The building of a dam: value conflicts in public decision-making

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Abstract

Public decisions concerning large projects with detrimental environmental or heritage impacts involve value conflicts which stem from the diverse interests and variety of ways of evaluating the costs and benefits of such projects. They are also framed by institutionalized procedures and practices which favour certain concerns to the detriment of others. This paper aims to contribute towards a better understanding of how these procedures and practices, namely decision support tools such as the Environmental Impact Assessment (EIA), tend to shape public decision-making processes in particular ways. It draws on a study of the public controversy surrounding the Foz Tua dam in Portugal, with a focus on the values upheld by the different parties in the controversy and their interplay in the production of justifications, specifically the actors' positions on values and value conflicts and the restrictions posed by institutionalised public decision-making procedures on the expression and consideration of certain values.

Keywords

Environmental Impact Assessment; value conflicts; environmental and heritage values; public decision-making.

1. Introduction

Public decisions concerning large projects with detrimental environmental or heritage impacts often trigger public controversies which sometimes give rise to broad-based popular protest movements. These public decisions involve value conflicts which stem from the diverse interests and variety of ways of evaluating the costs and benefits of such projects. What is considered important and included, or irrelevant and excluded, what is considered worthy of consideration or disregarded, and how the rival claims are "weighed up" are all open to contestation.

However, public decision-making is framed by institutionalized procedures and practices, which, far from being value-free or immune to power imbalances in society, tend to favour certain concerns to the detriment of others. This paper aims to contribute towards a better understanding of how those institutionalised procedures and practices, namely decision support tools as the Environmental Impact Assessment (EIA), tend to shape public decision-making in particular ways.

The research draws on the case of a project to build a dam on the River Tua ("Foz Tua"), a tributary of the River Douro, in Portugal. The case study is preceded by an exploration, summarised in section two of this paper, of rival monistic and pluralistic views on rationality and public decision-making and their influence on institutionalized procedures. Section three outlines the methodology adopted, while section four addresses the EIA, its conclusions and the challenge posed to the project by UNESCO expertise. Section five maps the controversy by highlighting: a) the values upheld by the different parties in the controversy and their interplay in the production of justifications, namely the actors' positions on values and value conflicts; b) the restrictions posed by the institutionalized public decision-making procedures on the expression and consideration of certain values. The concluding section draws on the case study to specify the ways in which these institutionalized procedures, in particular the

EIA, enact a particular concept of public decision-making and tend to constrain the debate and the final outcome.

2. Value conflicts and (in)commensurability in environmental decision-making

In public decision-making processes concerning large infrastructures with significant environmental impacts for individuals and communities, values may conflict in different ways. In the case of a dam, economic values such as those associated with energy production, may conflict with ecological, aesthetic and heritage values. In addition, each of these value dimensions involves different and contrasting perspectives on valuation. From an ecological perspective, for instance, increasing the production of renewable energy and reducing greenhouse gas emissions may be seen as values which favour the dam, whereas preserving the unique ecosystem of a free flowing river is a value that may be compromised by the construction of the dam. The plurality of values therefore constitutes a potential source of conflict for different actors and social groups on different scales, ranging from local to regional and national, and sometimes global (Trainor, 2006). However, even individuals may find themselves divided in the face of conflicting issues.

Clearly, value conflicts bring the issue of value (in)commensurability to the fore. According to the monistic "rational choice" approach of neoclassical economics to rationality and decision-making, the presence of various conflicting claims all pressing for action in different and incompatible directions precludes rational choice. From such a perspective, inspired by utilitarianism, one crucial condition for rationality is the reduction of all values to the same metrics, allowing for trade-offs between values and the unambiguous comparison of alternatives.

Rational choice, from this perspective, implies commensurability of value, thus dissolving, or rather, obfuscating value conflicts[1].

In contrast to this monistic approach, literature on moral philosophy (Dewey, 1930 [1922]; Minteer and Manning, 1999; Minteer, 2005; Norton, 2005; Nussbaum, 2000; O'Neill, 1993, 1997; Radin, 1997; Raz, 1986; Richardson, 1997), in political economy (Costa and Caldas, 2011; Hirschmann, 1985; Nussbaum and Sen, 1993; Sen, 1977, Spash, 2008, 2011) and the behavioural sciences, including cognitive and social psychology, neurosciences and behavioural economics (Costa, 2013; Gigerenzer, 2010; Greene *et al.*, 2004; James, 1890; Lichtenstein and Slovic, 2006; McGraw and Tetlock, 2005; Shafir *et al.*, 2006; Tetlock *et al.*, 2000; Tetlock, 2003), recognises the tension stemming from the conflict between incommensurable values (or ends) and the reluctance to trade off these values as a source of moral difficulty in individual decision-making. Faced with moral difficulty, people may simply refuse to make a choice which requires trade-offs that infringe normative concerns, be morally outraged by the mere contemplation of those trade-offs (Lichtenstein et al. 2007; McGraw and Tetlock 2005; Tetlock et al. 2000; Tetlock 2003), or simply make choices that deviate from the prescriptions of the "rational choice" model of human action (Lichtenstein *et al.*, 2007; Kahneman *et al.,* 2006; Shafir *et al.,* 2006; Slovic *et al.,* 2006).

According to the pluralistic perspective, which recognizes value pluralism, commensurability is not a prerequisite for rational choice (Costa and Caldas, 2011; Dewey, 1930 [1922]), as long as rational choice is understood, not as the maximization of a one-dimensional value function, as in neoclassical economics, but simply as choice grounded in good reasons. In public decision-making and policy, value conflicts and (in)commensurability have been addressed from a pluralistic perspective with a focus on how deliberation may intelligently cope

[1]It is possible to distinguish between different types of commensurability. O'Neill (1993), for instance, draws a distinction between *strong commensurability*– in which the common measure implies the possibility of establishing a cardinal scale of measurement – and *weak commensurability* – in which the common measure relies only on an ordinal scale of measurement.

with conflicts without concealing or suppressing them by commensuration (Aldred, 2006; Ferreiro *et al.*, 2013; Foster, 1997; Martinez-Allier, 1998; Munda, 2004; O'Neill *et al.*, 2008; Thacher and Rein, 2004; Trainor, 2006).

The main point of contention between the monistic neoclassical economics' perspective to rationality and decision-making and the pluralistic views is the presupposition of commensurability of value in monism and the recognition of incommensurability in pluralism. However, there are other relevant aspects which draw a distinction between these two approaches, namely the meaning of values, the relationship between means and ends, and the concept of public decision-making.

The monistic neoclassical economics' perspective

According to the neoclassical economics' monistic concept, values or ends are subsumed in an all-encompassing and homogeneous category including everything which is desired and, when achieved, rewarded with pleasure or satisfaction. This concept of values is unable to capture the difference between wants and values (Frankfurt, 1971; Hirschman, 1985). Values, according to this perspective, are "given", meaning subjective and immune to critical appraisal and inquiry. Values, as tastes, should not be discussed (*de gustibus non est disputandum*) and since they are beyond the reach of critical appraisal, there is no possibility of discriminating between what is desired and what is desirable. In this approach, the whole point of rationality and decision-making is restricted to selecting the best means to achieve "given ends". Choosing therefore amounts to comparing means (choice alternatives) in the light of a single, one-dimensional, abstract goal - utility.

One feature of this monistic account of "rational choice" is that the same model applies to both individual and public choices. Rational individuals compare and rank choice alternatives in the light of their expected consequences for *themselves*. "Society", or rather individuals in the role of public decision-makers, should compare and rank projects and policies in the light

of the consequences of those projects for *all individuals* in society. However, the inability to observe and measure utility precludes the possibility of adding individual utilities as a criterion for valuing the comparative advantages of social states, leading to a deadlock for utilitarianism.

Pareto suggested an escape route: social state A should be taken as an improvement over social state B if, and only if, all individuals in a society prefer A to B (or are indifferent between A and B) and at least one individual strongly prefers A to B. No measurement of utility or interpersonal comparison is involved here, just stated preferences. However, this obviously equates to a unanimity rule, making any transition from B to A implausible in practice.

The so-called Kaldor-Hicks "compensation test" (Hicks, 1939; Kaldor, 1939) later came to bypass the difficulty created by the unanimity requirement. This test postulates that social state A is an improvement over B if those who gain from the transition from B to A can compensate those who would lose, and still be better off (even if the compensation is never provided). This "compensation test" lies at the core of cost-benefit analysis and other related procedures that support public decision-making.

The pluralistic pragmatist perspective

The pluralistic perspective, as conceptualized in the pragmatist-institutionalist tradition (Costa and Caldas, 2011; Dewey, 1930 [1922]), is opposed to the former in that values or ends are not subjective and closed to critical scrutiny. Unlike mere wants, values are grounded in reasons. In Dewey (1939), for instance, we find a refusal to equate values with mere inner states or feelings. Values or ends are open to criticism and reconfiguration.

The starting point for individual decision-making, or rather deliberation, is a specific situation experienced by the agent as conflictive or disruptive. Values, according to this perspective, are *values in action*, that is, they are always considered with reference to a context. Values or ends are foregrounded in problematic situations which require imagining possible al-

ternatives. For Dewey (1939: 204), "valuations in the sense of prizing and caring for occur only when it is necessary to bring something into existence which is lacking, or to conserve in existence something which is menaced by outside conditions".

Values or ends are critically appraised by examining the conditions that are needed to make them effective and the effects which would result if this course of action was pursued. During deliberation certain ends may be rejected, whilst others are reconfigured and new ones emerge.

Values or ends relate to means in a continuum in which means-ends are reciprocally determined. Deliberating is as much about deciding "what we really want" as "what we should do to get what we want" and is not therefore circumscribed to a mere selection of the best means. Furthermore, means and ends are not clearly separable.

The ends-in-view which emerge during deliberation are not previously fixed or, as clearly stated by Joas (1996: 154), not only "the goals of action are usually relatively undefined, [but] only become more specific as a consequence of the decision to use particular means". Deliberation involves reciprocity of goals and means, signifying "the interaction of the choice of means and the definition of goals". The consideration of means not only allows ends to be specified, but also enables possible new ends to emerge: "Only when we recognize that certain means are available to us do we discover goals which had not occurred to us before. Thus, means not only specify goals, but they also expand the scope for possible goal-setting" (Joas, 1996: 154).

"Ends-in-view" are "desired and proposed ends" (Dewey, 1939: 218), thus implying that valuation refers to an "ideational", "intellectual factor" (Dewey, 1939: 221). Simultaneously, the formation of desires and interests presupposes an "affective-motor condition". Valuation is therefore inherent to our attachments to the world and our placement in the world. In line with Dewey, O'Neill *et al.* (2008: 1) in referring to valuations of the environment in a plural

sense, i.e. as environments, argue that people and communities see their values in terms of attachments expressed as "we live *from* them", "we live *in* them", and "we live *with* them".

The neoclassical economics' monistic approach and the pragmatist pluralistic one also differ in terms of their concepts of public decision-making. According to Dewey (1991 [1927]), public decision-making is not the mere exercise of preference aggregation or bargaining, but a process of inquiry which encompasses identifying a problem, discovering alternative solutions to the problem, and selecting one of these alternatives. However, neither the problem to be addressed nor the means to solve it are given at the outset of the deliberation process but instead are jointly construed.

Different individuals approach deliberations with different perceptions, interests and values. In their plurality these perceptions, values and interests may conflict in a manner similar to the inner conflicts experienced by individuals facing a dilemma. Deliberation is about overcoming this conflict. It can succeed because, as in personal deliberations, individuals enter into collective deliberations concerning their collective course of action with preferences and values that are open to reconfiguration. Intelligent deliberation, both private and public, requires "a flexible willingness to remake one's aims in the light of new information" (Richardson, 2000: 972), including information about other people's aims.

Public deliberation, like private deliberation, stems from conflict and is a process of discovery leading to "the emergence of a unified preference out of competing preferences" (Dewey 1930 [1922]): 193), that is, to a public choice - a new configuration of perceptions, interests and values (Norton, 2005) that releases energy for collective action.

Public deliberations are not always conclusive. Often conflicts will remain unresolved and particular interests neglected or oppressed. Nevertheless, genuine public choices, although fallible and precarious, are possible in spite of interpersonal value conflicts, depending on accurate information and knowledge and on the conditions for communication, discussion

and persuasion. Only under these conditions can decisions be made that are considered legitimate and only legitimacy can lead to compliance with these decisions and to cooperation.

"Opening Up" and "Closing Down": Public Decision-Making and the EIA

Neoclassical economics' monistic concepts embodied in cost-benefit analysis are nowadays highly influential. However, real life public decision-making is always more complex and impure than the related theoretical concepts. In spite of its influence, even cost-benefit analysis is usually taken not as a device for *making decisions*, but rather as a tool that is used in combination with other considerations to produce justifications.

As argued by Stirling (2008), public decision-making or deliberation necessarily involves "closing down" and "opening up" procedures. The aim of closing down "is instrumentally to assist incumbent policy-making actors" by developing "clear, authoritative, prescriptive recommendations informing decisions" (Stirling, 2008: 278). It habitually takes the form of "what might be called "unitary and prescriptive" policy advice", which "involves highlighting a single course or a very small subset of possible courses of action" by "identifying "salient" knowledges, recruiting "appropriate" protagonists, adopting "effective" methods, (…) and so determining the "best" options" (Stirling, 2008: 279). Conversely, opening up decision-making procedures "poses alternative questions, focuses on neglected issues, includes marginalised perspectives, triangulates contending knowledges, tests sensitivities to different methods, considers ignored uncertainties, examines different possibilities, and highlights new options", freed, as they tend to be, from the "imperatives for aggregation" (Stirling, 2008: 280).

Whereas some public decision-making support tools, such as cost-benefit analysis, are instrumental in "closing down" decision processes, other approaches, such as deliberative fora, aim to open them up. The Environmental Impact Assessment (EIA) procedure presents itself as a third way between monistic "closing down" and pluralistic "opening up" perspectives, in

that it is not committed to strict commensuration of all value dimensions and is open to participatory inputs.

Under European Law, prior assessment of the environmental effects of large infrastructure projects has been mandatory since the adoption of the EIA European Directive in 1985. The EIA must include a technical study which assesses the impacts on a variety of areas - the environment and nature (fauna and flora, terrestrial and aquatic ecosystems, geology, soil, water, air, climate, landscape), socioeconomics and heritage.

The EIA study grades the impacts of a project on a numerical scale according to their nature, magnitude and significance. Although the EIA procedure does not rely on a cost-benefit analysis or a strictly monetary commensurability condition (Aldred, 2006), it is based on the idea that the different values at stake, even those less prone to quantification, can be measured on a cardinal scale of impacts and hence made commensurable or comparable. Moreover, by adding "compensatory measures" to the positive impacts, it may, in fact, commensurate diverse values.

On the basis of the EIA study and public consultation, the Evaluation Commission appointed by the Minister for the Environment then submits its recommendations to the government, leading to an Environmental Impact Declaration (EID).

3. The case of the Foz Tua dam: methodological approach

The analysis of the political decision-making process which led to the building of the Foz Tua dam draws on different sources: technical assessment studies and related documents, UNESCO reports, daily newspapers, video clips from TV news, and interviews with key actors in the decision-making process. Particular attention was paid to the role played by the assessment procedure supporting the decision, namely the EIA.

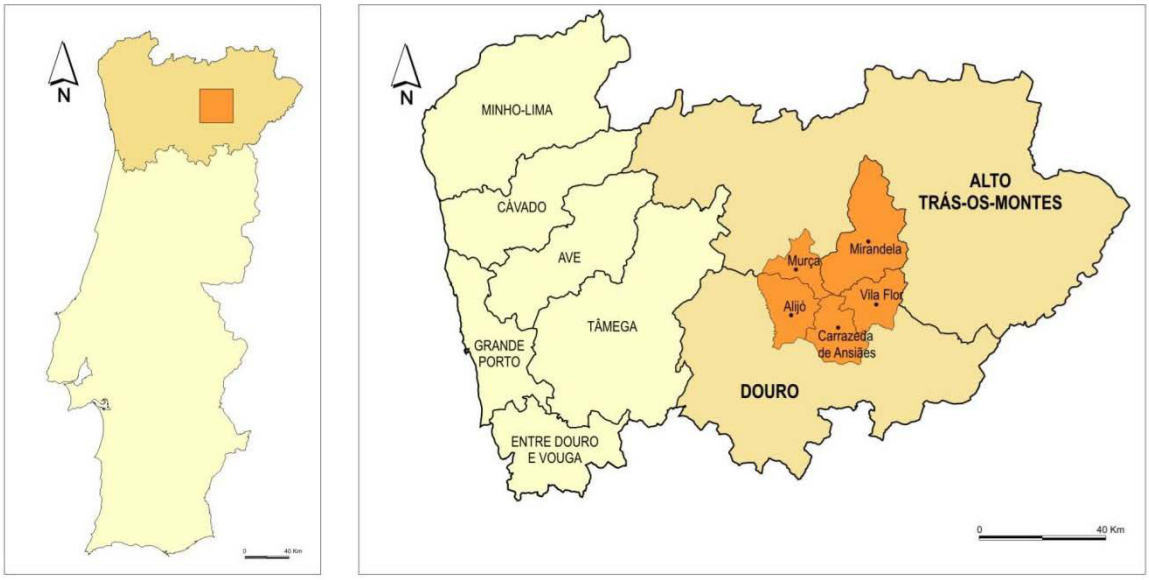
Five exploratory interviews were held with the following individuals: two researchers responsible for the EIA, a representative from the Green Party, a representative from GEOTA, an environmental association, and a representative from a local movement which opposed the dam. These interviews were helpful in elaborating an initial outline map of conflicts surrounding the dam and identifying other key actors to be interviewed. Interviews were then held with a total of sixteen key actors including public officials (representatives from municipalities and government agencies), activists from local movements, and economic agents (representatives from the company in charge of building and operating the dam and from a wine producing company). These interviews explored how the actors perceived the prospect of the construction of the dam and how they engaged with the evolving decision-making process. In particular, the interviews aimed to capture the actors' positions on the possible value conflicts, especially with regard to environmental values and heritage, and the means by which these conflicts might be dealt with or overcome.

4. The building of the dam: impact assessment and the values at stake

The EIA and its conclusions

The Foz Tua dam is to be built in the northeast of Portugal within the boundaries of the Alto Douro Wine Region (ADWR) World Heritage property. The territory affected includes five municipalities located in the northeast of Portugal (see map below).

Figure 1 – Map of Portugal and location of Tua dam



Source: PROFICO Ambiente, 2008a

The project was included in the National Programme for Dams with High Hydropower Potential (PNBEPH) launched by the Portuguese government in 2007, along with nine other new hydropower installations mainly located in the Douro River basin[2]. Following an EIA procedure in 2008 and an EID in May 2009 favourable to the Foz Tua dam project operating at the lowest storage level (170), EDP (the energy operator Electricidade de Portugal)[3] started the construction work in April 2011.

According to the EIA study, the most important positive impacts were associated with reducing greenhouse gas emissions (+ 2.13), increasing hydroelectric energy production, and the strategic water reserve (jointly graded at + 1.95) (PROFICO Ambiente, 2008b: 299, 308). The other positive impacts highlighted in the EIA were a better integration of wind power energy within the national grid and less dependence on imported energy. The negative impacts were assessed for the lowest storage level. These were the loss of terrestrial and aquatic ecosystems (-2.60 and -3.38), adverse social and economic aspects mainly due to the submer-

[2] Of the ten new hydropower installations, only the Foz Tua dam is currently being built.
[3] Formerly a public utility, privatized in December 2011.

sion of part of the Tua railway line[4] and the loss of local economic activity (-2.07), the submersion of land (-2.0), landscape impoverishment largely relating to the flooding of the Tua valley (-1.74), deterioration of water quality (-1.40) and the loss of heritage, mainly as a result of the submersion of part of the Tua railway line (-1.40) (PROFICO Ambiente, 2008b: 296-316).

Remarkably, the EIA acknowledged that the negative impacts of the Foz Tua dam were greater than the positive impacts (PROFICO Ambiente, 2008a:17). However, according to the EIA's authors, this could be attenuated or even compensated by "minimization" of the negative impacts and "compensatory measures".

The EIA and, subsequently, the EID, called for compensation for the submersion of part of the Tua railway line, in particular for the loss of the link between the Tua and Douro lines, heritage and environmental losses and losses to the local economy due to the flooding of the Tua valley. In the first case, the compensation was to take the form of providing public transport for the local population, either by bus or train from a new railway to be built at a higher altitude[5]. In relation to heritage, the EIA proposed the creation of four thematic nuclei and/or museums to preserve the history of the valley. The compensatory measures for the environmental damage and for the costs to the local economy included annual financial contributions to the *Fund for the Conservation of Nature and Biodiversity* and a new regional development agency to be created in association with the regional and local authorities[6], and financial compensation for landowners whose land, namely vineyards and olive trees, would be flooded.

[4] The construction of the dam involves the submersion of 15.9 km of the Tua railway line (PROFICO Ambiente, 2008a:21).

[5] However, this possibility was always rejected by EDP, given the cost. Currently no bus service is provided and the local population has to travel either by private car or by taxi. Taxi fares are covered by EDP.

[6] The financial compensation to be paid by EDP amounts to 3% of the annual revenue from the undertaking.

Paradoxically, the potential threat to the Alto Douro Wine Region (ADWR) World Heritage property, which later led UNESCO to intervene, was considered negligible in the EIA study. The integration of the Tua valley – Baixo Tua – with two other landscape units in the project intervention area considered of "lower identity and rarity" (the Douro Wine Region and Terra Quente Transmontana) proved rather controversial, since the flooding of the Tua valley implies the disappearance of one of the last wild rivers in Portugal. Moreover, this section of the valley - Baixo Tua - is an impressive scenic and ecological landscape, a "uniquely priceless ecosystem" (IPPAR database cited in WHC, ICOMOS and IUCN, 2012: 28). However, including the Baixo Tua with the two other landscape units reduced the negativity of the overall assessment (PROFICO Ambiente, 2008b). Even more controversial was the interpretation, in the EIA study, of "compensatory measures". Given this interpretation, any project could potentially be approved by offsetting the negative impacts with compensation.

With regard to public participation in the EIA, the consultation procedure took less than two months (22nd December 2008 - 18th February 2009). Eighteen of the 115 written opinions came from the local administration, NGOs and winegrowers associations (6 were against the Foz Tua dam project), and 97 from citizens (88 of whom were against the project). The arguments against the project were based mainly on the submersion of part of the Tua railway line and the Tua valley, the flooding of land (in particular vineyards) and the deterioration in water quality. It is worth mentioning that DRCNorte, a government department responsible for culture and heritage, and IGESPAR, the Institute for the Management of Architectural and Archaeological Heritage, withheld approval of the Foz Tua dam project due to the significant negative impacts it might have on heritage, namely the ADWR World Heritage property and the historic Tua railway line (MAOTDR/APA, 2009: 22). This negative evaluation

was simply disregarded. In the end, the decision was favourable to the construction of the Foz Tua dam, based on the claim that the PNBEPH was in the "national interest"[7].

The UNESCO World Heritage Centre comes to the fore: heritage values and expertise

The ADWR site bordering the dam has been inscribed on the UNESCO World Heritage Centre (WHC) list as a cultural landscape since 2001. It should be recalled that, according to the EIA study, the effects of the dam on the ADWR cultural landscape would be marginal and have a low impact. This conclusion, however, was challenged when, following a complaint by the Green Party, an ICOMOS[8] advisory mission was set up for the ADWR in order to assess the state of conservation of the site and the potential impact of the Foz Tua dam on the Outstanding Universal Value (OUV) of the property, its authenticity and integrity (ICOMOS-IFLA, 2011; WHC, ICOMOS and IUCN, 2012).

The fact that the "construction work commenced in April 2011, before the recommendations of the advisory mission were known and before the World Heritage Committee could consider the project" (WHC, ICOMOS and IUCN, 2012: 41) was particularly awkward for the mission.

Contrary to the EIA, the ICOMOS advisory mission observed that the project "will have an irreversible impact and threaten the OUV of the property" (ICOMOS-IFLA, 2011: 23), since the "ecological and visual impact of the [project] is completely appreciated from within the WH site" (ICOMOS-IFLA, 2011: 13). Although the advisory mission recognized the existence of various mitigation and compensatory measures, the real question for the mission was "rather whether the [Foz Tua dam project] should be built at all" (ICOMOS-IFLA, 2011: 24).

[7] Opponents of the Foz Tua dam project hoped to be able to stop the project. In fact, there was an important precedent. In 1995, the building of another dam at Foz Côa was reversed by a broad social movement opposed to the submersion of early historical etchings (Ferreiro *et al.*, 2013).

[8] ICOMOS is an international non-governmental organization dedicated to the conservation of the world's monuments and sites (www.icomos.org).

Following the report from the ICOMOS advisory mission, the recommendation made by the WHC and the Advisory Bodies to the 36th session of the World Heritage Committee in June 2012 was that any construction work on the dam should be halted until the impacts on the value of the world heritage property of a revised plan for the dam could be carefully analysed.

Faced with the threat of including the ADWR on the list of World Heritage in Danger, the Portuguese government requested a joint WHC-ICOMOS-IUCN reactive monitoring mission to consider the potential impact of the revised dam project on the value of the world heritage site[9].

Additionally, the government decided to put forward a proposal to significantly slow down the pace of the construction work until the report from the joint mission was made public and the recommendations implemented. Hence, in June 2012, a revised project was presented at the 36th session of the World Heritage Committee in Saint Petersburg and the request for a joint WHC-ICOMOS-IUCN reactive monitoring mission to the property was approved[10].The revised project, designed by a renowned architect, proposed constructing the powerhouse underground and landscaping the adjacent area.

From July 30 to August 3 2012, the joint reactive monitoring mission assessed the revised Foz Tua dam project. The new project was welcomed by the joint mission, which concluded that it "substantially reduces visual impacts of the construction" (WHC, ICOMOS and IUCN, 2012: 2). For the mission, the key features of the cultural landscape, namely the terraced vineyards on the slopes, would not be spoiled by the dam. However, the significant negative impacts on part of the landscape in the buffer zone, and losses in terms of nature conservation

[9] International Union for the Conservation of Nature (www.iucn.org)
[10] The WHC Committee unanimously adopted Decision 36 COM 7B.81.

were recognized. The joint mission concluded in favour of the compatibility of the Foz Tua dam with the status of the ADWR as a world heritage cultural landscape.

The consequences of the UNESCO WHC intervention were, therefore, minor changes to the project to minimise the visual impact of the dam and a one-year postponement of construction work, which it is now estimated will be completed in September 2016.

5. Value conflicts in the public controversy surrounding the Foz Tua dam

Mapping the controversy

The controversy surrounding the construction of the Foz Tua dam started in 2006 as soon as the EIA study began. The main parties engaged in defending the construction of the dam were the promoter (EDP), the government, and most of the local mayors. Those opposing the dam were the environmental NGOs, local movements, left-wing political parties and, later on, wine producers in the Douro Region.

In 2006, the Civic Movement for the Tua Line was formed and a demonstration took place against the dam, organized by farmers from Murça. The years that followed saw a number of other initiatives against the dam. A broad coalition grew out of defending the railway line and the Tua valley against the flooding. Initiatives ranged from activist eco-tourism to vigils and demonstrations at the EDP headquarters. Two petitions were presented to parliament in 2008 and 2012, containing thousands of signatures. Visits to the Douro region by government officials and the President of Portugal were met with protests and opposition to the Foz Tua dam echoed in parliament.

These actors also used the institutional channels available. Several complaints against the construction work were filed in courts, based on irregularities discovered by local activists. A case was brought before the European Commission for alleged infringement of European Directives regarding water quality and biodiversity.

Following the news that the World Heritage status could be in danger of being withdrawn by UNESCO, wine producers from the Douro Region joined the protests in 2012.

The salient features of the controversy

A first salient feature of the controversy is that most of the opposition to the building of the dam was an expression of the attachment of local communities to a territory and to a heritage. The public controversy focused on the submersion of the Tua railway line and, in fact, the preservation and recovery of the line has been a longstanding issue for the local population. The gradual deactivation of the line has been the result of long-lasting neglect of this railway[11]. The opposition to the deactivation of the remaining railway line followed an earlier protest in 1992 against the closure of part of the same line.

Two different issues were combined in the defence of the railway: mobility and the heritage value of this scenic railway line. Given the strong dependence of the EIA study on aggregating procedures, mobility prevailed over other aspects of the value of the railway, such as landscape, heritage or even affective attachments. Mobility was easily accommodated by the rationale of compensation underlying the EIA procedure and, in addition, compensation was inexpensive. EDP claimed that the Tua railway line was meant to be closed anyway, since very few people used it, there were safety issues[12], and it no longer served as public transport for the local population.

The heritage value of the railway was a more compelling public argument. The Tua railway line, which runs alongside the Tua River, was opened in 1887. In September 2010, the Ministry of Culture and IGESPAR initiated a procedure to classify the railway as "national heri-

[11] Given this neglect, the railway lost a considerable number of passengers. By 1999, for example, the number of passengers using the Tua Line had fallen by 80% in comparison with the figures for 1990.

[12]Since 2007, there have been four accidents on the Tua railway line, involving four deaths. When an accident on the Tua railway line led to one death and 43 injured in August 2008, part of the traffic on the line was suspended.

tage", supported by a petition containing over 5000 signatures. However, in November 2010, the classification process was shelved.

In the public debate, the railway line was much more than a railway line. It was cherished as a unique example of historical and cultural heritage and was also an exceptional means of enjoying the remarkable scenery and ecological landscape of the Tua valley. Quoting a representative of one of the local movements: "The train is like the eyes of the Tua valley, of that beautiful, harsh landscape which is the Tua valley".

However, the local population's attachment to its heritage and territory, as expressed by the local movements, transcends this love of the "beautiful, harsh landscape" of the Tua valley. It is also an attachment that abhors the prospect of demographic decay and depopulation. The closure of the railway line is seen as a factor that would increase isolation from the outside world and encourage the younger population to move away.

EDP, the promoters of the dam, and the government, both eager to mobilise local consent for the project, have proved to be well aware of the importance of these attachments. They were careful to deploy a discourse that emphasized the potential of the dam in terms of local development and to entice local mayors with compensatory measures targeted at socioeconomic aspects: a tourist mobility plan (composed of rail/bus/cable car/boat/rail) was envisaged, in addition to applying for EU funds to improve the section of the Tua railway line that was not be submerged, a programme to support local entrepreneurship and the creation of a regional nature park.

The mayor of Mirandela offered an example of how seductive the compensation strategy of EDP was when he stated in an interview that: "as soon as the decision was made, political and social contestation became meaningless, what remains to be done is to protect local populations and to mitigate the negative impacts of the dam by negotiating compensatory measures".

A second salient feature of the public controversy is that the decisive evaluative judgments were framed by supposedly factual socio-technical and political-bureaucratic standards and criteria.

For some government agencies and the EDP, the key issues at stake were a water reserve located in the Douro River basin, which would boost the production of hydroelectric power, and the storage potential for wind power due to the reversibility of the Foz Tua dam[13]. Opponents of the dam, namely the environmental NGOs, did not shy away from engaging with this socio-technical arena. They dismissed the hydroelectric energy production potential as a justification for the planned undertaking. According to these organizations, in terms of production the performance of the Foz Tua dam amounts to only 0.7% of Portuguese electricity consumption in 2012. For these environmental NGOs, such a small increase in electricity production does not justify an investment which, measured in terms of the total cost of construction, would amount to 177 million euros, not including the additional cost of the underground plant. [14]

However, the scenario of not building the dam had never been contemplated in the EIA. Clearly the answer to the question "why do we need a dam in the Tua River?" was taken for granted, thus constituting an external, predetermined end to the deliberation. A general assumption that increasing hydroelectric energy production would potentially contribute to the "good" of society and, in particular, to the development of the region, despite the possible negative side effects, has framed the decision-making process since it began. The emphasis of the experts was therefore on identifying "minimization" and "compensatory measures". Un-

[13] The PNBEPH is committed to increasing the national hydropower capacity to 7000 MW by 2020, and increasing hydro pumping capacity to 2000 MW.

[14] Foz Tua energy production (in GWh) was estimated to be 340 for the full supply level of 195m (INAG, DGEG and REN, 2007) and Portuguese electricity consumption in 2012 was 49 057 (in GWh) (data source: REN).

certainties, such as those stemming from the cumulative impacts of several dams in the Douro River basin, were simply ignored.

The third salient feature of the public controversy is that the opponents of the dam produced arguments and justifications which were rather eclectic in terms of value-orientation, ranging from moral concerns about protecting the environmental and heritage values of the Tua valley and the scenic railway as an end in itself, to instrumental "economic" justifications for their preservation.

Illustrative of this tension is the fact that the same activists who proclaimed that the "Tua valley doesn't have a price tag" also mobilised economic arguments in their public discourse in favour of the preserving the Tua railway line and valley. The tourism potential of the Tua railway line was often cited by the dam's opponents, mainly the local movements, using arguments in favour of promoting local economic activity and increasing employment to defend this approach. Thus the public discourse of the opponents of the dam combines, on the one hand, the argument that no money can compensate for the loss of the valley and its "eyes" and, on the other hand, the argument that the valley must be preserved because it can bring money to the region, allowing for its development and demographic survival or, in other words, because its value is instrumental in respect to other ends.

The supporters of the incommensurable value of the valley and the railway, who mobilize "economic" arguments for their preservation, are often well aware of the instrumental nature of the "economic" arguments. Seemingly, they believe that, in order to engage in a public dialogue dominated by monetary standards to the detriment of affective concerns, they must learn and use a monetised language.

To sum up, different "evaluative vocabulary and criteria" (O'Neill, 1997: 75) can be identified in the Foz Tua case: a) the technical-scientific vocabulary and criteria of the authors of

the EIA study, the WHC and its advisory bodies[15]; b) the political-bureaucratic vocabulary and criteria shared by the government agencies and the municipalities; c) the business and market-oriented vocabulary and criteria of EDP and the wine producers; and d) the vocabulary and criteria of attachments to heritage and the environment of the local population and movements, the environmental NGOs and the wine producers.

The relative power of these criteria ultimately depended "on the way the authority to decide on the relevant questions and the procedures for controlling and circumscribing the role of the various social actors which are legally and institutionally regulated" was enacted (Ferreiro et al., 2013: 132). It is worth recalling that the PNBEPH and the Foz Tua dam project were supported by the government. These projects were justified as a national priority, excluding other alternatives such as small-scale hydroelectric plants with lower environmental impacts.

The prominence of the political-bureaucratic and technical-scientific criteria tends to emphasise certain values to the detriment of others which are more difficult to measure, such as values associated with attachments to the territory or even the cumulative impacts resulting from the existence of several dams in the Douro River basin.

6. Concluding remarks

The EIA played a crucial role in shaping and constraining the debate and final outcome of the public decision-making process that led to the approval and construction of the Tua dam. The EIA study did consider and include a diverse set of positive and negative impacts, ranging from increased energy production and the reduction of greenhouse gas emissions to adverse effects on the terrestrial and aquatic ecosystem, landscape and heritage. However, given its

[15] The environmental NGOs also engaged in dialogue using this particular language, although disputing the "facts".

reliance on quantifiable measurements of impact, the EIA ignored expressions of less easily measurable values stemming from an attachment to nature, heritage and the territory, as well as the social groups which upheld them, by dismissing them as affective or emotional.

Moreover, by relying on a rationale of compensation for adverse effects, the EIA tends to make rejection of a project unlikely as long as the undertaker is willing to cover the losses.

In fact, the EIA is an institutionalized procedure that promotes a particular approach to the production of evaluative judgments and to coping with value conflicts, thus shaping how people and communities express their values. When conflicts do take place, according to the EIA procedure, they should be addressed through negotiation. In the Tua case, expressions of the uniqueness of the environment and heritage were mobilized during the controversy, together with instrumental arguments for their preservation. However, given the bias of the decision-making process in favour of measurable assessments and the logic of compensation, the framework of commensuration and negotiation came to prevail overall, marginalizing refusals to trade off or corrupt "incommensurable" values. Negotiation tends to bolster the existing power relations among actors. Faced with the prospect of compensation for the destruction of the railway and the beauty of the valley, the local movements and population, environmental NGOs and local mayors were caught between a rock and a hard place. They could either accept the loss of part of what they cherished as their inheritance – the Tua railway line and valley – and the "compensation" for this loss, or forgo the compensation and its promise of modernisation supported by the regional development agency.

To sum up, although potentially "opening up" decision-making to diverse concerns, the EIA, at least in this case, contributed towards restricting their expression and to "closing down" the decision-making process. Although, the EIA, in general, may be a useful decision support tool, it is never a neutral device. When it is taken as such and oriented towards the production

of "unitary and prescriptive policy advice" (Stirling, 2008: 278), it may lead to less "intelligent" public decisions.

Pluralistic perspectives on public deliberation, namely pragmatist, do not claim to offer any algorithmic approach to collective decision-making that might be taken as an alternative to cost-benefit analysis and other related decision support tools like the EIA. Instead, pragmatists will insist that "intelligent" collective deliberation depends upon: a) the open expression of the plural perceptions, interests and values; b) accurate information and knowledge on the means-ends relationships; c) conditions for communication, discussion and persuasion.

Arguably those conditions are only met in an ideal set of a community in which persons have an equal standing and voice. In the real-world those ideal conditions are seldom met. However, the absence of the ideal conditions does not mean, that we should not aim at transforming the real world in order to approach the democratic ideal.

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