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Categorizing stakeholders' practices with repertory grids for sustainable development
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Categorizing stakeholders' practices with repertory grids for sustainable development

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Abstract
With the increasing culture of participative democracy, tackling sustainability issues involves an ever more diverse range of stakeholders, while participants' disparate backgrounds, representations and aims lead them to develop distinct understandings of the same situation, resulting in ambiguity and frequent conflicts. Decision-makers involved in sustainable development thus need to ascertain who is affected by their decisions and who has the power to influence the outcome of those decisions, i.e. the stakeholders.
Although much research has focused on stakeholder analysis (SA), such studies have mainly focused on stakeholders' heterogeneity regarding firm objectives, and have neglected the necessary explorative nature of participatory decision-making for sustainability. Methodologies for carrying out SA in organizational contexts like those found in sustainable development, where neither the organization nor its stakeholders have any clear idea of the problems involved or the most appropriate means of tackling them, are still lacking.
In this paper, we put forward a method for categorizing stakeholder diversity as a means to facilitate managers' discussions of sustainability issues. Our general contribution is to conduct a SA based on the stakeholders' practices instead of their power and interests, the latter being a more usual focus. Our mapping method consists in codifying stakeholders' practices within an inductive procedure that is deeply rooted in what they currently do rather than literature-driven categories. More specifically, we adapt the well-known repertory-grid technique to represent practices on qualitative scales. Using several working groups dealing with rural sustainability issues, this method has proved effective in collectively building repertories of practices and stakeholder categories. We show that the method is helpful to participants in that it extends their representations of stakeholders and helps them to reframe sustainability. While contributing to practice-based studies, this paper also contributes methodologically to empirical studies on collective problem structuring concerning sustainability issues.

Key words: Stakeholder analysis, sustainability issues, repertory grid, practice, methodology

INTRODUCTION

As part of the trend towards a growing participative democracy, sustainability issues are processed today with the participation of a wider diversity of stakeholders, calling for research on multi-stakeholder partnerships as a promising governance mode for sustainability (Pinkse & Kolk, 2012). Nevertheless, the stakeholders' disparate backgrounds, representations and aims lead participants to develop distinctly different understandings of the same situation (Visser, Moran, Regan, Gorammly, & Skeffington, 2007). Sustainability governance is thus characterized by ambivalence of goals, uncertainty of knowledge and distributed power (Voß, Newig, Kastens, Monstadt, & Nölting, 2007), which leads to many business-environment dilemmas between private and individual use of resources, resulting in frequent conflicts (Walton, 2007).

As a consequence, decision-makers involved in sustainable development need to understand who is affected by their decisions and who has the power to influence the outcome of those decisions, i.e. the stakeholders as defined by Freeman (1984). As shown by Reed et al (2009), there is a collection of methods that can be used for stakeholder analysis (SA). Nevertheless, these methods are mainly focused on the heterogeneity of stakeholders regarding firm objectives and neglect the necessary explorative nature of participatory decision-making for sustainability (Celino & Concilio, 2011). This point challenges the definition of stakeholders (Laplume, Sonpar & Litz, 2008) and the difficulties involved in qualifying their interests when, although not shareholders of a firm, they are "potentially concerned" by sustainability issues (Mercier, 2001). There is thus a methodological gap to carry out SA in organizational contexts like those found in sustainable development, when neither the organization nor its potential stakeholders have a clear idea of the problems involved and the most appropriate means of tackling them.

Our contribution here is a new method of categorizing the diversity of stakeholders as a means to facilitate discussion within groups of managers facing sustainability issues. We then analyze stakeholders through their practices instead of their power and interests, the latter being the usual focus in SA. Based on the well-known repertory-grid technique, our method consists in codifying the various practices of stakeholders within an inductive procedure and without literature-driven categories. Designed in several groups dealing with rural sustainability issues, the method has proved helpful to managers by extending their representations of stakeholders and by helping them to reframe the sustainability issue.

This paper is divided into four sections. Firstly, we depict the existing methodological gap so as to describe stakeholders concerned by sustainability issues. Secondly, we explain our methodological orientation and describe our research design. Thirdly, we present our proposed method for categorizing stakeholder practices. Finally, we discuss the assets and limitations of our method regarding the way it helped to reframe the sustainability issues.

THE NEED FOR A NEW METHOD

In business management, acknowledging that stakeholders "can affect or is affected by the achievement of the organization's objectives" (Freeman, 1985: 46) has since the 1990s led to a growing literature seeking to understand stakeholders' interests and how these could support or undermine the firm's performance. With an instrumental perspective aiming at stakeholder management, many research works have been undertaken to help managers understand the interests of stakeholders and predict their behaviors "in relation to the goals of the organization" (Ackermann & Eden, 2011: 181). Most stakeholder analyses are thus carried out in relation to the organization's objectives as something which has already been defined and needs to be achieved. Along the same lines, SA has been widely applied in public policy and natural resource management (Grimble, 1998; Reed et al, 2009) as a means "to improve the efficiency of extension programs" (Emtage, Herbohn, & Harrison, 2006: 90).

When dealing with sustainability issues, these objective-driven stakeholder approaches are challenged nowadays by the increasing involvement of various stakeholders, such as locally elected representatives, agricultural advisors, farmers and forest owners, who are all recognized as legitimate players in the governance of land use or common natural resources such as water or biodiversity. These stakeholders are characterized by disparate backgrounds, representations and aims, resulting in different understandings of the same situation (Visser, et al, 2007), frequent conflicts (Walton, 2007) and business-environment dilemmas between private and individual use of resources, thus challenging the methodological requirements for SA.

SA is conducted in many different ways using a large number of techniques and tools. In particular, recognizing that there is considerable variability between individual attitudes both between and within stakeholder groups (Cordano, Frieze, & Ellis, 2004), many studies attempt to categorize stakeholders into typologies (Laplume, et al., 2008; Reed, et al., 2009) using criteria such as power, support, influence and need, but also their propensity to adopt innovations (Emtage et al., 2006), relationships and roles in a given project (Hare & Pahl-Wostl, 2002).

Nevertheless, Aggeri & Acquier (2005) have demonstrated that SA exhibits certain limitations in ill-structured situations like those found in sustainable development, putting forward the necessary explorative nature of participatory decision-making for sustainability (Celino & Concilio, 2011). Along the same lines, Mercier (2001) argued that stakeholder theory shows limitations since the qualifying interests of stakeholders regarding sustainability issues are far less obvious than for the shareholders of a firm.

A methodological gap then arises concerning how to carry out SA for sustainability governance with multiple actors and perspectives, conflicting interests and unstructured problems. In such contexts, bottom-up categorisations of stakeholders, some of them being defined by the stakeholders themselves, have been developed (Reed et al, 2009). Surprisingly, the fact that all these methods are grounded in discourse analysis is never questioned, and the normative nature of discourses is thus neglected. As observed by Ackermann & Eden (2011), power-interest grids and network-influence diagrams provide

insights into who the stakeholders are, but they cannot be fully used by managers. They suggest that mapping the stakeholders' "ways of acting in the world", i.e. their actions and objectives, might suggest management options more clearly in line with the proposals of Laplume et al. (2008) for characterizing stakeholders according to how they manage resources. In addition, Aggeri and Acquier (2005) argue that SA fails to take practices into account due to its strong relational perspective. This methodological difficulty is not surprising, since practice-based data are "rich qualitative data […], often of an ethnographic or observational nature […] that have all the messiness of everyday practice" (Jarzabkowski & Matthiesen, 2007: 3), and the difficulty of drawing generic contributions from them is recognised (Johnson, Langley, Melin, & Whittington, 2007).

Our objective is thus to offer a method of formalizing the diversity of stakeholders' practices as an innovative way of conducting SA in organizational contexts like those found in sustainable development, when neither the organization nor its potential stakeholders have a clear idea of the problems involved and the most appropriate means of tackling them. Our research questions are the following: How can we represent and categorize stakeholders' practices in such contexts? How does it help decision-makers to reframe sustainability issues?.

MAPPING WITH REPERTORY GRIDS

The paper posits a method of practice mapping based on the repertory-grid technique put forward by Kelly (1955). Mapping with repertory grids consists in the elicitation of a construct from *elements*:

- An element is any actual event, state, person or physical object that may be used to make someone express his/her values and beliefs;
- A construct is a dichotomous axis opposing two poles (see Figure 2) and expressing similarities and differences between elements;
- A repertory grid is a rectangular matrix with elements as columns and constructs as rows (see Figure 4).

Mapping with a repertory grid thus consists in formalizing constructs, rating elements of them and analyzing the correlation between constructs and groups of similar elements. Most studies using repertory grids have used people as elements, in accordance with Kelly's original approach. There are very few examples of repertory grids being used with practice-based elements, with the exception of Wright (2008), whose aim was to elicit strategizing activities as *elements* and individual perceptions of the resources used to carry out these activities as *constructs*. His approach has proven to be successful in eliciting managers' strategic cognitions on the basis of strategizing activities drawn from the literature and supplied to interviewees, but it cannot be applied when activities cannot be easily listed.

Our method uses repertory grids to map practices in situations where activities

cannot be listed *ex-ante* and when data analysis cannot be based on literature-driven categories. Our central argument is that our method makes it possible to maintain the richness of practice-based data by avoiding their top-down reduction to a few pre-existing categories and thus enlarging the reframing process about sustainable development options while keeping it grounded in practice reality.

Cognitive mapping tools and, in particular, the repertory-grid technique, have already been used as a tool with which to build collective maps, either average, composite or aggregated from individual maps (Cossette, 2008). It has been used in various domains as a means to facilitate discussions or even learning among groups (Bougon, 1992). In particular, repertory grids are recognized as having great "potential for the collective exploration of organizational culture" (Gray, 2007: 511).

Nevertheless, the ontological status of cognitive maps is often implicit and subject to epistemological controversies. Some authors consider that a cognitive map represents individual thought processes and that cognitive mapping should be a neutral process, requiring facilitators to "have minimized the possibility that their own interpretive frame has contaminated the coding process" (Huff, 1990: 410). In contrast, Eden (2004: 685) claims that "cognitive maps have not been taken as models of cognition, but rather as tools for reflective thinking". In line with the subjectivist perspective adopted by Cossette (2008), we assume an interpretive position on cognitive mapping for our method. Rather than a neutral codification process, this is to be seen as an interventionist tool, providing support to the enhancement of the managers' creativity and focusing on the social process of cognitive mapping (Bougon, 1992). When using repertory grids in groups to build a consensual representation without eliciting individual perceptions, we assume that our use of repertory grids constitutes a re-routing of the technique's fundaments.

A METHOD BUILT WITHIN A COOPERATIVE RESEARCH PROCESS

Our method was first designed within a research working group in 1996-1998 and was later tested on several working groups (from 2001 to 2007) on a cooperative research basis (Reason, 1999), close to the "research-oriented action research" of Ackermann and Eden (2011: 181). While faced with specific and context-related problems in rural areas (see Table 1), these groups were all involved in a framing process around a sustainability issue. They therefore exhibit common organizational characteristics:

- They all include consultants and managers from various institutions (territorial authorities, state representatives, socio-professional organizations, etc.) and agricultural researchers;
- Their objectives were to design development projects together with respect to a local issue for which existing practices were one of the major levers for improving sustainability. For example, this could include the identification of the potential role of livestock practices within a land-use management plan (see Group C, Table 1).

In the rest of the paper, we will refer to farmers as "stakeholders", i.e. individuals whose practices are of interest to groups of decision-makers involved in or related to sustainability. Our proposal was to support this process using practice-based data, since group participants do not necessarily have a clear and shared vision of stakeholders' practices. In fact, none of them can draw up an accurate and broad list of existing practices that are the lever for sustainability in their projects.

Table 1. Four working groups from which the method has been drawn

Working group	Sustainability issues at stake	Focus of interviews (number of interviews)	Group participants	Dates (duration)
A Southeast France	What are the spatial and temporal combinations of practices in French Mediterranean sheep farming?	Land use practices (16 in 3 areas)	4 agricultural researchers 1 management researcher	1996-1998 (18 months)
B Coteaux (Southwest France)	How can cattle feeding be managed during a dry summer that reduces the feed resources to be grazed?	Production and use of forage resources (land use, management intensity) and herd management (feeding, breeding) (40)	2 agricultural researchers 1 management researcher 1 teacher 6 agricultural advisors	2001 (8 months)
C Central Pyrenees	What could be the role of livestock systems in shrub management within a land-use management plan?	Land use and management, herd management, selling choices (35)	1 agricultural researcher 1 management researcher 4 mayors 1 agricultural advisor 3 development agents	2002 (7 months)
D Western Pyrenees	What are the cooperation modes between R&D organizations and farmers for collective breeding?	Breeding choices, summer land use, herd management (26)	1 genetic researcher 2 management researchers 1 genetic consultant 1 development agent	2007 (6 months)

The discussions in the working groups were all inspired by the analysis of stakeholders' practices (16 to 40 recorded semi-directive interviews; see Table 1). Practice data play a central role in the collective work by making it possible to focus the discussion on factual data ("the practices of Mr. X in August 2003"). Putting such data on the workbench is surely a new way to facilitate discussion on a grounded basis, systematically referring to factual positions on each axis. In order to facilitate this collective process, we used various elicitation techniques based on Kelly's theory (Bradshaw, Ford, Adams-Webber, & Boose, 1993).

Like Alexander, Van Loggerenberg, Lotriet and Phahlamohlaka (2010), the authors of this paper participated in the process as facilitators, thus playing a more interventionist role than in the classical use of repertory grids. We thus observed and participated in all these group-based discussions for a period ranging from six to 18 months (see Table 1). Extensive notes were taken during each meeting on the tools used, the codification and categorization processes and the group dynamics in order to both re-design the method throughout its successive implementations and test its robustness. After each process was completed, we analyzed it in order to extract methodological proposals to be tested in the subsequent groups, thus refining our method, step by step, in a cumulative way. A methodological guide sums up our conclusions and recommendations for future use.

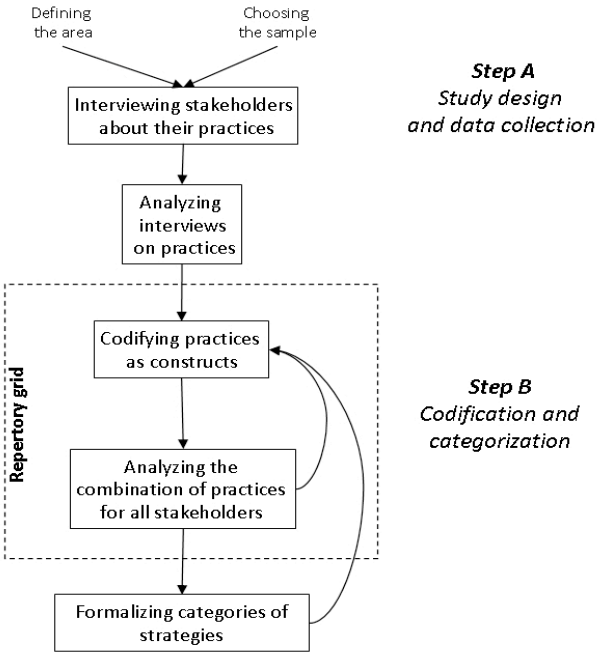
As a consequence of our interpretive position, we will not assess our method on the basis of its reliability or validity as in the positivistic tradition (Sandberg, 2005) but, rather, on the basis of the reflexive conversation it enhances (Gray, 2007) and the managerial benefits that managers can draw from it. We will then assess:

- How the diversity of stakeholders and their practices can be represented;
- How our method extends the managers' representations of stakeholders;
- To what extent our method facilitates the reframing of the problem in actionable terms.

MAPPING STAKEHOLDERS' PRACTICES

Our method consists of a two-step process that can roughly be summarized as the design of the study and the collection of data about stakeholders' practices (Step A) and their categorization using repertory grids (Step B) (Figure 1). This process is highly participative, requiring that participants actively engage in the codification of practices as constructs and in the expression of stakeholder types. The method is to be seen as iterative instead of a procedure to be followed as a strict guideline. Below, we provide details of how we propose to perform each step and illustrate the steps using examples from the agricultural domain.

Figure 1. Overview of the method



Step A consists of sampling the stakeholders to be interviewed (from 16 to 40 farmers in our working groups) and of collecting data (semi-directed interviews with stakeholders on their practices). All interviews are recorded and followed by reports (describing each stakeholder's practices and quoting some parts of his/her discourse) which are used to facilitate the sharing of information about stakeholders among participants.

Even if this data collection is quite classical, it can lead to crucial debates within the working groups about:

- The choice of the area that is relevant to the sustainability issue. The area may be obvious when the decision area is clearly limited (case of Working Group C) or negotiated in relation to soil and climate conditions (case of Working Group B) and/or to institutional criteria (case of Working Group B);
- The choice of the stakeholders to be interviewed. In particular, the importance of the stakeholder is a crucial criterion in that it reveals the implicit hypothesis of managers about the stakeholders who may benefit or be affected by the development program. In Working Group B, we, as facilitators, had to argue for lowering the classical threshold of a minimum of 20 cows

Step B consists of an iterative process combining two distinct but iterative processes in our method (see Figure 1): (i) the codification of practices, i.e., building constructs using mapping techniques and practice-based data included in interview reports, and (ii) the categorization of stakeholders, which implies combining such practice-based constructs and categorizing them using multivariate techniques.

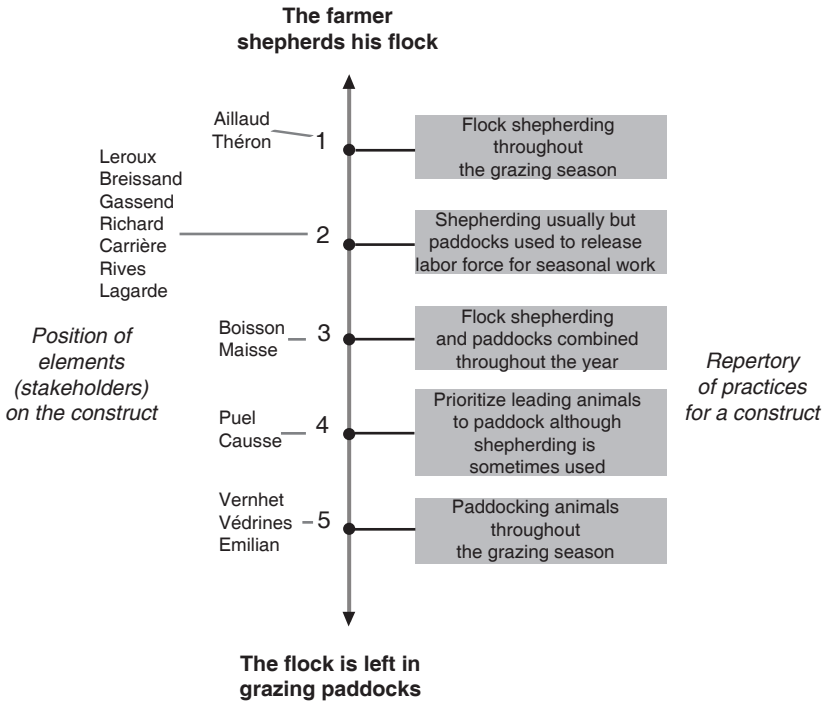
The first one consists in cross-case display and analysis (Miles & Huberman, 1994) in order to codify practices as constructs and to represent them on dichotomous axes opposing extreme practices (see Figure 2). In order to take the specificities of practice-based data into account, we adapted the repertory-grid technique in four ways.

Our first adaptation concerns the nature of elements and constructs.

In contrast with classical utilizations of repertory grids aiming at eliciting individual perceptions about actual individuals, our method relies on:

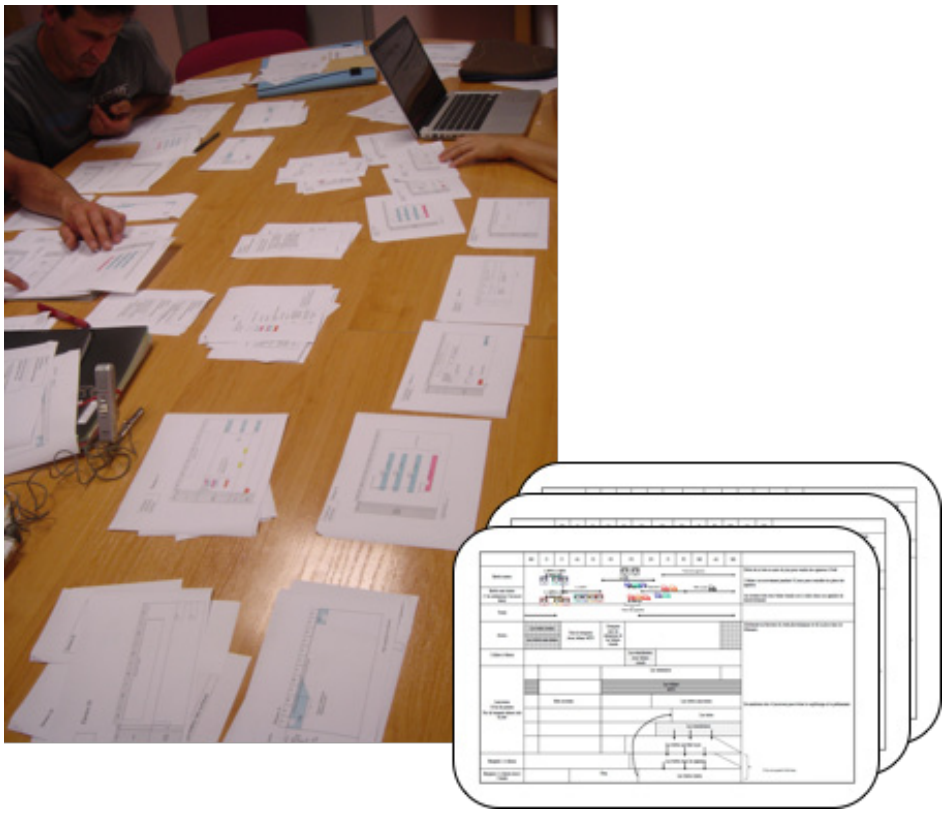
- *Elements*, which are stakeholders (in our domain, farmers) whose idiosyncratic practices are described in interview reports;
- *Constructs*, which are codified practices that identify extreme practices and their various modes (Figure 2), thus building a repertory of practices.

Figure 2. An example of a codified practice (Working Group A)



Codifying practices as opposite constructs on an axis may be seen as a radical sense loss when considering the quantitative assessment required by the laddering technique. The second adaptation we propose is thus to express practice-based constructs as a combination of "doing words" that clarify the type of action (e.g. "combining Italian Ray-Grass with legumes") and the rationale given by the stakeholder for it (e.g. "to stagger forage production throughout the campaign"). The rationale for a practice can be a classical technical-economic ratio expressing a concern in productivity, organizational criteria (e.g. labor constraints) or even a heritage-related claim (like "shepherding by tradition" or "privileging rams with beautiful horns because it is our heritage"). If expressing practices as "doing words" is close to Wright (2008), adding a rationale is much more original and makes it possible to eliminate ambiguity since an action can be carried out for various reasons. For example, the expression "priority for haymaking" leaves some ambiguity between a temporal and a quantitative priority and prompts participants to link micro-activities with their underlying and often hidden rationale, which cannot always be expressed by the action alone.
Thirdly, we propose to codify these various modes of a practice as qualitative rates that can be used to assess elements (i.e., stakeholders) on a construct. In classical repertory grids, elements are rated on a numerical scale defined by the two construct poles (Fransella, Bell, & Bannister, 2004). However, quantitative scales do not give any particular qualitative sense to the intermediary positions. Using the qualitative perspective on repertory grids proposed by Procter (2002; quoted by Fransella, et al., 2004) for family therapy, we propose to formalize the intermediary rates such as the range of practices that may be carried out by stakeholders as well. These may be intermediary on a temporal basis (all the time/most of the time/rarely/never; see Figure 2) or on a spatial basis (e.g. all the farmland/most of the farmland/a specialized area), or in reference to organizational arrangements (in our examples, plots and batches, and their combinations).
Our fourth adaptation of repertory grids concerns the material—both verbal and non-verbal—used for the elicitation process. We first use extensive practice reports that sum up the information drawn from interviews with stakeholders, together with quotes from their discourses when they express their practices and rationale particularly well. We also created "practice cards", that is, graphical (temporal as well as spatial) depictions of practices (see Figure 3), in order to facilitate the handling of data. Building such cards consists of dividing reports into theme-related information and representing each theme on a visual basis. They alleviate the cognitive tasks required by immersion in and memorizing practice-based data by using representations that are immediately perceptible and voluntarily redundant with the reports. This graphical strategy is a "means of data reduction and synthesis that is less radical and more flexible" than a quantification strategy (Langley, 1999: 702). These practice cards, together with the reports, are then used in free pile sorting exercises (see Figure 3) and triad exercises that consist in "presenting elements three at a time and asking if any two of them are similar to each other and different from the third" (Bradshaw, et al., 1993: 291).

Figure 3. A free pile sorting exercise using practice cards (Working Group D)



In our various working groups, this codification stage ended up with eight to 13 practice-based axes with three to seven modes in each axis (see an example in Table 2). In a valley in the Pyrenees, the working group analyzed the practices of 35 farmers and codified them into ten axes as being relevant to the problem of hillside use. These axes that concern livestock management as well as feeding or farmland utilization and maintenance encompass three to six practice modes.

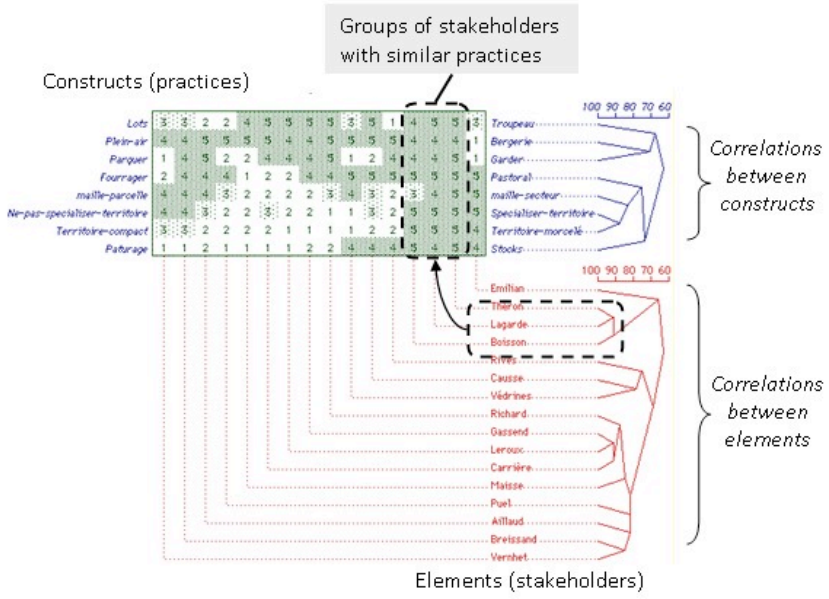
Table 2. Ten practices describing the diversity of livestock practices in the Arreau Valley (Working Group C)

N°	Practice	Extreme practices
1	Splitting herds into batches	- Driving herds to grazing land in one batch to simplify labor organization - Driving animals in batches and modifying batches during the year, to best feed the animals in relation to their physiological state
2	Leading animals to pasture	- Tending flocks throughout the grazing season - Keeping flocks in paddocks throughout the grazing season
3	Maintaining grazed areas	- Cutting scrub and burning it to maintain grazed areas - Maintaining grazed areas only with grazing to save labor
4	Utilization of intermediary areas	- Grazing all year round as a complete feed ration for at least one batch - Not used
5	Indoor feeding or not according to grass availability or to animals' needs	- Fodder given as soon as animals return from summer pasture until late spring for at least one batch of animals - Fodder given beginning late in the autumn and ending as soon as animals are turned out in spring in order to get the most out of pasture
6	Breeding and selling choices	- Grouping of lambing in December to take advantage of Christmas prices - No grouping of lambing and selling products when possible to save labor
7	Technical choices to cut meadows	- Cutting meadows only in tractor-accessible areas to save labor - Cutting all meadows
8	Grazing or not before first cutting	- No grazing before first cutting to allocate more land for haymaking - Initially grazing nearly all the grassland fields before a possible cut to allow early turnou
9	Buying fodder or not	- No purchase of fodder - Purchase of almost all fodder every year
10	Spatial configuration of grazed areas	- Contiguous areas on the same side of the valley, no lowland meadows - Grazed areas in lowlands, hillsides and summer pastures, but not contiguous and far from the farmstead

Stakeholder categorization emerges from the analysis of the resulting matrix (see an example in Figure 4), which exhibits the many and various combinations of practices carried out by stakeholders. Since these combinations cannot be analyzed manually, we propose using RepGrid[1] (Gaines & Shaw, 1994), which suggests various classical data-processing outputs based on multivariate analysis (factorial correspondence analysis) such as hierarchical clusters and non-hierarchical conceptual maps. Since RepGrid is highly graphical and interactive, it emphasizes data visualization at all stages of elicitation with the objective of suggesting greater structure among data and prompting analysts to reformulate or add other constructs.

1. http://repgrid.com/

Figure 4. A repertory grid representing stakeholders through their practices (Working Group A)



Rates represent the position of each element regarding each construct and are used by RepGrid to calculate correlations.

These hierarchical classification trees then show groups of stakeholders with the strongest correlations calculated by RepGrid, i.e., with the most similar combinations of practices (Figure 4). Our proposal is to use these groups of similar stakeholders with their shared practices to extract types of stakeholders regarding their realized strategies, i.e. patterns in streams of organizational actions (Mintzberg & Waters, 1985).

As an illustration, Table 3 describes the stakeholder types built by Working Group C in the Central Pyrenees. They are labeled with various rationales such as ensuring security (Type A), maintaining heritage (Type B), taking advantage of hillsides (Type C), focusing on animal care (Type D), combining areas, periods and batches (Type E), and selling on local markets (Type F). This typology highlights the fact that some stakeholders are focused on production objectives in the short term, in other words on an annual basis (Types D and F), whereas others emphasize the sustainability of the enterprise (Types A and B). Practices are of critical or non-critical importance for each stakeholder, and more or less linked to other practices. For example, the importance of resource autonomy (Practice 9) is very diverse when considering the system level. On the one hand, highly dependent stakeholders (Type C) have to purchase resources because of their restrictive environment. On the other, autonomous stakeholders (Types B or E) feed their flocks with home-grown forage.

Table 3. Six types of stakeholders in the Arreau Valley (Working Group C)

Stakeholder types and their overall rationale	Typical practices of the stakeholder type
A: Simplifying labor while managing the farmland	- Clearing grazed fields and/or slashing and burning in order to maintain good nutritive value as well as open landscapes - Feeding flocks with fodder until summer by precaution. - Simplifying labor for flock management, for breeding and selling, and for haymaking
B: Feeding flocks mainly with grazing while being concerned with farmland management	- Feeding flocks mainly with grazing and providing fodder only during difficult months. - Using hillsides for spring and autumn grazing and for haymaking as well. - Clearing grazed fields and/or slashing and burning in order to maintain good nutritive value as well as open. - Simplifying labor for flock management, and for breeding and selling
C: Taking advantage of farmland located on hillsides while grouping births to sell store animals at Christmas	- Taking advantage of all of the farmland by grazing and limiting fodder given to animals. - Making hay wherever possible and keeping some grazed fields for first hay cutting. - Integrating hillsides into flock feeding, even for winter grazing. - Buying large quantities of fodder to complete harvested forage supplies.
D: Foddering animals throughout the year and grouping births to sell store animals at Christmas while limiting use of hillsides	- Giving fodder throughout the year to animals, regardless of their physiological states, to maintain their condition and to optimize production. - Reducing labor in pastures and devoting efforts to livestock. - Keeping first grass growth in meadows in spring for grazing. - Grouping births and selling to specific distribution chains.
E: Combining hillsides and lowlands while grouping births to sell store animals at Christmas	- Combining the three farmland areas by designating their specific roles, in order to be self-sufficient for fodder and to sell products at a good price. - Feeding the flock mainly by grazing and providing fodder when necessary only to suckling animals. - Grouping births to sell store animals at Christmas.
F: Giving great importance to feeding in order to fatten animals and to sell them on local marketing networks while being concerned with farmland management	- Feeding fattened animals with care in order to sell a high-quality product on local marketing networks, while being concerned with farmland management. - Being very careful with suckling animal feeding, in order to ensure lactation, and then fattening young animals. - Clearing grazed fields and communal areas by slashing and burning or with a scythe to fight against shrub encroachment, in order to maintain their forage potential, as well as maintaining open landscapes. - Simplifying routine flock labor (no batches, grazing in paddocks).

Such an inductive process makes it possible to characterize stakeholder diversity without any literature-driven variables. This bottom-up process, from practices to stakeholders without any former categories, has greater potential for revealing unexpected stakeholder types, or shaking up those which are taken for granted, than in enhancing creativity by reframing the situation.

HOW CATEGORIZING STAKEHOLDERS' PRACTICES FACILITATES THE REFRAMING OF SUSTAINABILITY ISSUES

In the various working groups we have studied, the method has proven its usefulness in that it extends managers' representations of stakeholders. The process needs an average of five meetings to define the sample and the area, to collectively analyze the interview reports and to formalize types of stakeholders. Using our extensive notes, we have analyzed below how it helped managers to extend their view of stakeholders regarding sustainibility issues.

For example, in Setting B, an agricultural consultant recognized that the process "helped [him] to clarify types. It reshaped my view of the reality of farming in

my area"[2] . In each working group that we observed, collective categorization did, in fact, engage stakeholder recognition processes, even those that were denied or put aside as being marginal at the beginning of the process. Some of the initially so-called "deviant behaviors" were found to result in coherent (and even interesting!) practices when their combinations were analyzed. For example, in Setting B, a farmer was initially labeled a "nut" or an "eccentric" by agricultural consultants because of his distinctive practices in comparison with local norms. When analyzed as a coherent combination, his practices revealed themselves to be interesting in terms of environmental stakes. Considering that "this is a good response to the drought period, with environmental aspects and a good image for livestock, it's a strategy to be investigated!", the group decided to create a new, innovative type of stakeholder and the "nut farmer's" holding was finally selected to become a model farm for alternative feeding practices.

Moreover, categorizing stakeholders helped managers to reframe their project by integrating the diversity of practices into managerial pathways. In Setting C, the group was then able to link stakeholder types to the objectives of the local land-use management plan by identifying their potential roles in the management of shrub-encroached hillsides. In particular, the group identified Type C as the one with the most interesting practices regarding this issue, but also the most fragile in terms of labor load and fodder balance. They thus included technical improvements for them in their plan. In the same way, this categorization helped managers to reframe their plan and routines. For example, in Setting D, describing practices such as "use of collective breeding tools" allowed managers to characterize the relationship chosen by each stakeholder with the organization, thus prompting managers to change their usual consultancy philosophy focused exclusively on technology transfer.

While drawing on an old technique, our method is innovative in its adaptation of repertory grids to practice mapping, in the way in which it is used both to represent practices and to enhance the collective elicitation process. Our adaptation concerns the elements used, their origin and the nature of constructs concerning these elements. The repertory-grid technique is thus embedded in a wider procedure, with a first step aimed at collecting data on practices in order to create the elements to be rated with repertory grids. We thus assume that the way in which we implement this technique differs from its classical use because we attempt not to unveil personal constructs but rather to facilitate the building of a collective perception. With our method, we show that repertory grids can be used as reflective tools, strengthening the efficiency of this technique in facilitating collaborative design (Bang & Nissen, 2009) and reflection in research groups (Alexander et al., 2010; Gaines & Shaw, 1994). While consensus in participative contexts is often reached at the expense of realism, starting from practices appears to be a grounded way to foster participation while keeping the agendas and projects rooted in reality.

Nevertheless, representing practices with repertory grids exhibits several limitations. The main one comes from the technique itself, since it requires elements to be assessed along constructs on a quantitative scale. Moreover, the principles of cognitive mapping, as well as the participative nature of our method, both require willing and reflexive participants with a high capacity for introspection and self-expression. As a consequence, our method requires a specific composition of working groups. In particular, it excludes situations in

2. Quotes are taken from our observations of working groups.

which participants are in extreme conflict, for example, sustainability issues involving competing firms or environmental issues in which stakeholders' interests are too conflicting.

Approaching stakeholders' diversity through their practices is an innovative way to approach their potential for change. Until now, we have focused our work on production practices (the way stakeholders manage their production process) and not relational ones (the way they interact with each other), thus building a SA that is quite different from classical ones. The possibility of combining our method with classical SA, which is focused on power and interests of stakeholders, remains to be investigated.

CONCLUSION

This paper proposes an innovative method for conducting SA by categorizing stakeholder practices. Drawn from several working groups in organizational contexts like those found in sustainable development, when neither the organization nor its potential stakeholders have a clear grasp of the problems which exist and the most appropriate means out of tackling them, this method has shown to be effective in allowing the researchers to explore the diversity of stakeholders and (re)-frame their problem. While our method suffers certain limitations due to the technique which it employs, it facilitates group thinking and thus constitutes a methodological contribution for empirical studies on collective problem structuring concerning sustainability issues. By building methods for organizational issues on techniques drawn from the cognitive sciences, one can access real potential for overcoming methodological difficulties in sense-making approaches to sustainability issues. This should encourage researchers to cross disciplinary boundaries and take their methodological insights with them when they do so.

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