

Collaboration between scientist citizens and citizen scientist - bridging the gap

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Complex contexts of great uncertainty, as it is common in environmental management and species conservation, require more and more an effective dialogue among the different expertises and among these and the citizen, in the construction of collaborative joint solutions. A diversity of formats shaping these processes have been experimented more recently, however a lot is still to explore. In Portugal what is called passive participation, with a more informative or consulting features (e.g., consultation or public auditions) is considerably consolidated. The same cannot be stated for what is called active participation with the effective involvement of the parts contributing and intervening directly in the decision making process.

The effective involvement and the active public participation of the citizens has become a growing requirement, namely in environmental management, having already conquered a substantial number of experts. Simultaneously, the literature shows that the value of the social relations brings to the environmental management, growing and interesting contributions, suggesting the need to articulate these elements with the biological and social elements of conservation (Pretty et al., 2004). The more traditional participatory formats supported in the “one way” communication has been giving place to “a methodological as well as a conceptual shift, with more traditional forms of one-way communication making way for dialogic or discursive fora that aim to empower

people regarding the issues which might affect them or their communities” (Pidgeon et al., 2014).

Simultaneously, the problems of great complexity that we often have to face while working in contexts of sustainability are often called perverse (Rittel e Weber, 1973) due to its characteristics. These, require transversal formats to allow for the articulation of the different knowledges of the different parts to be involved, namely professionals from different disciplines, participants with unequal power and different interests and issues of distinct levels. To produce results this diversity of elements require the setting up of spaces for dialogue where the different stakeholders can in a safe and constructive environment, share experiences and information and build collaborative solutions. To be productive these spaces should obey to a series of requirements – key concepts for effective participation – besides contemplate structured and phased formats, operating under professional facilitation, particularly if there is conflict (Vasconcelos et al., 2009).

Being the involvement of the stakeholders in the process a crucial element to assure a long range sustainable environmental management, it is of greater relevance, the use of more interactive formats of participation that could support us in the ground. In fact, the social capital is crucial to adjust attitudes and behaviors. To assure sustainability we have to act the level of changing attitudes and behaviors, since it is indispensable to bring people to the sustainable management processes. Raising awareness of people for the issues that they have to face at the environmental level, reveal to be key to make them aware citizens, co-responsible and interventive. Involving the people directly and effectively in a process of genuine dialogue of co-construction the participants become changing agents due to the creation and consolidation of the social capital, the establishment of social networks of knowledge and mutual trust able to operate in articulation with each other and work jointly. In many contexts of environmental management “the value of social relations, in the form of trust, reciprocal adjustments, rules locally developed, norms and sanctions, and emergent institutions” (Pretty et al., 2004), reinforcing the need to articulate biological and social elements for a collaborative management.

Moreover, interactive participation constitutes a value added for environmental management. Although there have been a lot of debate about public participation, the central issues have been frequently from these debates, namely what type of participation, when should it be conducted, how to do it and why? (Day, 1997).

In a general way participation has been approached as an uniformed and homogeneous phenomenon forgetting its diversity. In fact there are different levels of participation that go from more passive and informative formats (more used) to interventive and mobilizing formats, such as the participation (1) interactive, in which people make get involved in joint analysis, develop plans of action, and form or strengthen groups or institutions and (2) auto-mobilization, in which people participate assuming independent initiative and the control how resources are used (Pretty, 2002). From these types of more active participation emerge very often innovative and more complete solutions, than from the type of passive participation (O'Riordan & Stoll-Kleeman, 2002; Pretty, 2002). More active formats show greater potential for societal transformation.

Interactive participation if well conducted generates social, intellectual e politico capital (Gruber, 1994). For that it has to obey to a set of conceptual requirements (Vasconcelos et.al, 2009) to create a genuine dialogue (in the sense of Habermas) constituting a process of mutual emancipatory learning. These spaces also called discursive constitute forums of dialogue key for the leadership of the common good (Bryson et al.,1992). The literature reveals that the one involved in these contexts develop greater knowledge of the existing problems, learn mutually about the physical and ecological complexity of the ecosystems, and build joint solutions to act. If people are provided with the right tools and the opportunity to participate/contribute, they will have the capacity to debate complex issues related to the environment (Vasconcelos et al., 2013, Vasconcelos et al, 2012). In this sequence, to understand the capacity of such processes to contribute to societal change it is of the utmost importance to develop ways to evaluate them.

Though the literature has a diversity of proposals for output evaluation, the role of the outcomes in the process has not deserved so much attention. However, they are said to be the ones to contribute the most to the social transformation. Therefore,

recurring to the comparison of the three case studies the objective was to assess each case and its capacity to generate social transformation through the evaluation of the outcomes – assessing the social, intellectual and political capital build up along the active participatory process involving panels of multi-stakeholders.

Growing awareness of coastal resources value by the citizen may encourage local communities to become themselves promoters of sustainability through the use and dissemination of good practices. To promote this, participatory methodologies involving citizens in the decision making process were explored within three projects, through the setting up of forums of dialogue.

MARGov Project aimed to empower key actors for change assuring a more sustainable Ocean and strengthen the socio-ecological dimension, contributing to conflict minimization through the promotion of an eco-social dialogue among scientists and citizens. A Governance Model for Marine Park was collaboratively constructed. Value of Waves and Ocean Culture project considers the economic, environmental, social and cultural dimensions assessments and a collaborative model of governance is now underway. MARLISCO aiming to promote a wider awareness on marine litter problems brings together all the societal sectors targeting the generation of joint solutions and actions to reduce this impact.

This communication focus specifically in the outcomes, and the way they are generated, since they are key for the social transformation while looking for a more sustainable management. While doing this, a grid for the evaluation of the outcomes was developed and validated through its application to the three case studies of coastal sustainable development. While presenting the three case studies, the authors explore the interactive methodologies applied for each context debating the strategic options of the team and reflecting in the lessons learned. These are of the utmost importance to sustain and reinforce decisions and strategies for the coastal area and supply guidelines for coastal management to be replicate elsewhere.

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