Stakeholder involvement in water management: the role of the stakeholder analysis within participatory processes

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Abstract

Water is a central resource supporting human activities and ecosystems and it is required for different purposes and uses that are often conflicting. Existing water-related problems are expected to increase and conventional water resource management systems are not likely to be able to face future challenges. There is the need for an integrated water resources management, which should be participatory, technically and scientifically informed and which should be based on bottom-up approach.

The Directive 2000/60/EC is based on principles of integrated planning and calls for stakeholder involvement in water management. Involving stakeholders is an important step to ensure that catchment management plans take into consideration local needs, experiences and interests. This paper presents a stakeholder analysis methodology that was developed to support stakeholder participation in water management. The methodology was implemented as a preliminary step in a stakeholder participation project in an alpine sub-catchment in Northern Italy.

Keywords: Directive 2000/60/EC; Participatory process; Stakeholder analysis; Stakeholder involvement; Water management

Introduction

Since the 1960s, public participation has become an increasingly important aspect of natural resource management (Hanchey, 1998a; Chess & Purcell, 1999; Lawrence & Deagen, 2001; Redpath et al., 2002; Chase et al., 2004; Darnall & Jolley, 2004; Broderick, 2005; Charnley & Engelbert, 2005; Koontz, 2005). This is especially true in relation to issues concerning the management of environmental and health risks (Rowe & Frewer, 2000) and is due to “the recognition that sustainable natural resource management cannot be achieved without involving the individuals and communities” (Johnson et al., 2004: 189).

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However, as Delli Priscoli (1998: 62) emphasizes “The debate over who has sufficient wisdom to rationally decide for society is far from new” and in democratic societies is illustrated by “the collective wisdom of a body politic” which manifests itself through decisions of legitimately elected officials. Nevertheless, expressions of representativeness also have limits and problems.

The increased use of public participation methods signals a shift in how the public becomes involved in decision-making processes. This shift, which may be attributed to “citizens dissatisfaction with standard models of representation” (Melo & Baiocchi, 2006), has resulted in a challenge to develop new forms of involvement in the decision-making process (Edelenbos & Klijn, 2005). Based on experience over the last few decades of the traditional public-meeting format, experts have suggested that participation should move to methods that involve relatively small groups of people (Creighton, 1998b) in intensive and often consensus-based, collaborative processes (Beierle, 2002). “Even the term stakeholder involvement denotes a deeper, more personalized stake in decision making than the more general and impersonal term public participation” (Beierle, 2002: 739). Researchers have suggested that public participation evolve from one directional flows, informing and sometimes educating citizens, to public involvement that also includes receiving information from the public and actively involves citizens in the process (Delli Priscoli, 2003).

The Water Framework Directive (Directive 2000/60/EC, WFD) embraces this new idea of stakeholder involvement (instead of simple public participation) and the European Commission (EC) (2003) asserts that the involvement of stakeholders is a key element for successful implementation of this new and innovative regulation for sustainable water management. Nevertheless, the European Commission (2003) underlines that in order to improve decision-making processes, stakeholders involvement needs to be well organized. “If it is not, it can result in limited and unrepresentative response from public […]. The result can be less trust in government, less public acceptance, more implementation problems and less social learning” (Mostert, 2003: 526).

This new way of addressing public participation and the stakeholder involvement requirement of the Water Framework Directive, raises a number of practical questions: Who is a stakeholder? Who are the stakeholders in relation to water management in a catchment area? How is it possible to identify them? In which way is it appropriate to involve them in water management?

This paper is focused on the importance of the stakeholder analysis methodology as a preliminary step in river basin participatory decision-making processes and presents a new stakeholder analysis methodology developed in order to meet WFD stakeholders involvement provisions, following the European Commission (2003) suggestions.

This paper begins with an overview of the stakeholder theory, in order to describe the most relevant stakeholder definitions and classifications. The first section continues with a presentation of stakeholder analysis definitions, purposes and approaches, followed by a description of the various fields of application and objectives of the stakeholder analysis with respect to natural resource management. The section ends with an analysis of the most important stakeholder analysis methodologies and techniques developed for natural resource management. In the second section a new stakeholder analysis methodology specifically developed for water management according to WFD provisions and EC suggestions is presented. The section continues with the description of the application of this method in a sub-catchment area. In the third section are presented and discussed the results of the implementation of this new stakeholder analysis methodology. The last section presents the conclusion of the study.
Stakeholder analysis: an overview

Stakeholder definition and classification

Andriof & Waddock (2002) write that stakeholder theory is focused on two different but related streams:

- Definition of stakeholders conceptually;
- Classification of stakeholders into categories “that provide an understanding of individual stakeholder relationship” (Andriof & Waddock, 2002: 30).

With respect to the definition of stakeholder, Bryson (2003) writes that this concept has a long history as well as a broad application. Traces of the word stakeholder can already be found at the beginning of the 17th century. The term was used in print for the first time in 1708 and indicated a person entrusted with the stakes of bettors (Merriam-Webster, 1998) or, more in general, a bet or a deposit (Chevalier, 2001). Later, a second meaning was added and a stakeholder became one who has a share or an interest in an enterprise (The American Heritage Dictionary, 2000). This second meaning is the one that came to dominate business management literature (Bryson, 2003).

In 1984 Freeman wrote the seminal work Strategic Management: A Stakeholder Approach, in which he elaborated the definition of stakeholder which has prevailed in the public and non-profit management literature since then: “any group or individual who can affect or is affected by the achievement of the organization’s objectives” (Freeman, 1984: 25).

The EC (2003) in the Common Implementation Strategy Guidance Document n. 8 which refers to stakeholder participation in relation to the implementation of the Water Framework Directive states that: “A stakeholder can be any relevant person, group or organisation with an interest in the issue, either because they will be affected by the subject (victim, gainer) or because they have influence, knowledge or experience with the subject” (European Commission, 2003: 63). This definition is very broad, because the Water Framework Directive promotes the active involvement of all the people, groups and organizations and, as a consequence, it is not possible to exclude a person/institution/organization from the group of stakeholders a priori, by adopting a narrow definition. If the EC (2003) definition is compared with Freeman (1984)’s definition, the former appears to be even more comprehensive and broader than the latter. Both definitions underline the active and the passive aspect of being a stakeholder (to affect or be affected by something), but the EC (2003) definition adds something more. It points out not only the importance of influence, but also of knowledge and experience as means to affect something or simply to have a connection with something. Beyond this, Freeman (1984)’s definition refers to the relationship between a stakeholder and “the achievement of the organization’s objectives” (Freeman, 1984: 25), while the EC (2003) definition is much more general. Among all the definitions of stakeholder the EC (2003) one is undoubtedly the most versatile; this definition can be used to describe almost every context and situation because of its large degree of inclusivity.

With respect to the second stream of stakeholder theory, it is extremely important to focus attention upon methods of classifying stakeholders. Many scholars, in fact, share the thinking that among the group of stakeholders it is possible to identify different sub-groups with different features. The Overseas Development Administration (ODA) (1995a) focuses its attention upon a group of stakeholders who are very important and who are expected to play a protagonist role:
the key stakeholders. The ODA defines key stakeholders as “those who can significantly influence, or are important to the success of the project” (ODA, 1995a: 1).

Another important classification, which is common among scholars, is the distinction between primary and secondary stakeholders. According to the ODA (1995a) primary stakeholders are “those ultimately affected, either positively (beneficiaries) or negatively (for example, those involuntarily resettled)” (ODA, 1995a: 1), while secondary stakeholders are “the intermediaries in the aid delivery process” (ODA, 1995a: 1). Clarkson (1994) categorizes primary and secondary stakeholders in a different way; he asserts that primary stakeholders are those who are essential for the survival and the well-being of an organization and secondary stakeholders are those who interact with the organization but are not essential to its survival.

Beyond this stakeholder categorization, it is possible to find other different classifications, which take into account different features and characteristics. For example, Grimble & Wellard (1997) make a distinction between active and passive stakeholders; the former are “those who affect (determine) a decision or action” (Grimble & Wellard, 1997: 176), the latter are “those affected by this decision or action (whether positively or negatively)” (Grimble & Wellard, 1997: 176).

One of the most used classifications of stakeholders is the typology of Mitchell et al. (1997), who develop a complete theory of stakeholder identification. They assert that “no stakeholders, potential or actual, are excluded from analysis arbitrarily a priori” (Mitchell et al., 1997: 854). They focus their attention upon stakeholder salience, which is “the degree to which managers give priority to competing stakeholders” (Mitchell et al., 1997: 854).

Mitchell et al. (1997) argue that much of the management literature on stakeholder theory fails to address the issue of salience and they propose a new way of identification and classification of stakeholders, based on their possession or attributed possession of one, two or three of the following attributes: power (to influence the firm), legitimacy (of a relationship) and urgency (of a claim).

Using these three attributes, Mitchell et al. (1997) develop a stakeholder classification with three qualitative classes of stakeholders. The low salience class is identified by the possession or attributed possession of only one if the attributes and it is named latent stakeholders. The moderately salient stakeholder class is identified by their possession or attributed possession of two attributes and it is named expectant stakeholders. The highly salient class is identified by the possession of all attributes and it is named definitive stakeholders.

The policy profiling technique developed by Coplin et al. (1998) shares the use of the attributes power and salience with the stakeholder theory of Mitchell et al. (1997). Nevertheless, it is important to underline that Coplin et al. (1998) developed this technique to assess the impact of various individuals, groups and organizations on governmental agency decisions and not to identify and classify stakeholders. The first step of this approach is the identification of the actors, then it is necessary to estimate issue position, power and salience for each actor. Issue position is expressed as a number ranging from +3 to −3 to indicate whether or not an actor supports (+3, +2, +1), is neutral (0), or opposes (−1, −2, −3) the decision. Power is expressed as a number ranging from 0 to 3, according to the degree of power and influence of the actor. Salience is expressed as a number ranging from 0 to 3 and indicates the interest and/or concern for the issue. This last attribute show some similarities with the attribute urgency of Mitchell et al. (1997).

The attributes of power, legitimacy and urgency developed by Mitchell et al. (1997) are clear and well defined and take into account more than the business and management field or the life of the organisation. The attributes are regarded as part of daily life and thereby affect the relationship between the various actors in almost all the situations and problems in modern society. For this
reason these features are appropriate to determine the development of a stakeholder relationship and, consequently, to identify them as stakeholders.

With respect to the approach developed by Coplin et al. (1998), the idea of expressing each attribute as a number is very interesting because it offers the opportunity to have a quantitative measure of the attributes. The classification developed by Mitchell et al. (1997) together with the idea of the numerical expression of the attributes developed by Coplin et al. (1998) was successfully used in the natural resource management field (coastal management) by Buanes et al. (2004).

Driscol & Starik (2004) evaluate and expand the stakeholder identification and salience model of Mitchell et al. (1997) by reconceptualizing the stakeholders’ attributes of power, legitimacy and urgency and by developing a fourth attribute, proximity. Driscol & Starik (2004) adopt the definition of proximity elaborated by Soukhanov (1984), who defined this feature as “the state, quality or fact of being near or next […] in space, time, or order” (Soukhanov, 1984: 948). Proximity can be seen as a necessary extension of the Mitchell et al. (1997) taxonomy, because it contributes significantly to the development of a stakeholder relationship.

Stakeholder analysis: definition, purposes and approaches

The concept of stakeholder analysis is believed to have its origins in the field of business and managerial science (Chevalier, 2001). Varvasovzky & Brugha (2000) agree with this and trace the origins of stakeholder concepts and approaches within business management to the early 1930s.

In general there is not much disagreement with respect to the definition of stakeholder analysis. It is commonly identified as an approach or a tool to obtain knowledge and information about stakeholders, their interests, importance, influence, resources and so on. As Grimble & Wellard (1997) point out, the general purpose of stakeholder analysis is to provide a methodology to investigate the stakeholders’ arena, in order to identify the consequences of an action (or non-action) on stakeholders. The aim of stakeholder analysis is:

- “Improving the selection, efficiency, effectiveness and evaluation of policies and projects. […] Stakeholder analysis helps to avoid the unexpected, facilitates good design, improves the likelihood of successful implementation and assists the assessment of outcomes” (Grimble & Wellard, 1997: 177);

- “Improving assessment of the distributional, social and political impacts of policies and projects. […] Stakeholder analysis can help to ensure that costs are borne and benefits realised for those intended” (Grimble & Wellard, 1997: 177).

Stakeholder analysis is currently used in many fields, ranging from political science to policy development and international relations. It is common to find applications of this methodology in poverty reduction studies and research concerning sustainable livelihood, community-based natural resource and conflict management (Chevalier, 2001). As Bryson (2003) argues, the importance of stakeholder analysis is growing rapidly “because of the increasingly interconnected nature of the world” (Bryson, 2003: 6).

There are many different methodologies that may be useful to carry out a stakeholder analysis; each technique has a different purpose and “reveals some things while hiding, or at least not highlighting, others” (Bryson, 2003: 25). In order to obtain useful results from a stakeholder analysis it is important to choose the right techniques for the right purpose.
Stakeholder analysis and natural resource management: fields of application, objectives and methodologies

Although stakeholder analysis can be applied usefully to a wide range of fields and contexts, special attention to the role of stakeholder analysis in natural resource management is common because its importance is more evident “in complex situations where there are compatibility problems between objectives and stakeholders” (Grimble & Wellard, 1997: 177). This approach can help to understand the objectives and interests of stakeholders with respect to environmental resources and as a result improve environmental planning by predicting outcomes, analysing trade-offs among different objectives, reducing the risk of unforeseen resistance and facilitating general policy-making (Grimble et al., 1995).

Chevalier (2001) confirms that the use of stakeholder analysis in natural resource management is growing. He writes that this is due to several interesting features of this approach. First, it “involves a recognition of the fact that obstacles to peace, equity, sustainability or growth cannot be dealt with through technological means alone” (Chevalier, 2001: 1). Second, stakeholder analysis is “a flexible, context-specific paradigm, that helps focus attention on specific problems, actors and opportunities” (Chevalier, 2001: 2) and that may be used in many different contexts and fields. Third, this approach represents a challenge to conventional economic analysis, which does not consider adequately the distribution of costs and benefits among different stakeholders. The objective of the various stakeholder analysis methodologies and approaches is to discover the real values and views that the stakeholders have with respect to the resource, the role they play in the management of the resource, their expectation about the measures that should be undertaken and the conflicts that arise from the use of the resource. In this sense stakeholder analysis is an indispensable instrument for improving natural resource management.

Among the various stakeholder analysis techniques and approaches developed specifically for use in the field of natural resource management, the ODA (1995a, b) approach, with its stress on consensus building and on joint research of solutions, deserves special analysis. The ODA (1995a) suggests a basic methodology. The first step is to identify all the potential stakeholders and their interests; assess the likely impact of the project on each of these interests (positive, negative, unknown) and indicate the relative priority which the project should give to each stakeholder in meeting their interests. The ODA (1995a) suggests using snowball identification techniques when it is difficult or expensive to identify all the stakeholders. With respect to the assessment of each stakeholder’s importance to project success, it suggests combining influence and importance1 using a matrix diagram, in order to classify stakeholders in four different groups (see Figure 1).

The last step of the ODA (1995b) approach is to identify appropriate stakeholder participation, which is a key point in every stakeholder analysis. For this reason it is very important to define “who should participate, in which ways, at what stage of the project cycle” (ODA, 1995a: 10). Finally, the ODA (1995a) recommends developing a participation matrix (see Table 1) “to clarify the roles to be played, at each stage of the project cycle, by all the stakeholders including the ODA” (ODA, 1995a: 10). At any stage of the project cycle, different stakeholders may wish to participate in different ways;

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1 “Influence is the power which stakeholders have on a project” while “importance is the priority given by ODA to satisfying stakeholders’ needs and interests” (ODA, 1995a: 7).
“the participation matrix should be seen as a dynamic tool which provides a means for identifying potential areas of disagreement between the various stakeholders” (ODA, 1995b: 10).

Within the field of water management, Aggens (1998) developed an interesting system to distinguish between different public participation levels. Aggens (1998) writes that “there is no single public, but different levels of public based on differing levels of interest and ability. […] The factor that distinguishes one level of participation from another is the amount of interest and time the public has to give to this activity and the amount of commitment and staff resources the agency sponsoring the participation has to offer to facilitate it” (Aggens, 1998: 189).

Aggens (1998) identifies six levels of public participation, defined by the human energy needed to sustain them (see Figure 2). The author uses the image of orbits of participation; the participant and the sponsoring agency must expend more energy to achieve and maintain the more active orbits. The closer an orbit is to the decision-making orbit, the greater the opportunity is for active involvement and public influence in that decision.

Within the same field, the EC (2003) develops another approach to stakeholder analysis which shares some features with the ODA methodology and others with Aggens (1998) participation levels. The EC (2003) recommends performing stakeholder analysis as a preparatory step in the participatory process and proposes a very simple approach, specifying that this methodology needs to be adapted and refined to every situation.

First, the EC (2003) recommends having a clear view of the stages of the project/process. For every stage, which stakeholders are relevant to be involved in the process should be reviewed. The EC (2003)

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**Table 1. Participation matrix (Source: Overseas Development Administration, 1995b).**

<table>
<thead>
<tr>
<th>Stage</th>
<th>Inform</th>
<th>Consult</th>
<th>Partnership</th>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Implementation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Monitoring and evaluation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
clarifies that it is unrealistic and counterproductive to identify all the stakeholders involved in the same way in all the phases of a project, because the stakeholders are different, have different power, different expectations and interests. The EC (2003) suggests that it is possible to identify different sub-groups of stakeholders, with different features. Furthermore, according to the purpose of a study or to the particular phase of a project, it is necessary to decide which degree of involvement and which role should be attributed to each stakeholder.

A further step in the EC (2003) approach is to perform, with a group of experts (the project team), a brainstorming session in order to identify all the stakeholders in the area. Then it is necessary to classify the stakeholders and identify the degree of involvement of each actor at each stage (see Figure 3), adopting the image of the orbits of participation developed by Aggens (1998).

The approach suggested by the EC (2003) is very simple to understand and easy to implement, but it presents some critical and unclear aspects. It is very interesting to compare this approach with the ODA (1995a, b) technique and the participation levels developed by Aggens (1998).

The three approaches described above are clear and well structured. The EC (2003) methodology and the ODA (1995a, b) technique consist essentially of three phases:

- identification of stakeholders
- classification of stakeholders
- definition of the level of involvement of each stakeholder in each stage of the project.

With respect to the first phase, the EC (2003) recommends brainstorming performed by the project team in order to identify the stakeholders, while ODA (1995a) suggests using the snowball identification techniques. The idea of gaining information from other people and, more specifically, from the stakeholder is really interesting. It is usually assumed that a project team is composed of “experts”, however experts may also make mistakes. On the other hand, people who live in the area where
the project/policy is to be implemented or are affected by the problem that the project/policy intends to solve have a lot of information about the issue and, consequently, can help the project to identify all the possible stakeholders. The idea adopted by the EC (2003) is clearly explained by Creighton (1998a), who suggests a number of different approaches to targeting the public. With respect to the staff identification approach he writes that “one of the richest sources of information for possible individuals or interests to be involved would be internal staff who have worked in the area for some period” (Creighton, 1998a: 198).

With respect to the classification of stakeholders, the typology suggested by the EC (2003) is somewhat unclear and difficult to implement. It may be problematic to distinguish in a clear and definite way between decision makers, users, implementers and experts, because stakeholders often have more than one role. The classification worked out by the ODA (1995a) is clearer and simpler, although it omits an important feature: legitimacy.

With respect to the third phase, both the EC (2003) and the ODA (1995a) attribute importance to one particular aspect: the participation or involvement of stakeholders. This feature is seen as a fundamental and inalienable characteristic of natural resource management projects. Both the EC (2003) and the ODA (1995a) underline that stakeholders are different, have different power, different expectations and interests and they cannot be handled in the same, undifferentiated manner during the whole process. It is necessary to define the various levels of participation and to involve each stakeholder in the most appropriate way.

The classification of the various types of participation developed by the EC (2003) and the participation levels system developed by Aggens (1998) are useful, practical and simple to implement,
while the ODA (1995b) classification presents some problems about Control, which is not clear. In all the three approaches the highest level of participation should be a development and an expansion of the lower one, which should be an enlargement of a much lower one and so on.

In the EC (2003) approach, Co-thinking is an expansion of Co-knowing and Co-working is a further development of Co-thinking; the Aggess (1998) participation levels system works in the same way, although it is a little more complex than the EC (2003) approach. According to the EC (2003) approach, a stakeholder who is consulted is obviously also kept informed and a stakeholder who is actively involved is also consulted and kept informed. In the same way, in the ODA (1995b) approach Consult is an expansion of Information and Partnership is an expansion of Information; in this case it is difficult to understand the relationship between Partnership and Control. Can Control be considered as an expansion of Partnership? If a stakeholder participates actively in a project, can he or she also be a controller? There seems to be a contradiction.

In another aspect of the third phase, it is important to underline that both the EC (2003) and the ODA (1995a) approaches take into account the time aspect and suggest that the process should be divided into steps or phases. At any stage of the project cycle, different stakeholders may wish to participate in different ways, because every stage is different and presents a different situation. The implementation of a policy or of a project is a process, not a moment. For this reason the stakeholder analysis may be dynamic, not static. It helps to identify which stakeholders should be involved (and how) in the different phases. It is important to underline that this idea is very interesting but far from new. In 1975 Hanchey (1998b) wrote that the nature of the decisions made at each stage of water management planning “are sufficiently different to suggest that both the form of public involvement program and the definition of relevant publics who should be involved in each stage may also be different” (Hanchey, 1998a: 124). Creighton (1998a) underlined that, with respect to public involvement in water management planning, “experience suggests that the same publics are not necessarily involved in each stage of planning” (Creighton, 1998a: 199) and went on to explain that at different stages of planning processes different public groups may need to be involved.

In the end, the methodology suggested by the EC (2003) to promote public participation in the WFD implementation process has some problems and weak points and may create problems with respect to planning and organization of a participatory process for water management. It is evident that there is a need for development of new stakeholder methodologies and approaches, in order to face the challenges of the Water Framework Directive and meet its ambitious requirements.

Development and implementation of a new stakeholder analysis methodology for water management

Description of the method

The new stakeholder analysis methodology presented in this article was developed within a research project concerning public participation in water management. The purpose of the project was to plan and organize a water management participatory process in an alpine sub-catchment in Trentino, a Northern Italian region, in order to implement and test a participatory tool, CATCH (Collentine et al., 2002, 2005), aimed at facilitating public participation in water management, developed by a Swedish research team according to the WFD provisions. Following EC (2003) suggestions, it was decided to perform a
stakeholder analysis as a preliminary step in the participatory process, in order to identify and classify all the stakeholders of the sub-catchment area and decide how to involve them in the project. For this purpose a new stakeholder analysis methodology was developed, and tested in the study area during the winter of 2006 (Lupo Stanghellini & Collentine, 2008). This method was specifically developed for water management at a catchment level, but it may also be used for the management of other natural resources.

As noted above, among all the stakeholder definitions the one worked out by the EC (2003) is undoubtedly the most complete, inclusive and versatile. For this reason it was decided to choose the European Commission (2003) definition for the new stakeholder analysis methodology.

With respect to different ways of identifying the stakeholders in an area, the best solution identified for the new stakeholder analysis methodology is a combination of methods suggested by the ODA (1995a), Creighton (1998a) and the EC (2003). The first step is to perform a brainstorming session with a group of expert\(^2\) in order to identify all the stakeholders in the sub-catchment and then submit the stakeholder list to all the stakeholders identified, asking them for their opinion and allowing them to add or delete one or more stakeholders. After the collection of all the data, it is possible to work out the final list of the stakeholders.

The new methodology for developing a stakeholder classification incorporates the taxonomy of Mitchell et al. (1997): latent, expectant and definitive stakeholders, obtained through the attributes of power, legitimacy and urgency with the addition of the attribute proximity, developed by Driscoll & Starik (2004). In the new stakeholder analysis methodology the attributes are redefined and adapted to the natural resource management field.

Power is defined as the past and present influence of a stakeholder in the decision and implementation phases of programmes, plans, rules, measures concerning water management, water use and water protection in the catchment, at the local, provincial, regional and national level (Lupo Stanghellini, 2007).

Legitimacy is defined as the feature according to which the claims, requests, concerns and interests of a stakeholder with respect to water management, use or protection, could be and can be considered appropriate, proper and eligible within the social system, with its values, common definitions and beliefs (Lupo Stanghellini, 2007).

Urgency is defined as how much a stakeholder is and was active and can demonstrate an effort to present as urgent as possible his requests and to ask for immediate attention during the decision and implementation phases of programmes, plans, rules, measures concerning water management, water use and water protection in the catchment, at the local, provincial, regional and national level (Lupo Stanghellini, 2007).

Proximity is defined as the state, quality or fact of being near or close in space to the catchment area (Lupo Stanghellini, 2007).

First of all, after brainstorming and the compilation of the stakeholders list, the participants in the brainstorming session are given a questionnaire with the list of stakeholders and are asked to rank the stakeholders on a scale of 1 (lowest) to 5 (highest) with respect to four attributes, following the idea suggested by Coplin et al. (1998).

\(^2\) It is important to assume that this group may be composed by experts; in other words people with a good knowledge of the catchment area and of the water management issues and problems.
After the brainstorming group has voted, each stakeholder can be given an average score for each attribute. At this point it is important to underline that it is assumed that a vote equal to or higher than 3 is considered a high score, while a vote lower than 3 is considered a low score. According to this assumption, stakeholders who have all the attribute scores equal to or higher than 3 should be classified as definitive stakeholders; stakeholders who have only one or no attribute should be classified as latent stakeholders; the remaining stakeholders, who have two or three attribute scores equal to or higher than 3 should be classified as expectant stakeholders. In other words, the stakeholders with a high score for all the attributes should be considered definitive stakeholders, while the stakeholders with a high score only in one or two attributes should be considered expectant stakeholders and the stakeholders with only one high score or no high score should be considered latent stakeholders (Lupo Stanghellini & Collentine, 2008).

In addition, it is appropriate to ask all the stakeholders on the list to vote on the list, in order to improve the quality of the stakeholder analysis. After all the data is collected, it is necessary to compare the result of the stakeholder analysis performed by the researchers with the results of the stakeholder analysis performed by the stakeholders, in order to work out the final classification.

After developing a method for stakeholder classification, it is important to decide how to involve the stakeholders. This is possible using the EC (2003) classification, which is very simple, clear and exhaustive: co-operating/co-working, co-thinking, co-knowing.

The appropriate degree of involvement for the definitive stakeholders is active involvement (co-operating/co-working), because these stakeholders have a lot of power, legitimacy, urgency and they are close to the catchment area; in other words they are the most important stakeholders and they should be involved at the highest level. The appropriate degree of involvement of the expectant stakeholders is the second stage of involvement (co-thinking); it means that these stakeholders should be consulted in order to gain useful information and opinions. The appropriate level of involvement for the latent stakeholders is the third stage of involvement (co-knowing); in other words they should be kept informed (Lupo Stanghellini & Collentine, 2008).

It is important to underline whether the stakeholder analysis should be performed at any stage of the implementation of the Water Framework Directive or at every step of every other water management policy or project. Table 2 shows a numerical example which illustrates how the results of a stakeholder analysis session may be presented.

<table>
<thead>
<tr>
<th>Name of stakeholders</th>
<th>Power</th>
<th>Legitimacy</th>
<th>Urgency</th>
<th>Proximity</th>
<th>High scores</th>
<th>Classification</th>
<th>Level of involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Protection Agency of the Autonomous Province of Trento</td>
<td>3.17</td>
<td>4.67</td>
<td>3.67</td>
<td>3.83</td>
<td>4</td>
<td>Definitive</td>
<td>Co-working</td>
</tr>
<tr>
<td>Municipal Council of Tenna</td>
<td>3.67</td>
<td>4.17</td>
<td>3.50</td>
<td>4.67</td>
<td>4</td>
<td>Definitive</td>
<td>Co-working</td>
</tr>
<tr>
<td>Italian Farmers Confederation – seat of the Province of Trento</td>
<td>2.33</td>
<td>3.67</td>
<td>3.33</td>
<td>3.00</td>
<td>3</td>
<td>Expectant</td>
<td>Co-thinking</td>
</tr>
<tr>
<td>Alfa Valsugana Breeders Association</td>
<td>2.00</td>
<td>2.67</td>
<td>2.17</td>
<td>4.00</td>
<td>1</td>
<td>Latent</td>
<td>Co-knowing</td>
</tr>
<tr>
<td>WWF Italia – Trentino</td>
<td>1.83</td>
<td>3.67</td>
<td>3.83</td>
<td>3.67</td>
<td>3</td>
<td>Expectant</td>
<td>Co-thinking</td>
</tr>
<tr>
<td>Canzonino Madrano Fishermen Association</td>
<td>1.67</td>
<td>2.67</td>
<td>2.17</td>
<td>4.67</td>
<td>0</td>
<td>Latent</td>
<td>Co-knowing</td>
</tr>
</tbody>
</table>

Table 2. Example of stakeholder analysis final results (Source: Lupo Stanghellini, 2007).
The implementation process of the stakeholder analysis methodology was quite complex but very interesting. The stakeholder analysis process was performed in three different phases: first it was tested and run by a group of experts, then by the representatives of the municipal councils of the sub-catchment area and finally it was run by the stakeholders of the sub-catchment area (with the exception of the representatives of the municipalities).

A group of six researchers was asked to perform the stakeholder analysis in the first phase. They worked out a final list of 65 stakeholders in the sub-basin area, which consisted of government stakeholders, farmers and fruit growers associations, breeders associations, tourist and commercial entrepreneurs associations, industrialists and craftsmen associations, associations for the protection of the environment, associations for the protection of consumers, sports and recreation associations and common land administrations.

Some days before the voting session, the expert group was given a detailed paper with important information (the number of citizens in the municipalities of the area; the number of members in the various associations, the annual production of the farmers and fruit growers associations, the number of fishermen in each fishermen’s association and their role and duties with respect to water management in the sub-catchment area, etc.) about the stakeholders of the area, collected through a series of phone interviews by the project leader.

After voting and calculation of the average score for each attribute for each stakeholder, it was possible to divide the stakeholders into three groups: definitive stakeholders (level of involvement: active or co-working); expectant stakeholders (level of involvement: consultation or co-thinking), latent stakeholders (level of involvement: information supply or co-knowing).

It was noted that the municipal councils represented 40% of the definitive stakeholders identified. The municipal councils, according to the results of the stakeholder analysis performed by the expert group, also seemed to play a very important role with respect to water management in the sub-catchment area. As a result it was decided to involve the municipal councils of the towns of the sub-catchment area in a further test of the stakeholder analysis methodology, in order to improve it.

The representatives of the municipal councils were invited to a workshop, where the facilitator (the project leader) briefly explained the features and purpose of the stakeholder analysis methodology. The stakeholders were given the map of the sub-basin, a paper with the definition of the four attributes and a paper with instructions for filling in the voting paper. The stakeholders were also asked to add or delete one or more stakeholders, if necessary and fill in the entire voting paper (no blanks). It was also underlined that anonymity was fully guaranteed.

The representatives of the municipal councils did not have problems with the definitions of power, legitimacy, urgency and proximity and found the attributes to be clear, quite easy to understand, rational and useful. Nevertheless, some stakeholders said that this type of voting was very difficult, because of the lack of information with respect to some of stakeholders on the list. Other stakeholders

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3 The term “government stakeholders” indicates the provincial or municipal institutional stakeholders; for example the municipal councils, the departments and councillorships of the Autonomous Province of Trento, the Cooperation of Communities of Brenta Mountain Water Reservoir, etc. (Lupo Stanghellini & Collentine, 2008).

4 It is important to underline that nobody added or deleted one or more stakeholders and all the voting papers were entirely completed, as required.
said that voting was very problematic because it was very difficult to express judgements about other stakeholders (they were very worried because they did not want to compromise themselves through the voting).

With respect to the first problem, it was decide not to give the participants additional information about the stakeholders of the area, in order not to influence them, because it was important to know their perception and point of view. With respect to the second aspect, it was thought that this problem could be partly due to the fact that these stakeholders were institutional representatives, who hold public office and do not want to express compromising judgements, and partly due to the fact that the stakeholder analysis was performed in a face-to-face meeting, with the risk that there would not be full anonymity. Since the third phase of the stakeholder analysis involved all the rest of the stakeholders of the catchment area and the stakeholder analysis was performed via e-mail, it was decide not to make changes and/or modifications with respect to the stakeholder analysis methodology.

The first step in the third phase was to send the stakeholder analysis voting paper via e-mail to all of the stakeholders identified in the sub-catchment area (excluding the representatives of the municipal councils). The e-mails were sent to the directors or heads of the various associations, departments, organizations, councillorships and institutions, but the e-mail clearly specified that the director was allowed to choose the most suitable member of staff to fill in the voting file. It was stressed that anonymity was fully guaranteed. The stakeholders were given the map of the sub-basin, a paper with the definition of the four attributes and a paper with instructions for filling in the voting paper. They were asked to add or delete one or more stakeholders, if necessary.

In this case the stakeholders who agreed to fill in the form said that they did not have problems with the definitions and that they found the attributes clear, easy to understand, rational and in accordance with purpose of the study. Nevertheless, some stakeholders said that voting was very difficult, because of the lack of information with respect to some stakeholders on the list. Others said that the voting was very problematic because it was very difficult to express judgements about other stakeholders (these stakeholders did not want to compromise themselves through the voting).

After the end of the third phase of the stakeholder analysis, it was possible to compare the results of the three phases and obtain a final classification of the stakeholders of the sub-catchment area: definitive, expectant and latent stakeholders. It is important to underline that, since the CATCH model was developed for active involvement of stakeholders, only the definitive stakeholders identified through the stakeholder analysis were involved in the participatory process. For this reason the results concerning definitive stakeholders are presented and discussed in the next section.

Discussion

With respect to the implementation of the new stakeholder analysis methodology, the most important element is probably the diversity that characterised the results of the three individual phases. In addition to noting the differences between the three results, it is also of interest to make some further comments.

5 Also in this phase nobody added or deleted one or more stakeholders and all the voting papers were entirely completed, as required.
and remarks about the methodology of stakeholder analysis and its usefulness. As shown in Table 3, the results of the three stakeholders’ analysis were very different.

In particular, it is important to underline that the results of the stakeholder analysis performed by representatives of the municipalities and by the other stakeholders of the area are similar, while the results of the experts group are very different from both the results of representatives of municipalities and the results of the stakeholders of the area. Furthermore, in the results of both the representatives of municipalities and the stakeholders of the area, the government stakeholders play the most important role. With respect to the results of the representatives of municipalities, the government stakeholders represent 92.31% of the definitive stakeholders identified, while in the results of the stakeholders of the area, the government stakeholders represent 100% of the definitive stakeholders identified (Lupo Stanghellini & Collentine, 2008). With respect to the results of the experts group, the government stakeholders represent only the 50% of the definitive stakeholders identified.

In this sense it is possible to draw the conclusion that the definitive stakeholders group identified by the experts is more pluralistic and differentiated than the group identified by the representative of municipalities and even more so than the group identified by the stakeholders of the area. The differences between the results of the stakeholder analysis may be explained and analysed through four problematic variables:

Table 3. Comparison of the results of three different stakeholder analysis (Source: Lupo Stanghellini, 2007: 215).

<table>
<thead>
<tr>
<th>Definitive stakeholders</th>
<th>Experts group</th>
<th>Representatives of municipalities</th>
<th>Rest of stakeholders</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Government of the Autonomous Province of Trento</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>2. Environmental Protection Agency of the Autonomous Province of Trento</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>3. Municipal Council of Pergine Valsugana</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>4. Municipal Council of Tenna</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>5. Municipal Council of Bosentino</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7. Municipal Council of Calceranica al Lago</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>8. Municipal Council of Levico Terme</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>10. Municipal Council of Caldonazzo</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>11. Municipal Council of Centa S. Nicolò</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>12. Cooperation of Communities of Brenta Mountain Water Reservoir</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>13. Federation of Irrigation Consortia</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>14. Industrialists Association of the Province of Trento</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>15. Craftsmen and Small Entrepreneurs Association of the Province of Trento</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>16. Tenant Farmers Union of the Province of Trento</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>17. Sant'Orsola Fruit Growers cooperative</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>18. Fruit Growers Consortium of the Alta Valsugana</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>19. Alpefrutta Fruit Growers Cooperative</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>20. Pergine Common Land Administration</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>21. Persina and Alto Brenta Fishermen Association</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>22. Levico Amateur Fishermen Association</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Lack of information

With respect to the stakeholder analysis performed by the experts group, it was decided to collect all the necessary information first and then to vote. Voting in the stakeholder analysis performed by the representatives of municipalities and the stakeholders of the area was done without giving the participants any further information. It was not possible to give them the information collected for the experts group because many associations/organizations/institutions in the area did not give their authorization to make public the information collected by the project leader. Furthermore, there was an interest in knowing the real point of view of the stakeholders, without any conditioning. For this reason it was decided that participants should vote based only upon their own knowledge of the area. This fact may have been a limitation. It was assumed that the stakeholders of the area (included the municipalities) had a lot of information and a very good knowledge of the area. For some stakeholders this was certainly true, but for others it probably was not.

Lack of familiarity with the stakeholder analysis methodology

All the participants in the stakeholder analysis phases were unfamiliar with the use of this kind of methodology. While the experts group was given a detailed stakeholder analysis guidance document to read before the stakeholder analysis, the representatives of municipalities and of the rest of stakeholders of the area were only given a shorter and less detailed oral and written explanation of the stakeholder analysis, in order not to lose time. Furthermore, the stakeholder analysis performed by the experts group was spread over three different sessions and the stakeholder analysis methodology was analysed and discussed in detail. This gave the experts the opportunity to become familiar with this methodology. It is also necessary to underline that because of their work, the experts group was more familiar with research issues, methods and terminology than the stakeholders of the area.

The politically correct syndrome

As emphasized above, some stakeholders asserted that it was very difficult to express judgements about other stakeholders. They were worried because they did not want to compromise themselves through the voting. The facilitator explained that the scores were absolutely just scores, not judgements, that the main purpose of the stakeholder analysis was to classify stakeholders, not to establish which were good and which were bad and that anonymity was fully guaranteed. Nevertheless, the apprehension and embarrassment felt by participants did not disappear. It is possible to conclude this because, with respect to the voting papers, it can be noted that some of the stakeholders gave the same score to all the stakeholders in the same category. These stakeholders probably tried to be politically correct; in other words they gave the same scores to the same category of stakeholders in order not to disappointed or displease anyone. Within the experts group nobody was worried about the possibility of compromising themselves or of disappointing or displeasing someone. The experts were free from concerns of this kind. Consequently, they were probably more objective. It also important to underline that, while the experts were outside the group of stakeholders of the area, the stakeholders of the area who took part in the stakeholder analysis voting were obviously inside the group, they were part of the list. In this sense, detachment helped the experts be more objective, while the involvement of the stakeholders probably created some problems with respect to a politically correct syndrome.
Attachment to the current situation (status quo)

As noted above, in the results of both the representatives of municipalities and the stakeholders of the area, government stakeholders play the most important role and represent the major part of the definitive stakeholders identified. With respect to the results of the experts group, the government stakeholders represent only a small percentage of the definitive stakeholders identified. This can be interpreted to some extent in the light of the attachment to the status quo. Usually the provincial government and municipal councils decide and make rules for water policy and management in the sub-catchment area. Obviously, these government stakeholders are influenced by the associations, organizations and institutions which represent the economic sector (and the economic power) of the area; but formally the provincial government and the municipal councils have the power and the duty to make decisions. While the experts group made an effort to ignore this restriction in order to identify the relevant or key stakeholders of the area, the representatives of municipalities and the rest of stakeholders seemed to be unable to withdraw from this idea and they automatically identified the government stakeholders as the key stakeholders. This probably happened because the experts succeeded in being detached and, consequently, more objective than the stakeholders of the area.

Despite this, the idea of improving the quality of the stakeholder analysis results of the experts group through a comparison with the results of the stakeholder analysis performed by the stakeholders of the area should be considered to be valid and useful. It is important to include in the stakeholder analysis the points of view, knowledge and ideas of the stakeholders of the area as well as the results of the experts. Nevertheless, there are some changes that may be made in order to improve the quality of the stakeholder analysis results, in particular with respect to the four problems discussed above.

In order to avoid the problem of the lack of information, it may be useful to collect and give the participants in the stakeholder analysis general information about the stakeholders of the area. It is important to collect and write down or verbally present this information as neutrally as possible, in order to avoid the risk of influencing stakeholders in a negative way.

With respect to the lack of familiarity, it may be useful to increase the familiarity of the stakeholders with the stakeholder analysis methodology. An interesting idea could be the organization of simulated stakeholder analysis. Nevertheless, this requires time and it is necessary to evaluate how much time it is possible to ask the stakeholders to spend in order to become familiar with the method.

The politically correct syndrome and the attachment to the status quo are more difficult to handle; they may be weakened through an enforcement of the trust among the stakeholders and between the stakeholders and the project leader. It is also possible to give the stakeholders further information about new ways of structuring and organizing water management decision-making processes and concrete experiences of participated water management may be of help.

With respect to the methodology, the stakeholder analysis method was considered to be clear and easy to understand and to use by both the experts group and the stakeholders of the sub-catchment area. Nobody had problems with the definitions or with the voting paper.

Conclusions

The stakeholder analysis methodology described in this paper showed up some problems and weak points, but it was a very useful tool which was able to provide a clear picture of the stakeholders’
environment. The classification of stakeholders was fundamental before starting the participatory process, because it made it possible to avoid the risk of forgetting relevant stakeholders or of involving stakeholders in an inappropriate way. Through the stakeholder analysis methodology it was possible to obtain a precise, detailed and clear classification of the stakeholders and an indication of the most appropriate level of involvement.

For this reason, with respect to implementation of the WFD, the stakeholder analysis methodology used in this study is demonstrated to be a useful tool for the identification and classification of stakeholders, in order to choose the right stakeholders for the right level of involvement for the right phase of the WFD implementation process and to avoid the risk of making mistakes which could cause the failure of the process.

Furthermore, it is important to emphasise that the stakeholders who participate in the CATCH implementation process are felt to be legitimately selected, because they were chosen through the stakeholder analysis and not in an arbitrary way. During the CATCH implementation workshops it also emerged that the stakeholders accepted and did not contest the results of the stakeholder analysis because they were asked to perform it and, consequently, stakeholder analysis results were obtained according to their voting. It is important to underline here that one of the advantages of the new stakeholder analysis described in this paper is the involvement of the stakeholders from the earliest step. This aspect legitimizes the stakeholder analysis results and contributes to legitimize the participatory process.

The stakeholder analysis methodology presented in this paper will be implemented soon in another sub-catchment area in Trentino, within the PARTY (Public pARticipation and cost-benefiT analYsis: guidelines for sustainable management of the Adige river) research project. The project aims to integrate public participation and cost-benefit analysis into water decision-making processes, in order to achieve the objectives of the WFD and to promote integrated river basin management. The stakeholder analysis constitutes the preliminary step in the planning and organisation of the participatory process, whose aim is to inform the public about the most relevant water issues of the area and about the purposes of the project, to collect information, opinions and ideas from the citizens and to involve actively the public in the decision-making process in order to identify a set of shared measures and actions to improve the water management in the sub-basin. The PARTY project represents an interesting opportunity to test and improve the new stakeholder analysis methodology illustrated in this paper.

References


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