

Original article

Psychological parameters to understand and manage the NIMBY effect

Paramètres psychosociaux pour la compréhension et la gestion de l'effet NIMBY

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Received 20 May 2004; received in revised form 25 November 2004; accepted 20 February 2005

Abstract

Decision making in environmental intervention and management usually displeases someone. Public administration entities and private organisations must pinpoint and manage certain environmental and social services that though deemed necessary and essential, often carry a negative image that creates social rejection. This is known as the NIMBY effect (Not In My Backyard). This phenomenon, which to a certain extent can be considered normal, is related to social perception of risk, to the complex process of attribution of causes, and to perceived inequity. It addresses the issue of life quality in terms of the potential alteration of people's well-being that generates self-defence behaviour. This paper reviews previous literature, analyses and compares the most relevant environmental conflicts in Catalonia between 1988 and 2003, and shows that not every conflict should be considered a NIMBY effect. It then suggests some management recommendations for NIMBY conflict management from the standpoint of classical social psychology theories.

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Résumé

La prise de décisions dans l'intervention et la gestion environnementales contrarie habituellement quelqu'un. Les entités d'administration publique et les organismes privés doivent implanter et gérer certains services environnementaux et sociaux qui bien que considérés comme nécessaires et essentiels, portent souvent une image négative qui entraîne un rejet social. Ce phénomène est bien connu comme « effet NIMBY » (pas dans mon arrière-cour). Ce phénomène, qui dans une certaine mesure peut être considéré comme normal, est lié à la perception sociale du risque, au processus complexe de l'attribution de causes, et à l'injustice perçue. Il est en relation avec la qualité de vie dans la mesure où les menaces potentielles sur le cadre de vie et sur le bien-être de l'individu peuvent entraîner des comportements d'autodéfense. Cet article passe en revue la littérature sur l'effet NIMBY, analyse et compare les conflits environnementaux les plus typiques en Catalogne entre 1988 et 2003, et montre que pas tous les conflits sont à considérer comme effet NIMBY. En guise de conclusion, l'article formule quelques recommandations pour la gestion des conflits de type NIMBY du point de vue des théories sociales classiques de psychologie.

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Keywords: NIMBY effect; Quality of life; Perceived risk; Environmental conflict; Environmental psychology

Mots clés : Effet NIMBY ; Qualité de vie ; Risque perçu ; Conflit environnemental ; Psychologie environnementale

^{*} This study has been performed in the context of the 'Map of Environmental Loads of Catalunya', entrusted and assigned by the Territorial Planning Secretariat of the Catalan Government's Department of Territorial Policy and Public Works in 2002.

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1. Introduction

The NIMBY (Not In My Backyard) effect may be defined as social rejection of facilities, infrastructure and services location, which are socially necessary but have a negative connotation. Other acronyms in literature, though similar, imply a different degree of rejection, for example, the *LULU effect* (*local-unwanted-land-uses*), the *BANANA effect* (*building-anything-at-all-near-anyone*), the more radical *NIABY effect* (*not-in-ANY-back-yard*) that entails absolute opposition to a project or a kind of projects, regardless of the intended location, or the new phenomenon called YIMBY (Yes In My Backyard) related to search of economic benefits of compensation for having the facility (Martín-Crespo, 1996). In this paper we will focus mainly on the *NIMBY effect* as the most general and widespread phenomenon, though we'll see that there are other environmental conflicts that must be considered and that are not of a NIMBY nature.

Different factors can generate a NIMBY effect, especially fear of loss of the perceived quality-of-life status and economic value of property. The NIMBY effect could be considered 'normal' due to perceived risk and nuisances associated with some social and environmental facilities. It includes fear of both objective and subjective risks (attributed risks), fear of loss of achieved well-being and quality-of-life status; and fear of loss of the economic value of property. The NIMBY effect is particularly relevant to public administration entities which must pinpoint and manage certain environmental and social facilities that though deemed necessary and essential often have a negative social image.

Shen and Yu (1997) state that NIMBY reactions are nothing new. There are profuse historical data recording neighbour opposition toward unwanted land use (Dear, 1992; Meyer and Brown, 1989). However, research on the phenomenon from a psychological, psycho-social or psycho-environmental perspective remains surprisingly scarce. The NIMBY effect implies processes such as perceived risk, cognition, attribution, attitudes, social behaviour, or quality of life that should be borne in mind when analysing NIMBY cases.

This paper shows the results of a study about NIMBY and other environmental conflicts, their causes and some usual ways to manage them. Based on these data and the experience gathered by intervening in NIMBY cases (from university and consulting experience) it suggests some management recommendations from the standpoint of social and environmental psychology.

As we summarized in an earlier work (Moreno and Pol, 1999), literature analysing the phenomenon shows a constant mix of NIMBY triggering factors which relate NIMBY both with previous causal factors—such as suspicion of management or technology—and with consequences which stem more from fear than from fact (fear of effects on health, fear of loss of economic value of property, economy or well-being (Pol et al., 1997, 2002). Applying multivariate analysis, Hunter and Leyden (1995) argued that NIMBY effect, rather than being attributable to concerns such as property values and aesthetics,

depends mainly on two factors: fear of potential health effects—a consequence—and distrust in government management—an antecedent cause. Matheny and Williams (1985) in USA found distrust in technology, and distrust in the capacity to maintain correctly working technological facilities and their management by public entities as NIMBY triggering factors.

Rejection is not always related to a specific location, rather it may stem from ideology. Wolsink (1994) argued that opposition to hazardous developments is often not related to proximity. Hampton (1996), for example, studied opposition to the construction of an armaments complex in Australia. He concludes that, "contrary to expectation, distance of respondents' residence to the location of the proposed facility was not associated with opposition or support for the facility" (p. 155). The expression 'Not In Any Backyard'—or NIABY—has been used in cases where people oppose a sort of development, not on grounds of self-interest (Lober and Philip, 1994). This includes, for example, people who oppose nuclear power in favour of alternative forms of energy. This sort of ideas are probably related to distrust in government management, which is one of the factors quoted by Hunter and Leyden (1995).

These outcomes and lines of argument present the NIMBY issue in terms of distributive justice, inequity perception and risk attribution. Therefore, social-psychological processes supported by classical theories: the 'social exchange theory' proposed by Homans (1961), the 'equity theory' by Adams (1965), the attribution theories, in the tradition of Heider (1958), Jones and Davies (1965) and Kelley (1967) may be helpful to understand and manage the NIMBY effect.

Other authors have found that some communities are faced with a difficult dilemma: they welcome the employment and economic benefits that come with the facility but, on the other hand, they are reluctant to accept hazardous and otherwise noxious facilities (GEPSA, 1997; Krannich et al., 1993; Pol, 1997). Halstead et al. (1993) underline that reluctant people do not constitute homogeneous groups. Groothuis and Miller (1994) found two differentiated factors: 'tolerance' (acceptance under rational argumentation) and 'avoidance' (controlled by fear of personal consequences). These authors mention a third factor to be considered: faced with compensatory measures, acceptance and rejection of hazardous facilities will depend on the belief and value system of the affected community (Schwartz, 1992, 1994; Schwartz and Bardi, 1997). These ideas can be connected to more or less participatory processes in decision making about facility location (Freudenburg and Pastor, 1992; Martín-Crespo, 1996), and the way in which some variables can affect attribution processes relating to decision making.

In all of these studies, there is probably an implied cognitive dissonance and overcompensation bounce effect dimension in the terms shown by Festinger and Carlsmith (1959); moreover, group self image is also affected (Norton and Hannon, 1997) and consequently so is their identity and cohesion, as well as the tendency to favour in-group interests to the detriment of out-group ones (CIS, 2002; Tajfel and Turner, 1986). Once more classical theories shed light on the NIMBY phenomenon.

Lober and Phillip (1994) studied the effect of variables such as ‘perception of need’ and ‘distributional equity’ on placing attitudes. They found that the ‘perception of need’ has as great an effect as ‘distance’ on siting preferences. The authors suggest siting policy should include an understanding of factors leading to the formation of perception of need rather than focusing strictly on compensation and risk mitigation as policy instruments. In order to understand these aspects a vast psychological literature on risk perception should be considered (Beck, 1992a,b; Vleck, 1987).

Some other factors—the current structure of society of services, the ignorance of products life-cycles or the energetic over-consumption in everyday habits—make the existence of a necessary environmental awareness difficult even though people have access to objective information. Thus, the possibilities of a NIMBY effect are increased. On the other hand, as shown in a European study, Subirats (1997) states that the larger the number of people who share the need for an installation, the lesser the probability of a NIMBY conflict.

Khun and Ballard (1998) explain and justify four cases of waste disposal facilities in the Canadian context, which used two different strategies of management. On the one hand, two cases were based in technological top-down criteria generating a strong social rejection. On the other hand, the other two cases were based on principles of decentralisation of decision-making authority and full meaningful public involvement. The latter finished successfully and without registering NIMBY effect. These authors conclude that inequity perception and political dimension (beyond the economic implications) were the main causes of the NIMBY effect. Nel-lo (2003), arrived at a similar conclusion after performing a qualitative analysis of 16 conflicts in Catalonia.

Obviously, industries, services or environmental facilities can generate annoyances such as litter at the front door or close to a house, ‘civic amenity sites’ or ‘recycling drop-off centres’ or waste disposal facilities generating noise, odours, atmospheric emissions, etc. However, an installation that is perceived as an annoyance for the well-being of a community, hazardous to people’s health or dangerous due to the risks involved (or attributable to it), is more detrimental for the potentially affected population than the real effects if it is not perceived as annoying, hazardous or dangerous. Indeed, the stress this fear generates does increase people’s objective vulnerability and may turn the ‘conflictive’ installation into a truly detrimental one (Moreno and Pol, 1999).

The NIMBY effect entails a social movement dimension, essential for any thorough analysis, that has a long standing and solid tradition (Blumer, 1971; Javaloy, 2001; Spector and Kitsuse, 1973; Wandersman and Hallman, 1994) and has recently been enriched by conflict resolution mediation literature (D’Estrée et al., 2002; Edelstein, 2002; Horelli, 2002; Suárez et al., 2002; Wiesenfeld and Sánchez, 2002). As far back as 1980, Sullivan et al. recommended that in the face of any demand for social intervention it is necessary to perform a process of “de-bunking”. They argued that unveiling the true interests, whether explicit or hidden, of the rejection movement was es-

sential. In environmental conflicts it is also frequent to find dark interests disguised as environmental banners, interests which profit from the fact that environmental and sustainable issues have become a positive social value that is seldom directly and openly challenged or questioned.

2. Method: case analysis

In recent years in Catalonia (Barcelona and its area) projects with environmental implications—energy supply, waste disposal, services or transportation—generate an increasing number of social rejection movements, regardless of the political stance of the administration that promotes them. Sometimes, these social movements are valued positively, based on their reflection of social maturity and public interest to participate in the monitoring of facilities. However, occasionally these protests are interpreted negatively. For this reason, we decided to analyse the most visible environmental conflicts in the Catalanian context over the past 15 years.

The study procedure of the cases analysed can be divided into the following stages:

- *Documentary research and conflict selection.* We monitored the presence of environmental conflicts in two of the main newspapers in Barcelona and additional documents published by civic associations, as well as in related social movements and their web sites. In order to regard, conceptually and operatively, a protest as an environmental conflict to be studied, two basic parameters have been taken into account:
 - *Detectability* of an *opposition movement* with a minimum of *coherence* and *organization* showing *rejection* of an intervention or intervention project on a territory, and;
 - The *persistence* of this protest situation long enough to give rise to a *sustained process of confrontation* and/or *vindication*.
 The first criterion concerns the *mediatic and social visibility* of the phenomenon, which grants public existence to it; the second criterion relates to the *time dimension* as a *socially legitimizing* element of the conflict. The selected sample included 47 situations characterized as social-environmental conflicts and was chosen through group discussion after revision of 397 documentary sources.
- *Systematisation of information and recording in descriptive cards.* From *content analysis*, conflicts were characterised by a number of *fundamental features*. The identification of these defining features has operatively generated a series of *fields of analysis*. The resulting fields refer to *generic descriptive information* (intervention name, location, beginning date, resolution date, typology or classification) and to internal or inherent processes of the conflict (origin and causes, confronted agents, action taken and kind of resolution) which yield a structured and systematized information body collected in descriptive cards. The creation of fields of analysis

and the coding of categories within each field of analysis (such as “factors of environmental impact over the physical milieu”, as a category in the “origin and causes” field) have followed a process based upon an initial and individual case study performed independently by each group member. This case study was then collectively contrasted and worked upon; matching categories were kept and dissenting cases were solved through group discussion and consensus—inter-raters agreement. Resulting categories, conceptualised as a priori variables—textual units—have been submitted to the Krippendorff’s canonical concordance test (1980) through the assignment of a case-category to the 47 conflicts by the group members, thus quality of data bears 72.9% of support, which may be considered acceptable. The categories in the “Conflict typology” field of analysis (waste, energy production, housing developments, etc.; see Table 1) were the first to be coded, being justified owing to the type of infrastructure or services—whether projected or current. “Confronted agents” (Table 2), “Origin and causes” (Table 3), “Implemented action” and “Kind of resolution” are the other fields which have been categorized.

Table 1
Resultant typologies and categories

Typology and categories	Number of cases for category
Waste	14
Urban solid waste	7
Industrial waste	4
Urban solid waste treatment plant	3
Infrastructures	10
Highways, roads and tunnels	4
Hydrological infrastructures	4
TGV and airport	2
Energy	10
Aeolian energy production	3
Thermic energy	5
Energy transportation	2
Urban pressures	11
Housing development	6
Golf courses	4
Ski resorts	1
Industry	2
	47

Table 2
Involved Agents

Role	Proposes	Upholds the proposal	Intermediates ^a	Opposes	Upholds the opposition
Agents ^b					
Local government	5 cases	14	20	4	5
Catalonian government	12	16	7	–	–
Spanish Government	5	–	–	–	–
European Admin.	–	–	3	–	–
Private business	30	17	–	–	–
Social agents					
Platforms and associations	–	–	–	32	–
Ecology groups	–	4	2	8	–
Neighbour associations and others	–	3	–	3	9

^a Negotiation or Justice courts decisions.

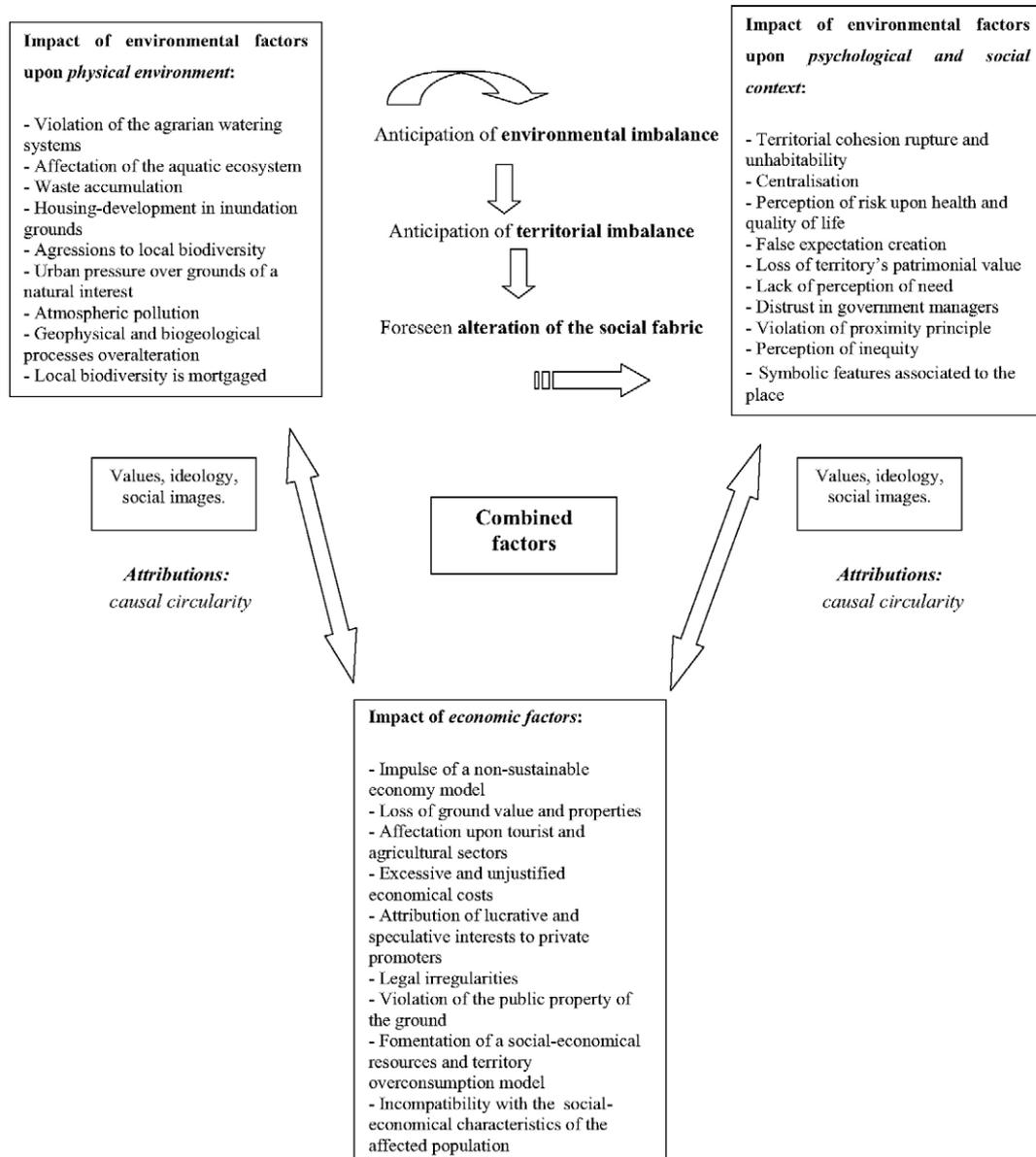
^b Except for the cases of “proposes” and “opposes”, for which the sum must be 47 or more, the rest of the categories can join a lesser amount of cases, since not in every conflict there is a clear uphold of the proposal or the opposition, and the intermediation cases are just a few.

- *Hypothesis, variable crossing and description of results.* This stage comprises proposing of conjectures on the *probably significant covariances* among variables (fields of analysis). Examples of conjectures include: “The kind of intervention is significantly related to the number of conflicts observed for that category”; “Measures undertaken by the opposition are higher in number, more varied and/or more forceful in areas with a higher and more diverse number of conflicts”; “Certain interventions imply longer resolution processes”. The numeric Tables based on the coding of each category (such as *demonstrations* as a category of *implemented action*) have streamlined the comparison among variables and the drawing of results.
- *Interpretation, discussion and conclusions.* Results have been directed towards an interpretive reading that would allow for the linking of the *defining elements*—substantial and relational—of the intervention with the *identification and examination of psychosocial parameters*. These parameters included attributions, risk perception, quality of life social representations, in-group identifications, etc. which structure and organize their genesis, upholding, development and resolution, establishing conflict not only as a *process* but also as a *psychosocial process*. Discussion on these issues from the standpoint of the reference theoretical framework mentioned has facilitated drawing of conclusions leading to understanding the phenomenon with the ultimate goal of suggesting proposals for decision making in the management of interventions on the territory.

3. Results

Based on the 47 case studies, it was observed that the typologies most prone to generate environmental conflicts are those dealing with waste (14), infrastructures (10), energy (10) and urban pressures (11). Cases concerning waste are evenly spread over the 15 year period analysed; infrastructure projects increase their number in time; proposals related to energy production clearly emerge since 1999, and leisure facilities (ski resorts, golf courses) and housing developments prevail in the years closer to 2003 (Table 1).

Table 3
Explained causes of rejection



Territorial distribution of conflicts according to typology (see Fig. 1) shows that these are more common in peripheral-urban areas than in urban contexts, and in industrial areas than in agrarian ones. However, conflicts do occur in agrarian areas when there is an attempt to locate waste disposal facilities there, or a high concentration of energy supply (including aeolian energy). In natural spaces (whether protected or not), conflicts relate to projects that increase the number of urbanised hectares or leisure projects that entail urban developments (for instance, golf courses or ski resorts). In this case, opposing arguments are based upon the attribution of barely legal interests to the private sector, which in collusion with the civil service, gives priority to economic gain at the expense of environmental destruction. Communication infrastructures (such as tunnels, highways or high speed railroads) also register a remarkable number of environmental conflict situations when they do not involve

local necessity and suggest an increase of the *anthropisation* level in the territory, and a loss of the visual quality of the landscape (for example, tunnels intended to cross the pre-coastal mountain range in Barcelona and the pre-Pyrenees) (Fig. 1).

Agents involved in the protest (see Table 2) can generally be linked to a civic association which upholds ecologic arguments. Nevertheless, the scenario is complex. In some cases, civic associations that have never been related with an active defence of the environment, spark ecological arguments; whereas, recognised ecological groups accept to value or discuss the same project as a necessary step to solve a greater environmental problem even if an active treatment does not take place. This situation of apparent contradiction is specially frequent in cases of waste disposal facilities (such as the project of replacing an incinerator for an anaerobic digester) or in proposals for the implementation of energy alternatives accepted by well-known

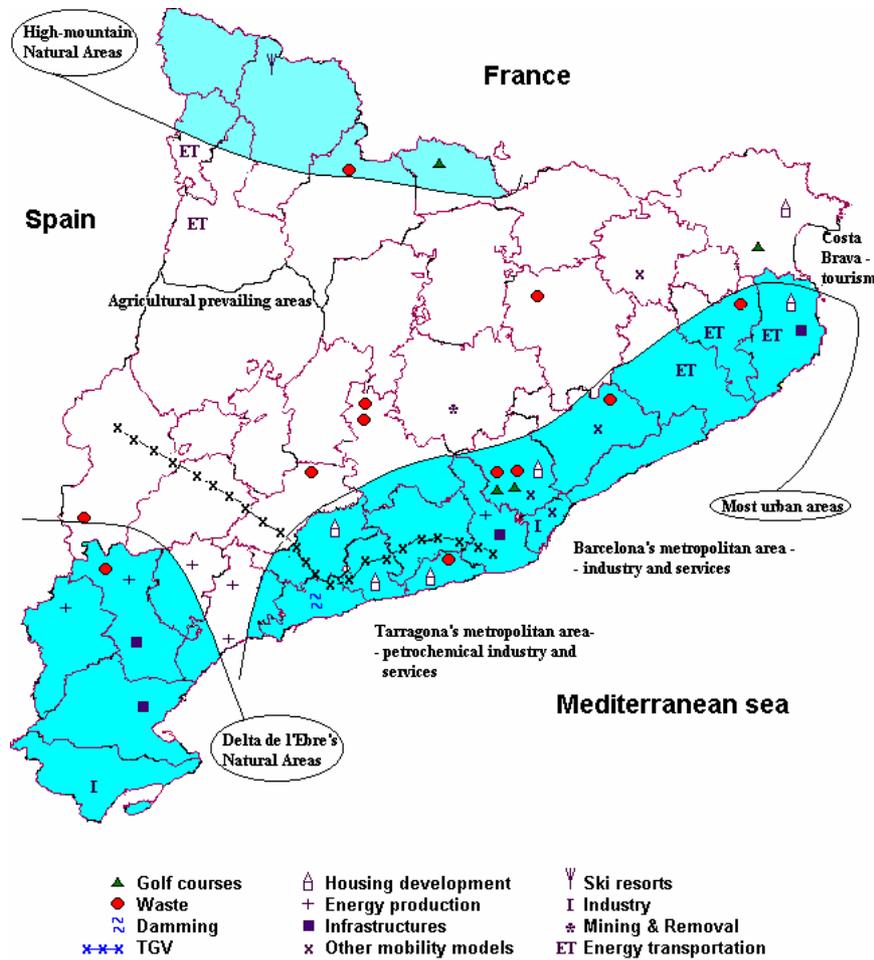


Fig. 1. Distribution of environmental conflicts in Catalan territory.

environmentalists and rejected by other local or national civic movements (such as the wind parks in the Ebro delta area). On the contrary, an emerging delocation of protests has been observed, deriving from the spreading of the information from opposition sectors through the use of New Information and Communication Technologies (NICTs). That is to say that NICTs seem to facilitate a contradiction between rejection to intervention by sectors removed from the implied territory, and project defence by some agents settled on the territory (for example, ENRON in the Ebro delta area or the ITER project near Vandellós). In these cases a new phenomenon called YIMBY (Yes In My Backyard) associated to the search for economic compensations for the local population that the facilities may entail, seems to be taking place (Table 2).

In all the conflicts, ecosystem preservation and conservation of nature and natural resources are the most common arguments (see Table 3). Opposing reactions come to the forefront in situations with high social vulnerability stemming from previous projects in nearby sites (for example, housing developments in the tourist area in Costa Brava, power stations in the Ebro delta area, or infrastructures in Llobregat river estuary). Other reasons that are also argued (with more weight than the

exclusively ecological arguments) may be differentiated depending on whether they refer to causal factors (attributed to promoting agents) or to subjectively anticipated effects that may derive from proposed interventions. The first case relates to distrust in public administration, in technology and in technology management and the perception of arbitrary choice for the location (as in the project of industrial waste deposit within an old mining field in the Catalanian pre-Pyrenees). The second situation concerns attributed annoyances (for example the building of a third runway at Barcelona’s international airport), potential health risks—real or perceived—(such as pollution resulting from anomalous combustion at a power station), alteration of the well-being and quality of life attained (for example, the building of a new stretch of a ring road close to urban areas) and the loss of economic value of real state due to the installation (such as the new TGV tracks along agrarian areas, or waste management or treatment projects).

As regards explicit resolution cases (26 over 47), they are a minimum majority (13 vs. 11) clearly in favour of promoting agents, with a 100% participation of private businesses. The two remaining explicit resolution conflicts satisfied both parties involved. This orientation in conflict resolution seems to be

compatible with an increase in the distrust of political agents (who are promoters or co-promoters in all of the cases), confirming the socio-political dimension as a key factor in NIMBY-type environmental conflicts. On the other hand, no significant relationship could be established between form of resolution, territorial reach and kind of intervention.

4. Discussion

In a constant way, and at the same time in a way usually not heeded in the cases under study, risk perception subjectively attributed to the proposed projects, confirms the findings of Hunter and Leyden (1995) about fear of potential negative health effects as a key NIMBY component. Risk has become a part of current society and is more quickly activated in the form of rejection of facilities with a poor social image, such as the waste disposal ones (Beck, 1992a,b; Vleck, 1987). Furthermore, rejection of the probability of a decrease in quality of life should also be considered a triggering factor of NIMBY, as well as the loss of real state value (Pol et al., 1997, 2002) features also linkable to the perceived risk phenomenon, generating furthermore perception of inequity. Data show also that trends toward rejection increase when projects affect a place with a strong symbolic load besides its environmental fragility. Such is the case with the concentration of projects in the Ebro delta area. On the other hand, when the installation implies the generation of new jobs, the NIMBY syndrome does not tend to appear (GEPSA, 1997; Pol et al., 1997).

The most classical theories of social psychology, specifically the ‘social exchange theory’ (Homans, 1961), the ‘distributive justice’ concept, which inspired the ‘equity theory’ (Adams, 1961), together with attribution theories (in the tradition of Heider, 1958; Jones and Davies, 1965; Kelley, 1967) proved very useful for understanding and managing NIMBY conflicts. In most of the conflicts analysed, as seen in the results section, a perceived inequity in reluctant groups similar to Khun and Ballard (1998) was observed. Arguing annoyances, risk, distrust in the technology or its management, and in the decision making of politicians (Matheny and Williams, 1985; Nel-lo, 2003) are ways to express this perceived inequity. A second argument that refers to equity and social exchange theories is the appeal to compensation in the form of equipment and services lacking in the population, in those conflicts deriving from a lack of perception of the need for the intervention, particularly in relation to railway infrastructures, energy production facilities, housing developments or leisure facilities.

The results of the present study show that some of the rejection movements are clearly caused by environmental reasons, based on ‘sincere’ arguments of environment conservation that place these conflicts closer to NIABY (Not in Any Backyard) than to NIMBY conflicts (for instance, organized protests against Ebro water transfer, which also clearly and decisively involve the ideological dimension through the so called “new water culture”). Nevertheless, sometimes there are hidden private interests that have no connection to the environmental arguments upheld. Even manipulation of ‘sincere’ social move-

ments by organisations or lobbyists with economic and politically opposed interests can occur under environmental banners. These cases are clearly of a NIMBY nature. Thus, it is imperative to analyse the background of any social movement (what Sullivan et al. (1980) call ‘debunking’). There is a general tendency to look with sympathy to any environmentalist argument (Javaloy, 2001), as may be inferred from the permanent presence of environmental defence arguments in the discourse of opposing sectors in the present study.

This evil case of disguising personal and particular interests allows to state that environmental issues have become a positive social value. However, unveiling private interests in the background of an apparently environmental conflict underlines the existence of a high level of individualism that does not contribute to sustainability in the way analysed by the City-Identity-Sustainability Research Network (CIS, 2002), and which relates to value structures in Schwartz (1992, 1994) and their active role in social insertion of the intervention.

Conflicts relating to waste and energy production seem to highlight that opposition groups are not homogeneous. Again, this fact is linked to the tension between enhancement and reactance of lifestyles embedded in the energy consumption and overproduction model, as well as to perceived inequity in waste distribution. Infringement of the proximity principle in the election of a power station site is an argument usually presented in waste cases (but also in electricity production ones). Certainly, the background to this discussion among stakeholders with opposing views may have the features of what some authors have called egoistic vs. biospheric environmental concerns (Schultz, 2000, 2001; Stern and Dietz, 1994), yet the nature of the data in the present study does not allow for verification of these concerns.

Different ways of conflict treatment appear in the case analysis: implementation of an intervention without paying attention to protests; negotiating an agreement between the parties involved; mediator intervention; using EIA (environmental impact assessment) process as a mediator, or giving a compensation. In the present study, an important number of the projects have been halted or seriously modified (12 cases have been halted; five cases have suffered substantial modifications; and discussion remains open in other cases). Resolution by means of compensation is possible since in most of the analysed environmental conflicts the co-promoter is the public administration. In fact, in most cases, facilities are motivated almost exclusively by private organisations, but supported by the administration, that considers these facilities essential. It is the public administration which can force the concessionaire organisations to establish compensation systems. Nevertheless, overcompensation does not reduce the problem, in fact, it can even increase the perceived inequity, as in the famous experiment of Festinger and Carlsmith (1959) or negatively affect group self-image as described by Norton and Hannon (1997). In any case, it was not possible to verify this bounce effect due to overcompensation within the sample of conflicts under analysis.

On the contrary, lesser NIMBY conflicts occur directly oriented to private promoters (industries and organisations) in comparison with the public administration. In this case, conflicts generally emerge in front of housing developments for second residences located in the coastal areas or in high mountain areas of natural interest—which are clearly promoted by real state companies. Thus, it seems that in cases of facilities promoted by private companies but accepted or supported by the public administration, this one acts as catalysts of displeasure with other aspects of people's daily lives.

However, the most striking way of resolution is the situation which extends without a visible solution (18 cases, which are classified as "open"), due to lack of capacity for finding a solution, hence leading to a worsening of the situation. In other cases, it is possible that the situation has been purposely left to deteriorate until the same opponents end up asking for the installation in order to end degradation by withdrawal from the place (for instance, the diversion of the final stretch of Llobregat river within the framework of the Delta Plan of Infrastructures). In fact, this situation constitutes a perverse use of the social movement theories, specifically those which account for their habitual evolution (Blumer, 1971; Spector and Kituse, 1987; Wandersman and Hallman, 1994). From the psychological background as seen in the first section, negotiation, mediation and participation theories are relevant in the resolution of this kind of conflict.

5. Conclusion

From the data in the present study, enhanced by literature contributions, some conclusions can be drawn to help understand and improve management of environmental conflicts which, as could be seen, are not always of the so called NIMBY effect kind.

Obvious conflict triggering factors are always related to preservation of the environmental status of a place, fear of health effects, distrust in management and ideological and demographic reasons. Furthermore, structured rejection increases when the intended facility affects symbolic places.

Distrust of local technology, of the capacity for facility maintenance and of management by public companies and services are found among the non-obvious triggering factors (sometimes clearly hidden). Other triggering factors relate to private interests hidden or disguised under an environmental banner. This perverse use of environmental arguments, however, entails a positive dimension: environmental values have become a new positive social value.

Opposition movements do not constitute homogeneous groups; they even held contradictory stances, especially when a delocation of the protest takes place.

Rejected facilities often become catalysts for negative reactions and dissatisfaction in other spheres of daily life (inequity perception), attributed to the civil service (even when the situation does not directly concern it). Understanding the reasons for reluctance in the wider context of possible dissatisfaction

previous to the proposed project is essential for conflict management.

Conflict generates reinforcement or emergence of group cohesion in opposition groups. This cohesion, in the medium or long term, may become the basis for an agreement between the parties. As shown in literature, a cohesive and organized society may better assume its environmental responsibility, more than a society subjected to individual survival strategies. Furthermore, the more social agents who share the vision of need to solve a problem, the more possibilities for beating the NIMBY effect.

It should be noted and underlined that there are no magical formulas for the resolution and management of the NIMBY phenomenon and other environmental conflicts. Yet, the contributions gathered and the cases analysed in the present study are interesting because they refer to issues and processes—not formulas—to be borne in mind when developing a specific policy suitable for each particular reality.

Enhancing social prestige to public administration managers, offering transparent information concerning the problem and the solutions, ensuring the continuous maintenance of the facility, granting citizen participation in the follow up of the management and avoiding an offer of compensatory measures which are out of proportion and lead to suspicion of more attributed risk than the industry or the service may objectively entail, are presented as fundamental efforts to diminish reluctance or the NIMBY effect, provided concerns on true risks of the facility have been dispelled.

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