. It is also an unnecessary loss of money and time, with the same end result.	Decisions can be modified according to the contributions of these partners with solid local knowledge.
Consequences	Impoverished decision. Potential to provoke negative reactions and open conflict with local communities.	Enriched and sustainable decision. The participation of local agents enhances a climate of rapport, and makes decisions seem fairer.

Table 2: Paternalistic attitude towards the participation of local community members

Group	Before intervention	Immediately after intervention	1 month after intervention
Control	4.09	4.21	4.71
Pilot		3.81	3.93

Table 3: Descriptive statistics of overall attitude towards the construction of the dam

Dam site	Cronbach alpha (8 items)	Mean (1-5)	S.D.	% in favour (>3.5)	% against (<2.5)
Fridão (N)	.93	2.96	.96	30%	33%
Alvito (S)	.78	4.03	.45	51%	2%

Table 4: Identification and characterization of stakeholders

Dam site	Stakeholders Identified	Stakeholders interviewed	% against	% in favour
Fridão (N)	100	82	32%	45%
Alvito (S)	46	34	0%	85%

Table 5: Identification of local elements and conservation values in the landscape

Dam site	Stakeholders present	% successful invitations	Elements of the landscape	Values in the landscape
Fridão (N)	19	38%	31	34
Alvito (S)	22	74%	20	37

Table 6: Social behavior observed in public spaces

Dam site	Number of public places observed	Number of observed behaviors	% social behavior Winter	% social behavior - Summer
Fridão (N)	6	312	73%	54%
Alvito (S)	6	272	71%	75%

Table 7: Two-way communication events where the company was present

Dam site	Number of local meetings	Number of kiosks
Fridão (N)	8	3
Alvito (S)	4	2

Figure 1: Graphic representation of the different moments of intervention, focused on either the company members or the local communities (for each site)