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Exploring a nature-related conflict
from a capability perspective

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Sustainability policy has to consider the interdependencies of human life and nature; it has to meet the high moral standards of intra- and intergenerational justice set by the Brundtland Commission in 1987; and, finally, it has to motivate people to behave accordingly. This is quite a challenging task that often is responded to in a too simplistic way. Current sustainability science and civic engagement often focus on the environmental dimensions and herewith on intergenerational justice.

The Capability Approach is a leading paradigm in development economics that has informed development policy during the last 20 years. With its focus on human development it has highlighted the interaction between social and economic development. The issue of intragenerational justice constitutes an ongoing motive within the Capability Approach, but intergenerational justice and environmental concerns have often been left out of its scope.

The project GeNECA aims at conceptualizing sustainable development on the basis of the Capability Approach so as to combine the issues of inter- and intragenerational justice drawing on an integrated understanding of social, economic and environmental development. Resuming the spirit of the Brundtland commission, GeNECA puts the needs and capabilities of people all over the world, now and in future into its focus.

On the basis of conceptual reflections, current sustainability indicators will be complemented by capability-based indicators. The concept will further be used in case studies on various areas of governance to prove its usefulness in decision processes. A feedback mechanism will be installed to amend the conception to the demands of applicability.

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Exploring a nature-related conflict from a capability perspective[1]

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Abstract

Using the capability approach, we analyse a recent conflict around nature conservation in the city of Leipzig, Germany. Following its concept of flood protection, a state authority felled thousands of trees in a highly popular nature protection area, which culminated in public protests and lawsuits against the state authority. This analysis has a twofold aim: (1) to better understand the conflict at hand, and (2) to explore the advantages and limitations of using the capability approach for addressing such a nature-related conflict involving collective actors. Our analysis of the actors' positions and interplay between them goes along the lines of the capability approach and gives insight into the conflict from a freedoms perspective. We use qualitative research methods to examine the case, relying upon semi-structured interviews with key stakeholders as well as a document analysis. The capability approach offers a freedom-agency lens and proves to be helpful in analysing the conflict; however, to understand the case better, certain process-specific variables absent from a typical capability formation framework have to be considered as well.

Zusammenfassung

Wir benutzen den Capability- (Verwirklichungschancen-)Ansatz, um einen kürzlichen Naturschutzkonflikt in der Stadt Leipzig zu analysieren. Hier ließ eine staatliche Verwaltung im Rahmen ihres Konzepts von Hochwasserschutz Tausende Bäume in einem sehr beliebten Schutzgebiet fällen, was Proteste von Bürgern und Naturschutzverbänden auslöste. Unsere Analyse hat ein doppeltes Ziel: Wir wollen sowohl den Konflikt als auch die Vorzüge und Grenzen des Capability-Ansatzes besser verstehen, einen solchen naturbezogenen Konflikt mit kollektiven Akteuren anzugehen. Unsere Analyse der Akteurspositionen und –zusammenhänge vollziehen wir demzufolge an der Struktur des Capability-Ansatzes, was Einblick in den Konflikt aus einer freiheitsbetonenden Perspektive verschafft. Wir benutzen qualitative Forschungsmethoden um den Fall zu untersuchen, genauer gesagt: halbstrukturierte Interviews mit zentralen Stakeholdern wie auch eine Dokumentenanalyse. Der Capability-Ansatz bietet einen Blickwinkel, der Freiheit und menschliches Handeln in den Mittelpunkt stellt und sich als fruchtbar bei der Analyse des Konflikts erweist. Um alle wesentlichen Aspekte erfassen zu können, müssen jedoch weitere Variablen hinzugefügt werden, die typischerweise bei Capability-Analysen fehlen.

1. Introduction

The German state of Saxony saw extensive tree clearance in the winter of 2010/2011: alone in the city of Leipzig around 6,500 trees were cut down, following a decree of the responsible state ministry. Concerned about the potential threat of floods, the state dam authority set down to secure dyke stability by eliminating all trees and bushes on the dykes. The argument behind was that "in principle, all trees and bushes on and along dykes pose danger to their stability" (SMUL, 2010: 3).

The action, however, was largely criticised by the city population and the most prominent environmental NGOs in the city. One NGO even brought the case to court, claiming that the clearance measures had not been necessary and that alternative approaches would have served better for the purpose of flood protection. In the public debates, the following arguments could often be heard: "The city administration *should have been* more active and prevented the tree clearance", "The NGOs *were not able* to participate in deciding on the clearance measures", "The dam administration *could not* involve NGOs because of the emergency situation and the necessity to take urgent action", etc.

All these statements hint at the importance of the actors' *freedoms* and *agency* to take certain actions prior to, during or after the tree clearance measures, *beyond their legal and organisational obligations*. For example, the city administration *could have* interfered and prohibited tree cuttings within the city boundaries (it had this opportunity, from a legal perspective), but it did not do so, while the NGOs *could have been* included in the decision-making process (in general they are granted the legal right to participate in environmental decision-making), but this did not happen. Aiming to embed these arguments in the analysis, we examine the situation from the perspective of the capability approach (CA), since it is centred on the concept of freedom (as the freedom to live a life one has reason to value) and incorporates the notion of agency.

The CA is being increasingly adopted on the political and research arenas worldwide. Capability-based ideas provided foundation for the Human Development Index in the early 1990s as well as for further well-being indicators, and have been used to evaluate overall societal progress in different countries as well as to design and assess policies and programmes to deal with poverty eradication and reducing inequality based on age, race or gender, etc. (see, e.g., Leßmann, 2012). The CA has also been used to develop participatory projects in these areas, though frequently in a methodologically loose way (Deneulin and Shahani, 2009). Global environmental assessments have applied CA-based ideas as well: for example, the Millennium Ecosystem Assessment names "the freedom of choice and

action" as one of the five constituents of human well-being, defining it as the "opportunity to be able to achieve what an individual values doing and being" (MA, 2005).

Despite the fact that the CA has firmly established itself on the global agenda, further empirical application is required to enhance its relevance in the political realm. If the CA is to gain political importance on a broad basis, e.g. to become an instrument for weighing trade-offs between various policy options, more empirical examples are needed, demonstrating its applicability to address politically relevant issues and the value added. In line with this, we intend to explore to what extent the CA can be conceptually applicable and helpful for analysing and understanding a nature-related – and inherently political – conflict. Furthermore, applying the CA in an environmental setting is in tune with the growing number of calls for a more elaborated inclusion of the natural environment in the CA (e.g., Polishchuk and Rauschmayer, 2012; Schultz, 2013).

To approach the tree clearance conflict, we "reconstruct" it in CA terms by applying the categories of goods and services, conversion factors, capabilities, achieved functionings and agency. In our case, all these categories pertain to collective actors rather than individuals, as is the case in a typical capability assessment. This is due to the fact that the key actors in the conflict are the city administration, the state dam administration, the city council and the environmental NGOs.[2] Therefore a change in the unit of analysis from individuals to collective actors is required.

We start with identifying and describing these CA categories and proceed to examine how they are interconnected (e.g. how one actor's agency affects another one's capabilities). After that, we present the case and analyse to what such a conceptual reconstruction helps in understanding it. Finally, we elaborate on the benefits and limitations of using a capability perspective in this and point to the existing conceptual gaps and potential research areas.

2. The CA as a framework for addressing a nature-related conflict

Before turning to the empirical analysis, let us briefly review some of the CA literature relevant for examined case. Firstly, we introduce the basic categories of the CA. Since the conflict largely unfolds between collective actors, we secondly examine how CA scholars typically deal with 'collectivity'[3] issues. Thirdly, we look at how the natural environment has been tackled within the capabilities framework.

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[2] Regular citizens were certainly involved in the conflict as well, e.g., by participating in the protests or directing individual requests to the officials. However, we confine our analysis to collective actors as major players in the conflict since this, among other reasons, allows us to better assess the political potential of the CA (rather than evaluate how the tree clearance affected the well-being of the urban population).
[3] By 'collectivity' we mean a range of issues related to collective actors, such as collective capabilities and collective agency.

2.1.   Conceptual foundations of the CA

CA adherents insist that it is "the opportunity to live a good life, rather than the accumulation of resources, that matters most for well-being" (Anand et al., 2005: 10). The "good life" in the CA is constituted by achieved functionings, i.e., the "doings" and "beings" that people have reason to value, as well as capabilities, or the freedoms to achieve such functionings. Single freedoms constitute the person's capability set, and enhancement of the capability set corresponds to the CA vision of human development (Sen, 1999). As conceptualised by its founder Amartya Sen, the focus of the CA goes beyond an individual's own well-being by including the aspect of agency, which embraces non-self-regarding goals and actions (called *commitments*) (see Grasso and Giulio, 2003; Robeyns, 2005). (This point appears to be of particular importance in the conflict examined, as will be shown later.)

Another crucial feature of the CA is that it conceives of goods and services as valuable for the person to the extent that they affect their capabilities and ultimately serve to achieve functionings. This is in contrast to opulence-based approaches, which translate goods and services directly into human well-being. From a CA perspective, goods and services available to the person become "converted" through a set of conversion factors: personal, social, and environmental (following Robeyns, 2003, 2005, see Figure 1). Only this "conversion" provides an adequate picture of how goods and services affect actual well-being.
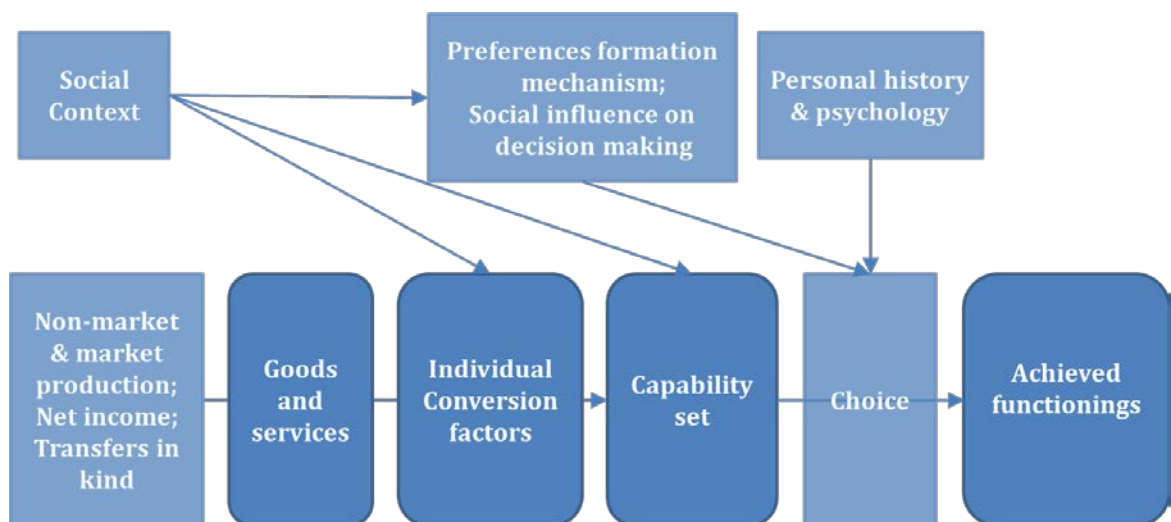

Figure 1. A stylised non-dynamic representation of a person's capability set and her social and personal context (Source: adapted from Robeyns, 2005: 98)

The first group embraces personal conversion factors, which reflect the person's own (bodily, mental, etc.) abilities and characteristics. The second group comprises social conversion factors, such as social practices, power relations, gender roles, caste relationships, etc. Finally, the third group is represented by environmental conversion factors, which can

enhance or impede capabilities via conditions such as the geographic location, climate, clean air, exposure of the area to flooding, etc.

Figure 1 illustrates how the different conceptual blocks of the CA relate to each other and will serve as an initial framework for our empirical analysis (see also Section 4).

2.2. CA and collective actors

The CA is often claimed to be inherently individualistic, just as most other economic approaches. As a response to this claim, Robeyns (2005) distinguishes between ethical, methodological, and ontological individualism. The first "postulates that individuals, and only individuals, are the units of moral concern"; the second claims "that everything can be explained by reference to individuals and their properties only"; whereas individualism in the ontological sense stipulates that "society is built up from individuals only, and hence is nothing more than the sum of individuals and their properties" (Robeyns, 2005: 107). Robeyns concludes "that the capability approach does not rely on ontological [or methodological] individualism, while it does embrace ethical individualism" (ibid.: 109). Robeyns further argues that – in principle – the CA can account for groups and social structures. Currently, though, the CA has no theory of society, institutions, or organisations. More elaboration and integrity on collectivity issues is needed particularly because CA scholars often involve collective entities in their claims for justice (e.g., Nussbaum, 2011), e.g., when demanding state guarantees with regard to people's fundamental capabilities or when cooperating with the government or international agencies to enhance capabilities of the deprived.

While we agree that in principle the CA does not need to be methodologically or ontologically individualistic, in its practical implementation so far we can barely find a widely accepted elaboration of non-individualistic alternatives. What one often sees on a conceptual level is the expression of societal influences on individual capabilities or functionings through the social conversion factors. In such a way, a number of empirical and theoretical studies address the impacts of the society on individual capabilities and achieved functionings (e.g., Anand, 2007; Smith and Seward, 2009). Thus, although most CA scholars working in this field acknowledge the influences of social structures on the capability formation of individuals, conceptual literature on collective capabilities remains rather scant (see Stewart, 2005: Ibrahim, 2006; Ballet et al., 2007; Cleaver, 2007). Ibrahim (2006: 398) employs the term of collective capabilities to refer to "the newly generated functioning bundles a person obtains by virtue of his/her engagement in a collectivity that help her/him achieve the life he/she has reason to value". Collective capabilities thus differ from individual capabilities in two major ways: by the process through which collective capabilities are generated (i.e., via

the engagement in a collective action or membership in a social network) *and* by the benefits accruing either to individuals or to the entire collectivity (ibid.: 404). Further, Ibrahim stresses two important differences between collective agency and individual agency. Firstly, collective agency is affected by social structures and community values, just like individual agency, but in the case of collectivities this becomes indispensable. Secondly, collective agency is important both instrumentally as a way of generating capabilities and intrinsically, for it shapes a collective perception of the good (ibid.: 405).

Still, Ibrahim's analysis remains on the individual level as she still considers the individual as the main agent engaged in producing collective capabilities. In this sense, Smith and Seward's (2009) critical realist approach develops along the same lines when they – in a highly abstract way – claim the importance of social factors for individual capabilities in a relational society. Thus, the individual level stays predominant in the case of both evaluative and prospective use of the CA (Alkire, 2008). The evaluative use is clearly bound to an individual as a unit of analysis (including societal impacts on capabilities and functionings) due to its ethically relevant assessment based on ethical individualism. But also the prospective use, defined by Alkire (2010: 29) as the identification and promotion of "alternatives that turn out to be more effective and equitable means of expanding a range of fundamental capabilities", is necessarily linked to ethical individualism. For example, Anand's (2007) examination of water-related conflicts in India can be seen as a prospective analysis, referring to individual capabilities as the metrics of assessment.

While we have not come across an established approach within the CA realm to address the conflict at stake, we consider it reasonable and helpful to conceptualise organisations as individual actors. Thus organisations rather than individuals represent the unit of analysis in the examined case study.

2.3. CA and the environment

It has long been acknowledged that the natural environment contributes to human well-being in a diversity of ways (see, e.g., Martinez-Alier, 2002; MA, 2005). In the CA, however, relationships between humans and the natural environment have not received primary attention (Sneddon et al., 2006), although there is a discernible trend in the recent CA literature towards addressing the role of nature in the CA framework (Holland 2008, Scholtes 2010, Ballet et al. 2011, Rauschmayer and Lessmann 2011). As Schultz et al. (2013) argue, the more recent approaches (Polishchuk and Rauschmayer, 2012; Christen et al., 2011; but also Dubois and Pelenc, 2011; Crabtree 2011) structurally include the natural dimension in the CA. They do so in different ways: by focussing on ecosystem goods and services, the ecological footprint, social and natural capital, or environmental management rules. In the

absence of an overarching framework for assessing the effects of the natural environment on human well-being, recent contributions' piecemeal bring diverse environmental issues under the CA umbrella.

The present paper is intended as a yet another contribution exploring the links between the environment and human capabilities. However, in contrast to the rather theoretically-driven works mentioned above, we do not aim to develop conceptual linkages between nature and capabilities per se. Rather, the idea is to explore the case of tree clearance in Leipzig with the CA categories primarily in order to be able to better understand the conflict at hand, and through this lens to identify the role of environment-related considerations in explaining the case. Thus, instead of suggesting ways of how to include the environment in the CA conceptually, we look at how the actors actually perceive the role of nature in the conflict, and then check whether the existing CA categories can fully embody this role. In this way, our contribution to conceptualising the impacts of the environment on human well-being remains limited, giving way to the political dimension of the conflict.

3. Case study description

The examined conflict took place in the German city of Leipzig, with a population of half a million inhabitants and situated in the eastern state of Saxony. Leipzig is a very green city: alone the *Auwald*, one of the largest European urban floodplain forests, makes up 13% of the city's surface (ENEDAS, 2010), complemented by numerous public parks and over 30 thousand private gardens (Stadtverband Leipzig, 2011)**.** The floodplain forest, stretching over 3,800 ha within the city borders (and another 2,000 ha beyond them), is a nature protection area indispensable to the city's character[4].

In 2010, the Saxon State Ministry of the Environment and Agriculture issued a decree that allows cutting down trees and bushes on and along dykes in the entire state of Saxony, including Leipzig. The major official reason for the decree was the danger of floods: the document explains that by loosening up the soil, tree roots endanger dykes' stability in the case of heavy rainfalls, and hence have to be removed if strong rain is expected[5]. Flooding has been a hot topic in Saxony especially since the 2002 flood in Dresden, the capital of Saxony, and along the Elbe River which caused billions of euros of damage (e.g., LVZ,

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[4] Officially, the floodplain forest in Leipzig is designated as a landscape protection area, with a number of nature protection areas located within it, where more stringent protection measures apply. However, for reasons of simplicity we refer to the Auwald as a nature protection area.

[5] The trigger for this so-called "Tornado Decree" was a tornado (a rare event in Saxony) in the town of Grossenhain earlier that year. There, falling trees were reported to have caused dyke inundation. While the ministry's official reasoning that "trees endanger dyke stability" can be traced back to this accident, this opinion is not unanimous and has been highly contested, e.g., by the local environmental NGO.

2012). Flood protection is therefore a highly sensitive and genuinely political issue in the federal state.

In Saxony, federal state authorities are responsible for the major water bodies, also if they territorially lie within city borders. City administrations, in turn, have jurisdiction over smaller water bodies. Since dykes belong to the major water bodies, the state dam administration was in charge of eliminating the tree cover according to the decree. The environmental department of the city administration formally did not object to the measures, allowing the dam administration to conduct the works.

The tree clearance took place primarily along the floodplain forest, and alone in the city of Leipzig 6,500 trees recognised as valuable were cut down, some of which had been over 100 years old and offered habitat for diverse mammals and birds (Oekoloewe, 2011). This caused strong disapproval of the population. The major local environmental NGO took the lead and initiated protests against the cuttings. Ultimately the NGO went to court and submitted two cases against the state dam administration, claiming that the clearance measures had not been necessary and that public participation had had to be given room.[6]

4. Methods

For the purpose of our analysis, we treat each collective actor "as if they were a single individual" (Ostrom, 2005: 38). In this way, we depart from methodological individualism and choose organisations as our units of analysis. On an ontological level, this implies that we should be able to identify collective actors' capabilities, achieved functionings, goods and services, conversion factors, and agency as if they were individuals. Since capabilities refer to the valued doings and beings, we should also be able to identify the values of collective actors. Although the interests and concerns of individual actors acting in the name of a collective actor might not be fully in line with those of their organisations (March and Olsen, 1984), we assume that the position of the representatives of the collective actors reflects the organisational well-being.

Following a qualitative research design, we conducted six semi-structured expert interviews with representatives of the city administration, the city council, environmental NGO-s active in city politics, and local political parties. Complementarily, a document and mass media analysis was carried out. Further information was used from other interviews and private talks with experts in the field of nature protection. Participation in two events dedicated to the tree clearance (a public panel discussion organised by the local Green Party and a meeting of the state dam administration with the NGOs) brought further insights into the process of tree clearance and the interaction between the actors.

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[6] These legal cases have not been decided upon as of 2012.

Since we did not expect the majority of the actors to be familiar with the CA, CA-specific concepts (such as capabilities and functionings) were avoided in the interviews. Instead, questions were formulated in such a way as to target the actors' perceptions about their opportunities to act in a certain manner (freedoms), the factors impeding or favouring specific actions (conversion factors) and so on. The questions in each interview were slightly adjusted according to the interviewees' organisational affiliation, which was necessary given the actors' different positions in the conflict.

The interview questions were grouped chronologically into three main blocks in order to facilitate the interview process and possibly get an idea about the opportunities open to the actors prior to the actual actions. The first block of questions addressed the actors' perceptions of the initial situation leading to the tree clearance (the reasons for the clearance, the decision-making process prior to the tree clearance, possibilities of stakeholder involvement, etc.). The second block targeted the participants' reactions on the clearance action (the different actors' reactions and the reasons for them, the actors' roles in the process, etc.). Finally, the third block of questions addressed the actors' perceptions about the future (what effects the clearance action will have on the population, how it will affect the actors' relationships in the long run, whether the actors see a need for a reconciliation process, and so on). This three-block structure was aimed both to identify the different actors' opportunity to participate in the decision-making prior to, during, and after the tree clearance and to find out what actions the actors actually undertook (i.e. what the outcomes *for them* looked like). The questions concerning the future were intended to investigate how the actors expect the conflict to influence future nature protection measures in the area, the relationships between the actors and their future "well-being", as well as their future opportunities to act.

For an analytical framework[7] we choose Robeyns' (2005) classical representation of capability formation. Our key examined variables thus stem from this work and embrace:

> ➢ capabilities as the freedoms to lead a life one has reason to value. In our case study, we attempted to identify the actors' capabilities based on how they perceive their (and the others') freedom to act in a certain way with regard to the tree clearance (e.g. as being able to participate in the decision-making concerning flood protection measures in the city);

> ➢ achieved functionings as valued achievements (such as being informed about the decision-making process on the tree clearance, taking part in the decision-making concerning flood protection measures, etc.);

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[7] Under an analytical framework we understand a researcher's construct that "bounds inquiry and directs the attention of the analyst to critical features of the social and physical landscape" (Schlager, 1999: 234). In other words, an analytical framework provides the variables of interest to the researcher as well as the loose relationships between them, but, unlike e.g. theories, does not explain causality.

> ➤ <u>goods and services</u>, reflected here primarily in financial resources of the organisations in question[8];

> ➤ <u>conversion factors</u>: personal (in our case – "organisational" conversion factors, since the central actors are organisations), social, and environmental; and

> ➤ <u>agency</u> as the actions motivated by interests beyond own (organisational) duties and obligations.

Our first step in the interview analysis was to group the interview data according to these central categories of capability formation, which thus were used as the initial coding categories.

However, since preliminary analysis showed that the key statements stemming from the respondents' answers could not be fully reflected in these categories, our next step was to develop further categories based on the data retrieved from the interviews. These were grouped under the labels of the actors' normative values and strategies. These categories complemented the evaluation grid since they appeared to be highly relevant from the interviewees' perspective but could not be comfortably placed within the existing CA framework. Finally, by examining the CA elements and the newly established categories not covered by the CA framework, we were able to make preliminary conclusions about the conceptual scope of the CA to address this nature-related and inherently political conflict.

We primarily used the actors' own interpretations to assess the goods and services available to them, conversion factors, capabilities and agency, and complemented them by secondary sources.

5. Results: the conflict reconstructed

The interviews revealed that the dam administration and the NGO which submitted the case to court are seen as the two central actors in the conflict. Therefore we used the analytical framework based on Robeyns (2005) to reconstruct the situation in the first place for these two actors – in Section 5.1 for the dam administration and in Section 5.2 for the NGO. Further, since the actors saw the role of the city administration as a crucial factor in the conflict, it will be addressed separately in Section 5.3.

5.1. Capability formation in the case of the dam administration

Let us start with analysing the process of capability generation of the dam administration related to the tree clearance[9] – see Figure 2.

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[8] While goods and services are usually included in CA evaluations as fulfilling a certain function and thus contributing to the person's capabilities (e.g., a bicycle fulfills the function of mobility – see, e.g.,Lessmann, 2012), we consider it reasonable to treat financial resources as goods and services in the case of organisations.
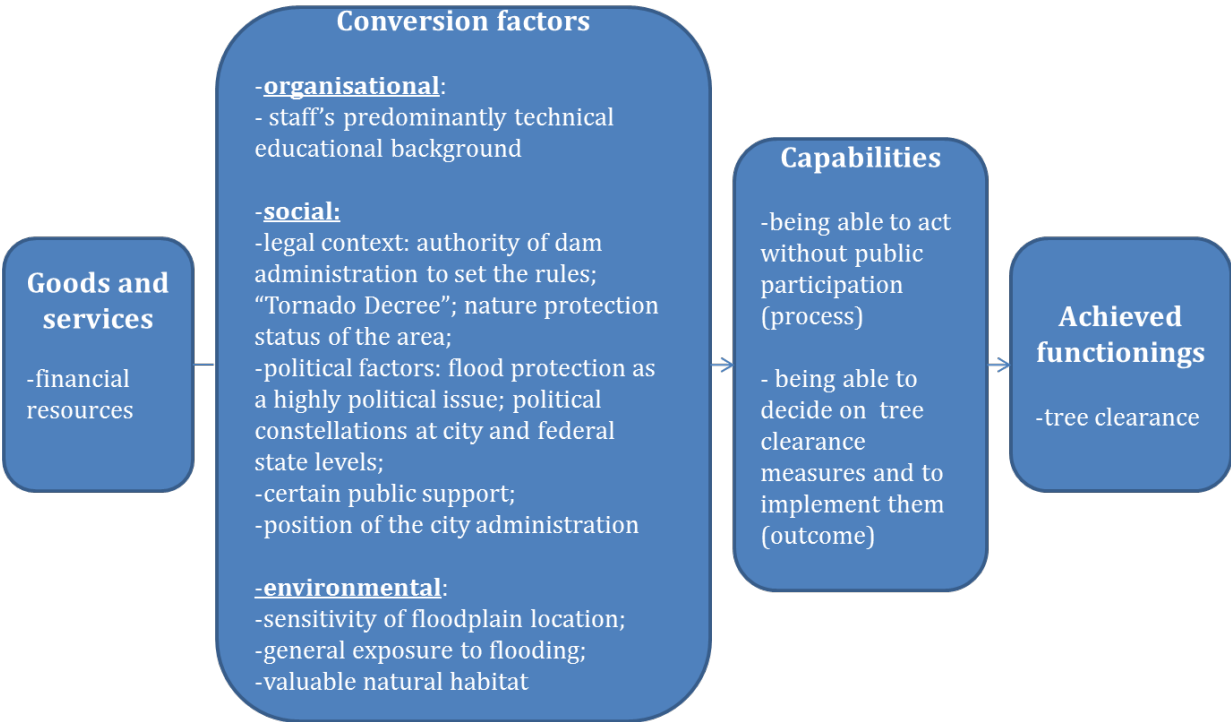
Figure 2. Capability generation for the state dam administration

First, the interviewees named financial resources (*goods and services*) as a crucial factor in the conflict: half of them emphasized that the dam administration benefitted from a recent inflow of funding from the European Union, which it could spend on flood protection (translated into tree clearance) measures.

Second, beyond the financial resources, a number of *conversion factors* further affected the outcome of the situation in a significant way. To start with *organisation-specific characteristics*, the technical educational background and experience of the staff were seen to have pre-determined the technical approach to flood protection. A number of interviewees saw this as an extremely narrow approach: "We have to adjust to the laws of nature and not correct nature", asserted one of the interviewees. In tune with this, two other interviewees insisted that flood protection cannot be conducted solely by technical measures because of the environmental setting where it takes place.

Social conversion factors played an especially important role in the conflict. Here, the existing legal framework could be seen as particularly conducive to the actions of the dam administration. Thus, the majority of the respondents stressed that the ministerial decree

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[9] The analysis presented here could not be cross-checked in an interview with a representative of the dam administration (since our request for an interview was rejected, *inter alia* due to the pending lawsuit) and therefore relies on other interviews and a mass media analysis.

allowing tree clearance under the conditions of "imminent danger" legally expanded the room of manoeuvre for the dam administration to act without involving the civil society. Furthermore, the dam administration, together with the city authorities, was seen as the actor who decides on what "forest" is (e.g., trees standing on the dykes and just beside were not considered as part of the "forest" and could thus be treated as located outside of the nature protection area) and how "danger" is to be interpreted ("If an expert from the dam administration says that there is danger of flood, then this is the case", as stated by one interviewee). While these factors were conducive to the capability expansion of the dam administration, the nature protection status of the felling area can be seen a restrictive factor negatively affecting the freedom of action of the dam administration.

The political dimension as part of the social context was profound in the conflict as well. Flood protection is perceived as a highly disputable issue in the city politics of Leipzig. For instance, whether politicians support technical or nature-based floodplain management can have an impact on the results of the local elections. Therefore the approach to flood protection is largely determined by political interests and preferences. Another aspect of the political dimension is that the current political constellations both at the city and the state level favour technical flood protection at the expense of nature-based approaches, as some interviewees argued. This can be viewed as an enabling conversion factor for the dam administration. A further conducive conversion factor was the public support from a certain part of the population, despite substantial public and NGO protests. First, some citizens (especially those living close to the dykes) were said to assume that vegetation-free, "stable" dykes protected them from the potential repercussions of flooding. Second, the foreseen compensational tree plantings[10] were sometimes seen by the inhabitants as "Christmas presents", as one interviewee put it. One further social conversion factor is the position of the city administration in the conflict. Due to its special role in understanding the causal chain of the conflict, it will be addressed separately in Section 5.3.

Finally, *environmental conversion factors* also had an important role to play. The floodplain location of the city predetermines its general predisposition to flooding, which, in turn, leads to a more or less permanent fear of flood among the city population. This might make the necessity of urgent flood protection measures sound self-evident for large parts of the population, as some interviewees argued, thus providing a conducive conversion factor for the dam administration. At the same time, the "sensitivity" of the floodplain forest as a nature protection area makes it subject to scrupulous NGO attention, which provides counterbalance to the technical flood protection approach of the dam administration. As

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[10] In Germany compensation, in the form of new plantings, for the conversion of the natural environment into other land use forms is compulsory.

mentioned above, the special status of the area also creates certain legal restrictions for the dam administration and requires additional coordination and consultation.

Third, a combination of the financial resources and the (mostly conducive) conversion factors generates a range of capabilities for the dam administration. These are, for example, being able to independently decide in favour of the tree clearance and to implement it (outcome), as well to being able to act without public participation (process).

Fourth, and finally, based on these capabilities the dam administration was able to carry out the tree clearance without prior involvement of the civil society.

5.2. Capability formation for the NGO

Following the scheme of capability formation applied in Section 5.1 (based on Figure 1), let us analyse the process of capability generation for the NGO – see Figure 3.

First, the situation with the *goods and services* available to the NGO looks different compared to the previous case. The interviewees commonly stressed the lack of EU support for nature-based management in general (in spite of the elaborate environmental legislation), while some support from the city authorities was said to be available for specific projects. Additionally, alternative financing schemes were pointed out (for instance, allowing special payment conditions with partner organisations), thus increasing the opportunities of the NGO to conduct its activities.
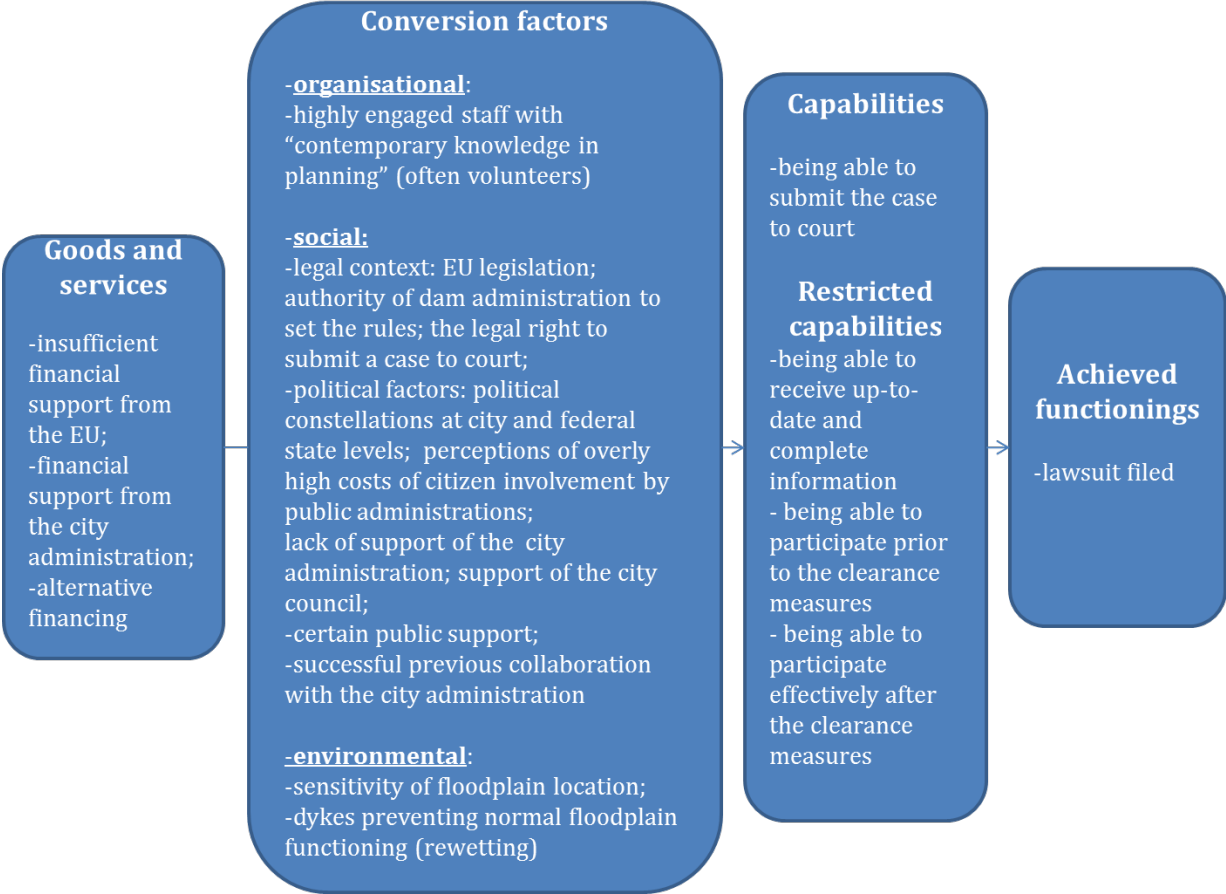
Conversion factors

-**organisational**:
-highly engaged staff with "contemporary knowledge in planning" (often volunteers)

-**social:**
-legal context: EU legislation; authority of dam administration to set the rules; the legal right to submit a case to court;
-political factors: political constellations at city and federal state levels; perceptions of overly high costs of citizen involvement by public administrations;
lack of support of the city administration; support of the city council;
-certain public support;
-successful previous collaboration with the city administration

-**environmental**:
-sensitivity of floodplain location;
-dykes preventing normal floodplain functioning (rewetting)

Goods and services

-insufficient financial support from the EU;
-financial support from the city administration;
-alternative financing

Capabilities

-being able to submit the case to court

Restricted capabilities
-being able to receive up-to-date and complete information
- being able to participate prior to the clearance measures
- being able to participate effectively after the clearance measures

Achieved functionings

-lawsuit filed

Figure 3. Capability formation for the environmental NGO

Second, a set of *conversion factors* played a decisive role in the capability formation process of the NGO. Some of these pertain specifically to the NGO in question (like its organisational specificities) while others are similar to those of the dam administration (like the legal and environmental contexts). Only those conditions specific to the NGO, or particularly highlighted by the interviewees when speaking about the NGO, will be elaborated here.

To start with the *organisational conversion factors*, the staff of the NGO were characterised by the interviewees as both "highly engaged", often working on a volunteer basis, and professional, being educated, e.g., in fields like the construction of water facilities and having "contemporary knowledge in planning".

Proceeding to the *social conversion factors*, the legal framework for action can be characterised by largely the same conditions for the NGO as for the dam administration (described in Section 5.1). Further factors stressed by the interviewees were the EU legal framework encouraging nature-based (or ecosystem-based) management, the legal right to go to court (both conducive) and the lack of transparency obligations of the dam administration (a negative conversion factor). Apart from that, the NGO also enjoyed *ad hoc* public support in the form of increased donations and membership as well as public

participation during the protests and several thousands of the citizens' signatures collected against the tree clearance. Two interviewees also mentioned the support of the city council in the form of the councillors' appeal to the city administration concerning the clearance measures and a revision of the flood protection concept for the federal state. Earlier work with the city administration was seen as both a platform for successful cooperation and as being potentially undermined by the current conflict. As structural social factors, "very authority obedient" administrations and commonly existing overestimation of the costs of citizen involvement were specified. These factors can be seen as restricting opportunities of the NGO to reach their goals. Several interviewees mentioned the lack of agency of the city administration to question the proposed tree clearance and to suggest alternatives – this point is particularly important from a CA perspective.

When it comes to the relevant *environmental conversion factors*, the interviewees particularly stressed that the floodplain is a highly sensitive area, requiring a special management approach going beyond solely technical measures. Furthermore, some of the interviewees pointed to the fact that the existing dykes prevent rewetting, which is a natural process in a floodplain forest and is indispensable for its normal functioning. This implies that the current flood management significantly constrains the NGO's opportunities regarding the promotion of their way of forest and water management.

Third, the *capabilities* of the NGO were restricted as a result of resource "conversion": the organisation was neither able to participate in the decision-making prior to the clearance measures nor could it effectively participate in the aftermath process (e.g., in the planning of compensation measures). The legal opportunity to submit the case to court was, however, still in place.

Fourth, and finally, the NGO's *achieved functionings* were limited to the filing of two lawsuits against the dam administration, while the functioning of participation remained unachieved.

5.3. Interdependence between CA elements

Along with the dam administration and the NGO, the city administration was a major actor in the conflict. However, from the perspective of the majority of the interviewees, it rather had a mediating role to play. This goes back to the fact that the legal responsibility for the dykes lies in the hands of the dam administration, while the city administration is directly responsible for smaller water bodies within the city borders. Nevertheless, the city administration was heavily criticised by other actors, most notably by the NGOs and a number of politicians, for the lack of initiative and the mere acceptance of the proposed measures (i.e., the lack of agency). Examples brought forward by one of the interviewees illustrated how other city administrations managed to resist against such proposals in similar conditions, staying within the legal framework. The natural interconnectedness between the

larger and smaller water bodies was often stressed as requiring close cooperation and consultation between dam administration and the city authorities. Had elaborated consultation taken place, it could have provided a base for the city administration to redesign or prevent the tree clearance, as some of the interviewees argued. Instead, the city administration was claimed to have merely legitimised their inactivity by "the existing law" and "the lack of possibility to act". Such an approach was seen as "choosing the easy way" and acting "as an administrator only", while the city administration was expected to have intervened instead. On the other hand, the city administration was also claimed to have voluntarily and regularly updated the population on the tree clearance, thus going beyond the minimum legal obligations. In this way, providing additional information can also be interpreted as an expression of agency.

As the interview analysis suggests, the interrelations between the three key actors in the conflict allow interpreting the causal chain of events as follows. [1] Having vast financial resources at its disposal, the dam administration also enjoyed a number of favourable conversion factors which enhanced its freedoms to conduct technical flood protection almost without public participation. [2] The city administration, also affected by a number of conversion factors (such as the legal norms and current political conditions, elaborated for the dam administration and the NGO in Sections 5.1 and 5.2), demonstrated a lack of agency to decline the tree clearance measures or to propose substantial changes to the plans of the dam administration. [3] As an outcome, the NGO was not able to participate in deciding on the clearance measures or to bring in alternative suggestions. This situation resulted from the enhanced capabilities of the dam administration to follow its course of action but could have been changed by the city administration, had it actively intervened. This chain of events as following from the interview analysis is graphically presented in Figure 4.

Figure 4: Mediating role of the city administration in the process of the NGO's capability formation

5.4. Further categories

As mentioned in Section 4, in several cases the interviews contained material that were difficult to address within the basic CA categories (Robeyns, 2005) but at the same time appeared crucial to understand the conflict and the interviewees' concerns. Let us briefly address these and specify: [1] to what extent these are important in understanding the conflict and [2] how they stand to the CA framework.

5.4.1. Normative values

An important issue with regard to the CA concerns the people's normative values – such as transparency, inclusion, justice, and so on. These are not explicitly addressed in the capability generation framework (Robeyns, 2005) but play a crucial role in the CA as determining the *valuable* doings and beings. In the examined case, normative values come to the forefront when one tries to understand the actors' motivation for action, their behaviour and concerns in the conflict. Relying upon the interviews and a mass media analysis, we discern the normative values of the major actors in the conflict.

Among the most frequently named values, transparency, participation, and responsibility as well as nature protection[11] stand out as issues of highest priority. These values are shared by the representatives of various NGOs, the city council as well as certain political parties and have been pointed out by the interviewees as their predominant motives for action. When it comes to nature protection, half of the interviewees further expressed a concern that ecosystem complexity is being overlooked in the conflict (e.g., the floodplain forest is actually a floodplain *system* and hence contains not only trees but also other landscape elements, requiring a systemic management approach). Security was brought up as a central issue on the other side of the conflict: the main argument of the dam administration in favour of tree clearance was that the trees put human lives and material objects in danger by making the dykes instable. (To what extent this really is the case remains disputed; while the majority of our respondents opposed this idea, arguments supporting this approach have also been expressed, mainly by the dam and the city administrations.)

5.4.2. The actors' strategies

A particularly important category emerging from the interviews concerns the actors' strategies, or the actions and strategic moves, undertaken in order to achieve the goals that the actors had reason to value. For example, some of the interviewees described one of the goals of the dam administration as quickly spending the available financial resources before they expire. Accordingly, the administration selected a strategy which allowed it to do so – namely, to act under the auspices of the "Tornado Decree" (or even to design the decree *ad*

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[11] Nature protection often seemed to play a role of a normative value in itself, and it was not possible to 'decompose' it further into, e.g., intrinsic and instrumental values of nature for the interviewees.

hoc) and the banner of emergency, thus avoiding time-consuming participation. The strategy of the NGO was seen to be centred on the goal of participating in decision-making and being well informed. Hence, its actions embraced frequent appeals to the city administration and the "division of roles" with another NGO (which reacted in a more "temperate" way and could therefore stand better chances of promoting its floodplain management ideas via effective communication with the dam administration). The strategy of the city administration was seen as focussed on the "legal position" and rights, thus bypassing the issues of agency and own initiative to intervene into the clearance plans. As one can see, the actors' goals sometimes reflected normative values such as participation and transparency but this was not necessarily the case – as with the goal of spending the available money promptly.

Within the conceptual grid of the CA (following Robeyns, 2005), strategies can partially be present in the elements influencing choice (i.e., preference formation and social influence on decision-making as well as personal history and psychology), but a more explicit inclusion of strategies would be necessary in order to understand the conflict.

5.4.3. Understanding and framing the issue at stake

Another element difficult to situate within the capabilities framework proved highly relevant in the interviews, namely the understanding and framing of the issue at stake. It is closely related to the actors' strategies since the differences in understanding and framing the problem resulted in the different strategies chosen. The way the actors understood and framed the issues of (organisational) well-being and flood protection is likely to be connected to the conversion factor of education. However, it is also affected by a range of other factors and therefore deserves to be treated separately. While the dam administration viewed flood protection as a set of technical measures, the environmental NGO had a "different understanding". One of the interviewees put it in this way: "It is not about the trees on the dykes but about the wrongly built dykes". Another respondent stressed the idea of necessity and functionality: it is not about trying to save every single tree but about its functionality on the specific place and the reasonability of felling it". This demonstrates the diversity and divergence of perceptions of flood protection and water management in a floodplain setting. The two major sides of the conflict thus had a different (often mutually perceived as "wrong") understanding of the problem. The notion of understanding and framing the issue is highly related to world-views, or complexes of values, and is interlinked with strategies: knowledge can determine the strategies, but the existing strategies also make the people select the knowledge accordingly.

6. Discussion

In this analysis, we aimed to better understand the conflict and to explore the advantages and limitations of using the CA as a theoretical approach. To reconstruct the conflict in CA terms, we examined how the different categories of the capability formation framework become "constituted" in the conflict and then investigated how the categories pertaining to different actors are interconnected (e.g., how the agency of the city administration affects the capability set of the NGO). On this basis, we now intend to analyse to what extent the CA allows for a conceptual "reconstruction" of the conflict and assess the conceptual power of the CA in the selected case.

The CA framework appears particularly suitable for examining how the aspects of freedoms and agency played out in the conflict around the tree clearance. Namely, a CA perspective illuminates how a diversity of (conversion) factors shapes the actors' freedom to pursue a certain line of action. Structuring the factors affecting the key actors in the same categories – social, organisational, and environmental – provides for a convenient comparison of their capability formation. With its focus on agency, the CA helps to understand how the lack of agency of one actor (the city administration) limits the freedom of action of another actor (the NGO) and thus directly affects its capabilities.

One important analytical challenge is that the conflict took place to a great extent between collective actors. While the issues of collectivity (collective actors, collective capabilities and collective agency) remain only scarcely addressed in the CA literature, we approached the conflict by taking organisations as a unit of analysis. Of course, the assumptions that capabilities of an organisation are generated in the same way as a person's capabilities and that organisational well-being is comprised of capabilities and achieved functionings requires validation, which we do not provide here. Still, the framework of capability formation helps to grasp a significant amount of empirical data stemming from the interviews, and at least in this conflict the actors' freedoms seem to be to a large extent determined by the groups of conversion factors.

Another challenge we encountered is methodological: we arrive at the capabilities of an organisation by interviewing just one or a couple of its members. As mentioned in the methodological part, we assume that the ideas expressed by the interviewed persons can be extrapolated to the organisation they represent.

When examining the conversion factors of both major actors (Figures 2 and 3), the outcome of a "conversion" by conducive *and* restrictive conversion factors might not appear self-evident, i.e., it might remain unclear to which capabilities a particular setting of conversion factors leads. Here, one should remember that analytical frameworks are not aimed at

explaining causality but merely structure and organise research by providing variables to look at as well as loose relationships between them (see, e.g., Schlager, 1999). For this purpose, the CA formation framework has proved useful.

Other variables that could not be directly addressed within the capability formation framework are connected to the stakeholders' values, which are indispensable to societal conflicts. While values are central to the CA in that they underlie the person's doings and beings – since these have to be in line with what one has reason to value – values deserve more explicit attention in the CA. What is their role in constituting the various CA categories, such as conversion factors, capabilities and functioning)? How do individuals' values relate to each other? How does a transformation of values influence capabilities (cp. on this Pick and Sirkin, 2010; Schäpke and Rauschmayer, 2012)? Only a more profound value analysis could prepare the floor for discussing, e.g., the NGOs' reproach to the dam administration claiming that the pressure to spend money was an inadequate legitimisation for the tree clearance.

We were not able to explore how a CA-based reconstruction of the conflict could help resolve the societal problem on how to rank nature protection among the legal, financial, political and technical issues. The same applies to the issues of natural complexity: What are the real dangers and impacts of flooding, tree clearance, or dyke reconstruction? These issues show the limitations of the CA on a more fundamental level, connected to its individualistic perspective (even when one departs from methodological individualism). Within a CA framework, it is difficult to understand the systemic embedding of this conflict in the societal context, or to analyse the conflict in categories traditionally used in the analysis of societal conflicts, such as legitimacy, information management, social dynamics, or efficiency (Wittmer et al., 2006; see also Blackstock et al., 2012).

Finally, while the CA appears helpful in structuring the case in question, it has considerable limitations when it comes to the rather process-based aspects, pertaining to how the conflict evolved. To analyse a certain phenomenon, one can look at four dimensions: causal conditions, strategies, context/individual variables and consequences (Cresswell, 2007). With a CA formation framework, two of these dimensions can be addressed in full: the context variables (in the form of conversion factors) and consequences (in terms of achieved functionings: the dam administration cut down the trees, the NGO was denied participation and could file a lawsuit). However, the causal links – e.g., that the lack of agency of the city administration undermined the capabilities of the NGO to reverse or amend the tree clearance – require more elaboration (e.g. by applying a theory that can explain the causality and weigh the various factors), while the actors' strategies remain completely outside of the CA scope. This is because the capability formation framework helps to look at capabilities in

a given moment, while in the case of a societal conflict the *process* of decision-making and strategy implementation is important.

Can such a conceptual conflict reconstruction help in resolving this or similar conflicts? We cannot give a definite answer based on our case study and can only assume that our analysis could have helped in conflict resolution. We embarked on this analysis intending to later discuss the results with all major conflict actors. Our expectation was that an outside perspective highlighting the similar values of the actors and the constitution of the respective capability sets would make it easier for the participants to take the perspective of an "impartial spectator", which would have been conducive to conflict mediation. Unfortunately, some of the central actors showed unwillingness to take part in such an endeavour (due to the pending lawsuits), and therefore we could not verify this expectation.

7. Conclusion and outlook

A recent tree clearance in a popular urban area in Leipzig turned into a societal conflict between the public authorities and the civil society. The high sensitivity and emotionality attached to nature-related issues in the society required going beyond the legalistic approach of formal duties and responsibilities to account for the issues of normative values, agency, and well-being. This case inspired us to take on a capabilities lens and examine how a freedoms/agency perspective can help to understand the conflict.

The CA proved useful in structuring the factors relevant in the conflict according to the categories of goods and services, conversion factors, capabilities, and achieved functionings. In particular, the notion of agency appeared very helpful in understanding the behaviour and arguments of the key actors. However, a stronger focus on values and inclusion of the actors' strategies appears to be necessary in order to understand the conflict in its diverse dimensions. Further important CA-related challenges refer to conceptualising the well-being and capabilities of collective actors and to dealing with the process-based aspects of the conflict.

We invite the reader to decide whether such a CA-based reconstruction of the case helps understand the conflict better and to what extent it can provide useful insights for policy-making. This reconstructive analysis could certainly be complemented by evaluative or prospective analyses in order to have an ethical basis to assess or recommend certain policies. Ultimately, we hope that a conflict reconstruction in such a manner can contribute to resolving similar conflicts and help to advance conflict analysis methodologically. In particular, we hope that the present analysis has pointed to those aspects of the CA where special emphasis might be required in the future.

8. Acknowledgements

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