

**COMMUNITY VIEWS OF FAIRNESS IN  
ENVIRONMENTAL CONFLICTS: EVIDENCE  
FROM GERMANY AND AUSTRALIA**

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**ABSTRACT**

There is a widespread assumption that the way communities view fairness in environmental conflicts is dominated by self-interests, especially in conflicts of interest (“to vote one’s pocketbook,” “not in my backyard”). This assumption is rarely questioned or empirically tested. Based on theories of psychology of social justice, two studies tested this hypothesis by contrasting motives of self-interest and justice in a German and an Australian dispute. Questionnaire data from both countries ( $N_{\text{Germany}} = 309$ ,  $N_{\text{Australia}} = 260$ ) equally revealed that a) affected and non-affected people do not make different judgments of what is fair in the conflict and b) overall fairness judgments are not only based on self-interest, but to the same extent on justice considerations. The results have important impacts on theoretical model building as well as planning and decision-making in environmental conflicts.

## COMMUNITIES AND FAIRNESS IN ENVIRONMENTAL CONFLICTS

In democratic systems, political decisions on environmental issues are not made only by authorities. Democratic societies rely on the engagement of their citizens to form and express their political opinions, e.g., in voting decisions or further political engagement, as with interest groups in political conflicts. Involvement of the community in decision-making has become an issue in politics as well as research in recent years [1], and only if community perceptions are respected and considered as essential in the decision-making process, can long-lasting commitments of citizens, the establishment of positive social relations, and the creation of a productive democratic atmosphere within the community be achieved [2]. Yet, few researchers directly assess public opinion [3], and the motives underlying communities' perceptions are so far only poorly understood [4], a phenomenon that can also be traced back to an underestimation of contextual factors in psychological research [5].

There is a strong contradiction between the need for implementation of justice and the widespread image of communities' judgments in political decisions. Communities are considered self-interested, not only by political decision-makers, but often by members of the communities themselves. This is most apparent in conflicts of interest, as expressed by popular sayings ("to vote one's pocketbook"; "not in my backyard"). The assumption that in conflicts of interest, egoistical motives dominate or even eliminate justice motives is widely spread in research as well as the common sense [6]. It is supported by rational choice tradition with the idea of *homo oeconomicus*, which is expressed for example in the concept of the "restricted, resourceful, expecting, evaluating, maximizing man" who pursues solely his own self-interest ("RREEMM") [7]. Yet, this tradition is problematic on a theoretical level, lacks satisfactory empirical validation and, moreover, has problematic consequences in practice. In the field of political action, this means especially the legitimization of self-interest as a norm in social conflicts. Political action (e.g., voting behavior) is often based on justice motives [8], but considered by laypeople as well as political actors to be driven by self-interests [9, 10]. Although it is largely recognized that these issues need further investigation, there are few empirical studies on community justice considerations within political problems and conflicts [11, 12]. To fill this gap, a cross-societal investigation on community fairness was conducted to examine the significance of perceived fairness in political decision-making processes. Two rather different environmental conflicts in Germany and Australia were chosen to test hypotheses about the antecedents of communities' fairness judgments.

In psychology, discussions about motives of fairness judgments in conflict situations have a long history [13, 14]. Based on rational choice traditions, the game theory as one "impactful" theory in the field assumes that the pursuit of self-interest is the dominant or even the exclusive motive of human action [15-17].

Thus, rational-choice models—by construing individuals as selfish—assume more explicitly and more extensively than other models that human beings strive for maximization of their individual profits [16]. According to the definition of Jencks, individuals are selfish “. . . if their subjective definition of their welfare does not include the welfare of others; or their actual behavior indicates that they are not concerned with the welfare of others; or their concern with the welfare of others is merely an instrumental means for promoting their own longer-term selfish ends, and ceases once these selfish ends can be more easily realized in some other way” [18, p. 35]. If this is applied to environmental conflicts, one should expect that subjects act according to their personal self-interests, and therefore at any time will choose the option that from their perspective provides them with the best possible outcome. Empirical investigations challenge this assumption: It could be shown that other important motives have an impact on human behavior in social conflicts, either in addition or in competition to self-interest [19]. One of these motives is the sense of justice [20, 21]. In many experiments, initially designed to underpin the assumptions of the game theory and the rational choice theory, subjects acted against their own benefits and spontaneously explained this seemingly *irrational* behavior by stating, “it was right and just” or “cooperation is right” [22].

In reaction to these empirical challenges, rational choice theorists often argue that actions for the benefit of the community, like any kind of altruistic behavior, can also serve individual self-interests in the long run. An example for this kind of “bridge assumption” can also be found in Jencks’ definition quoted above (“the welfare of others is merely an instrumental means for promoting their own longer-term selfish ends”). Yet, strong theoretical and empirical arguments are opposed to this self-interest assumption. On a theoretical level, it is unproductive to assume open or covered self-interest as the only motive to explain all kinds of behavior. This means that apparent behavioral differences could no longer be explained. Furthermore, there are multiple empirical findings showing that justice motives cannot be reduced to self-interest (for a comprehensive discussion see [21]).

Our starting point is to assume that justice motives are motives in their own right that cannot be reduced to self-interest [21]. Rather than subsuming justice motives under self-interests (as, for example, proposed by the self-interest model of procedural justice of Thibaut and Walker [23]), we directly measure motives of justice and self-interest. This allows us to calculate empirically to what extent both motives have common variance. This approach is in line with current social psychological theories of justice that consider justice a moral ought in its own right, that might interplay with other motives but cannot be reduced to that [24, 25]. In a similar attempt, Törnblom and Vermunt [26] have proposed a framework that puts fairness judgments in relation to procedural justice, distributive justice, and positive/negative outcome valence. Although they do not clearly articulate it, their concept of outcome valence can be considered as a form

of self-interest. The authors predict that outcome valence influences fairness judgments, but that other forms of justice are equally important and not reduceable to self-interest.

### **STUDYING ENVIRONMENTAL CONFLICTS IN THE FIELD**

The psychological theories outlined above have one important shortcoming. There are, so far, only few empirical studies on perceived fairness investigated in real life problems and conflict situations. Most of the available literature describes experiments conducted in laboratories. The experimental approach yields findings that are important for the understanding of specific mechanisms and processes in social conflicts, but with the impediment of low ecological validity and therefore limited scope for interpretation. The crucial question is: Why are there only few empirical data on real life problems and conflict situations examining the influence of fairness judgments and self-interest? We believe that there are several barriers that keep researchers from studying these issues in real conflicts. On the one hand, political decision-makers often do not wish to involve the community directly, and thus the collection of data and the communication of results is difficult. On the other hand, time pressure as well as the high emotional involvement of the parties are often considered factors that hinder sound research.

These arguments create strong barriers for studies of real-life disputes. Nevertheless, in modern democracies there is a definite need to establish a social environment in which the community takes part in political decision-making. Communities are more sensitive to politics today than in past times, a phenomenon that reflects broader changes in society: Citizens have increased awareness for and developed higher expectations toward politics due to, among others, higher standards of education and stronger presence of the media. Sincere community participation can only be accomplished if we gain insight into the processes occurring in the field of environmental and community conflicts. When engaging the community, stronger social relations between citizens and political decision-makers are formed and the resolution of future conflicts is facilitated [27]. Further, communication between conflicting parties is vital to attain the goal of making democratic systems work to the mutual interest of citizens and authorities [28].

Finally, communities' involvement in political decision-making processes is critical for the functioning of democratic systems and therefore it is crucial that political decisions are accepted as fair within the community. As the community is directly affected by political decisions, it is important that the decision is accepted, which is much more likely when the process and the decision is perceived as fair. Only by understanding communities' conceptions of justice and fairness, can appropriate policies and efficient decision-making involving the community be realized.

### THE NEED FOR CROSS-SOCIETAL RESEARCH

The fact that perceptions of social justice are embedded in culture is widely acknowledged [29]. Yet, there is little knowledge about the interplay of self-interest and justice in different cultures or societies. If, as Miller and Ratner [9] argue, the pursuit of self-interest is a culturally shared norm, then cultures should differ in the role self-interest plays for explaining justice judgments. In societies where self-interest is considered an appropriate motive for social action, it should explain more variance in justice judgments than in societies where it is not. Germany and Australia can be considered as Western cultures; therefore cultural differences should not be as blatant as between two historically very different societies. However, by choosing two different real-life conflicts in two different societies, we can augment ecological validity of our results.

### THEORETICAL MODEL AND RESEARCH QUESTIONS

Based on these theoretical and practical arguments, we developed a theoretical model of overall fairness judgments of politically relevant decisions [30] (see Figure 1).

This model focuses on the overall fairness judgments of a specific political decision in the community. These overall fairness judgments were operationalized by single items asking explicitly to assess the fairness of proposed solutions in a specific problem and conflict situation (Item example: “Overall, a tunnel solution would be a fair decision to me.”). The decision to use the expression “fairness” instead of “justice” was based on the different connotations of the words, as

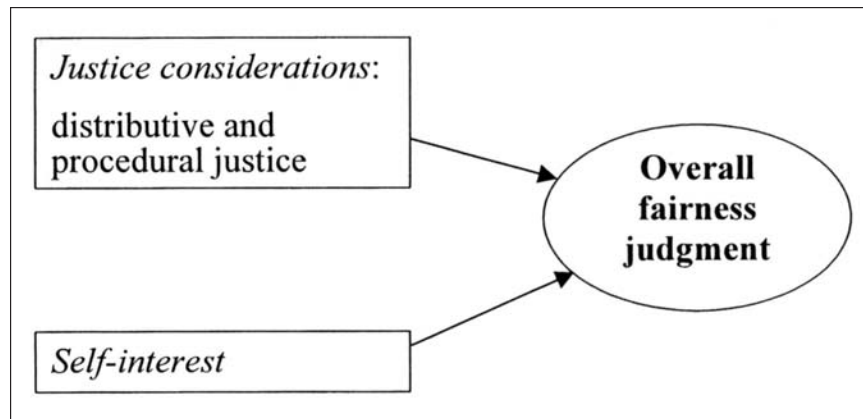


Figure 1. Inclusive model of overall fairness judgments of ecologically relevant decisions.

fairness implies a broader range of meanings from pure self-interest to more moral-oriented connotations. In studies on social conflict situations, the overall fairness assessments of outcomes or decisions are important criterion variables, too [31]. In related literature, fairness evaluations are often considered to be strongly biased by self-interests [32-35]. Mostly, these conclusions are drawn from data collected in laboratory studies in which subjects are explicitly instructed to maximize outcomes. We challenge these assumptions with our investigations. By comparing justice and self-interest motives in real-life problems we are able to study motives of people directly affected by a decision instead of instructing them to act in a selfish way [36]. Thus, we expect the judgments of the overall fairness to be a complex summary term covering different judgments and beliefs.

Following this argument, the model postulates overall fairness judgments to be influenced by perceived contextual justice appraisals of distributive and procedural justice, as well as by contextual self-interests (for example, the survival of a family business in a specific ecological dilemma situation, or the fairness of a high ecological quality in one's own living space). Since we conceptualize the justice and self-interest variables as predictors of the overall fairness judgments, they are placed in the left part of the model. The contextual justice appraisals were measured on two spheres: as distributive justice as well as procedural justice. The general distinction between distributive and procedural justice within the research on organizational justice has been confirmed in two current meta-analyses by Cohen-Charash and Spector [37] and Colquitt, Conlon, and Wesson [38]. Distributive justice includes the distribution of resources, benefits, risks, and burdens within conflicts (Item example: "In the current conflict, it is just to choose the decision in which the protection of the natural environment is the prime importance."). The four key concepts of distributive justice can be implemented by different political strategies and counterpoint each other [30]. The concept of procedural justice refers to the process itself to decide about the distribution [24, 39] (Item example: "Local people should have a major say in the decision-making process."). The self-interest variables are measured on the same specification level as the justice considerations. Several facets of self-interest are included. It was of special importance that personal interests could either benefit from or be afflicted with the realization of different political decisions or decision-making processes. In political problems, community members can for example be affected by personal economic consequences (e.g., for one's own enterprise), by the desire to live in an ecologically unpolluted neighborhood, or by the NIMBY principle ("Not In My Backyard" [40]) for an unwanted facility planned to be built in the neighborhood (Item example: "I am worried that my personal concerns are highly affected by the current decision."). Previous studies have shown that overall fairness judgments are not only measurable cognitive appraisals, but they do have important impact on behavioral decisions [32].

Based on this model, we draw the following hypotheses:

1. Stakeholders in the conflict and people who are not directly affected should not differ significantly in their overall fairness perceptions. This hypothesis is based on the conception of fairness as a primordial motive. If fairness judgments were reduceable to self-interests, then stakeholders in conflict should differ significantly in their fairness judgments from people who are not involved.
2. When examining people who are directly affected by the conflict issue, this overall fairness perception is not only based on contextual self-interests; contextual justice appraisals for distributive and procedural justice are equally relevant.

Both hypotheses are tested in a German and an Australian environmental conflict with high implications for the community.

## GERMAN STUDY

### Method

#### *Study Scoping*

In the German study, the political conflict dealt with controversial plans to build a new bus lane in the city of Trier. This conflict was chosen for several reasons: many parts of the community were involved either in the discussions or directly affected by the plannings of the city administrations. During several months, the local media featured articles on the topic, many panels were organized to publicly discuss the issue, and several groups engaged either for or against the bus lanes, and one group was especially formed to express resistance against the projects. Other conflicts on environmental and planning issues existed at the same time in the community, but all with a smaller scope. The conflict on the bus lane was important to large parts of the community and therefore seemed an ideal case for study.

The bus lane intended to connect the rapidly growing upper hill areas of the city with the city center. Two alternative bus lanes were proposed and discussed: first, a tunnel solution and second, a subsurface lane. The third alternative was to leave everything as it was, which meant that both buses and cars used existing roads between the city and the upper hill areas. Over a considerable period of time, there were long and intense discussions about the *right* solution to the problem within the community, with many different and conflicting concerns and interests being affected: the natural environment, life quality of the inhabitants of various living areas, mobility of citizens, as well as values of properties and houses and prices for rents. In addition, the various alternatives (including the decision not to build an extra traffic lane) affected different living areas in Trier in a very unequal way.

Therefore, in the German study, there are environmental issues as well as several types of groups involved: political organizations that will eventually decide on the options to choose in the conflict, as well as political organizations and groups that were formed temporarily and that executed pressure on the political decision-makers.

At the time of our study, the discussions had hit a peak in the community. The city administration had commissioned an evaluation of the entire project, which caused a suspension in the decision-making process. During this phase, a questionnaire study was conducted to investigate the various components of the model of overall fairness as described above (see Figure 1).

### *Sample*

The overall sample consisted of 309 inhabitants of Trier recruited through newspaper announcements, phone calls, and contacts with several interest groups involved in the conflict. Out of the 309 inhabitants, 246 reported to be personally affected by the political decision on the traffic conflict. The overall sample included 161 women and 142 men (with 9 participants not reporting their gender). The average age was 35.5 (standard deviation 16.9). Subjects with higher educational level were over-represented, a fact that can possibly be explained by the higher involvement and interest that people with higher education have in political decision-making. As in communities, interest groups play an important role [1], several interest or action groups were directly addressed and included in the samples.

### *Measurement Instruments*

All psychological constructs (with one exception) were measured on a 6-point Likert-type rating scale (1 = complete disagreement to 6 = complete agreement). The items of the scales were factor analyzed (principle axes factor analyses) followed by a varimax rotation, and all scales were built on the basis of the factor analyses. The internal consistency (Cronbach's alpha) as well as several split-half reliabilities (following Guttman and Spearman-Brown) were assessed as indices of the scales' reliability. The item statistics (mean value, standard deviation, skewness, kurtosis, corrected item total correlations) and the scale statistics argue for reliable measurement of all psychological constructs. The influence of socially desirable answering behavior [41] was equally controlled. We developed the scales on the basis of previous research in the field (among others, by Kals and Russell [42], and Kals, Schumacher, and Montada [43]). The formulations of the items were closely adapted to the perceptions of people involved in the conflict as well as the conflict structure, in order to grant for high ecological validity of the measures. On the other hand, construct validity is granted by rigorously grounding the scales in existing theories of social justice.



*Overall fairness* was measured by single items for each of the alternatives (example: “*I think a fair solution would be the completely tunneled route.*”). *Distributive justice perceptions* were measured by several items for different areas of life: environment (4 items), public transport, individual motorized transport, estates involved in the planning, and financial freedom for other projects (each with single items). Self-interest was measured in two ways: first as generalized disposition [44] with eight items (alpha = .82; example: “*It is important to teach the children that one has to pursue one’s interests emphatically.*”), and second as self-interest in the conflict (personal implication) with five items for each alternative (alpha = .94 to .97; example: “*Alternative A would have effects on the environmental quality in my direct living space*”; scale: -3 = only disadvantages; +3 only advantages).

## Results

### *Hypothesis 1: Affected vs. Non-Affected*

To examine perceived fairness appraisals of the three alternative solutions in the conflict (tunnel – alternative A, subsurface lane – alternative B, no bus lane – alternative C), three different samples were analyzed and compared: first the overall sample, second those 62 subjects who were not directly impacted by the conflict, and third a comparison group of 62 subjects directly affected by the conflict matched on social demographic variables. The results in Table 1 show differentiated judgments on the perceived fairness of the three alternatives through all three groups. The majority of the rating of the perceived fairness judgments scored with high standard deviations around the mid-point of the scale at 3.5. In line with our hypothesis, the differences between those subjects who were not directly impacted by the political conflict and the subgroup of those directly affected were not significant. Given that the level of information about the conflict was controlled, it can be concluded that even people without any personal stake in the conflict have clear fairness judgments of the various alternatives in the same way as people who are directly affected by the conflict.

### *Hypothesis 2: Explaining the Overall Fairness Judgments*

To test the second hypothesis, multiple regression analyses were conducted with perceived overall fairness as the criteria, and self-interest and justice judgments as predictor variables. As shown in Table 2, the perceived fairness of the three proposed solutions was based on a combination of self-interests (which includes dispositional self-interest as well as personal implication with the various alternative solutions) and contextual justice judgments (to specify: distributive justice perception concerning the natural environment for alternatives A and B, and distributive justice perception concerning public transport for alternative C).

Table 1. Means of the Overall Fairness Judgments  
(German Study)

| Sample   | AM   | SD   |
|--|------|------|
| Overall sample ( $N_{\text{total}} = 309$ )  |      |      |
| Overall fairness judgment of Alternative A   | 3.46 | 1.79 |
| Overall fairness judgment of Alternative B   | 3.96 | 1.72 |
| Overall fairness judgment of Alternative C   | 2.41 | 1.94 |
| Subgroup "not directly affected by the political conflict"<br>( $N_{\text{not affected}} = 62$ ) |      |      |
| Overall fairness judgment of Alternative A   | 3.00 | 1.87 |
| Overall fairness judgment of Alternative B   | 3.79 | 1.91 |
| Overall fairness judgment of Alternative C   | 3.02 | 2.12 |
| Matched subgroup "directly affected by the political<br>conflict" ( $N_{\text{affected}} = 62$ ) |      |      |
| Overall fairness judgment of Alternative A   | 3.69 | 1.68 |
| Overall fairness judgment of Alternative B   | 4.11 | 1.82 |
| Overall fairness judgment of Alternative C   | 3.17 | 2.23 |

Consequently, both groups of variables contributed equally to the explanation of the variance in the criteria and in all cases a substantial part of the criterion variance could be explained (between  $R^2 = .42$  and  $R^2 = .54$ ). Accordingly, the perceived overall fairness appraisals were not only motivated by self-interests and could not be traced back to covered self-interest. Distributive justice considerations played an equally important role. Figure 2 shows an exemplary regression model illustrating the relative power of justice and self-interests for overall fairness judgments in the German study.

Additional partial correlations were conducted to further control the above-described assumption that covered self-interest is hidden in justice judgments. The results show that the correlations between the overall fairness judgments and the justice judgments were highly significantly correlated, even if self-interest was partialled out.

## Discussion

The central aim of the German study was to test the extent to which self-interests and justice perceptions can explain overall fairness judgments. The study dealt with an environmental conflict about different planning alternatives to construct a new public transport connection. First, the data confirm the hypothesis that fairness judgments are not biased by self-interests because stakeholders who

Table 2. Multiple Regression Analyses to Predict the Overall Fairness Judgment of Each Alternative for the Affected Overall Sample ( $N_{\text{affected overall}} = 246$ ; German Study)

| Criteria                                     | Predictor variables  | $R^2$ | B      | beta | $r$  |
|--|--|-------|--------|------|------|
| Overall fairness judgment of Alternative A   | Distributive justice perception for Alternative A (environment)      | .34   | .53**  | .40  | .59  |
|  | Personal implication with Alternative A                              | .42   | .37**  | .33  | .56  |
|  | (Constant)   |       | 1.10   |      |      |
| $F_{\text{total}} = 34.57^{**}$ $df = 2/97$  |  |       |        |      |      |
| Overall fairness judgment of Alternative B   | Personal implications of Alternative B                               | .39   | .37**  | .35  | .63  |
|  | Distributive justice perception for Alternative B (environment)      | .51   | .51**  | .37  | .57  |
|  | Self-interest  | .54   | .22*   | .22  | .52  |
|  | Constant   |       | 1.15   |      |      |
| $F_{\text{total}} = 36.94^{**}$ $df = 3/94$  |  |       |        |      |      |
| Overall fairness judgment of Alternative C   | Self-interest  | .39   | -.61** | -.53 | -.63 |
|  | Distributive justice perception for Alternative C (public transport) | .46   | .38**  | .28  | .47  |
|  | (Constant)   |       | 4.04   |      |      |
| $F_{\text{total}} = 45.05^{**}$ $df = 2/105$ |  |       |        |      |      |

\*.01 <  $p$  < .05. \*\* $p$  < .01.

are directly affected by the issues of the conflict do not hold different fairness judgments than non-affected “bystanders.” Second, when explaining overall judgments of fairness, both self-interests and justice judgments explain important amounts of variance. We therefore conclude that self-interests—in line with previous research—have an impact on fairness judgments, but neither the only nor the most important impact. This speaks against the “fairness as self-interest” hypothesis of rational choice theorists.

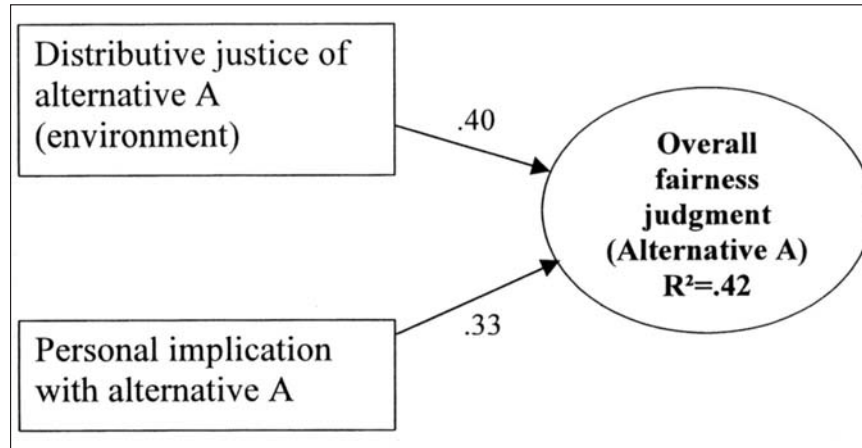


Figure 2. Exemplary empirical model of overall fairness in the German study (with standardized regression weights).

In order to further investigate the relationship between justice judgments and self-interest, the variable “fairness to self” was added in the second study. This study—based on an environmental conflict in Australia—thus broadens the subject matter of our research. Moreover, issues of procedural fairness play an important role in the conflict.

## AUSTRALIAN STUDY

### Method

#### *Study Scoping*

The Australian study dealt with new methods for planning and funding natural resource management (NRM) in the Moore Catchment situated in the northern agricultural region of western Australia. In this region, the government and regional communities aim at developing a long-term NRM program which requires both community involvement and funding allocation through Regional Catchment Strategy (RCS). The RCS attempts to balance rural and agricultural interests on one side, and the interests of tourism and investment on the other. As all actions will result in individual benefits as well as burdens, decision-making becomes complex. The crucial questions in decision-making relate to who should have influence in making decisions about distribution of funding and responsibility for decision-making and action. Thus, as in the German study, the conflict issue was of high importance for the local community, NRM being one of Australia’s most central environmental problems. Both conflicts involved both

vital environmental problems as well as conflicting interest of various groups in the community.

In sum, the Australian study was concerned with the basic question, which political organizations or groups should get how much authority to decide on the resolution of the conflict.

The debate about how to organize and fund NRM or alternative funding led to three alternatives being offered to the community through this study:

1. Alternative A was close to the current policies of NRM and was labeled “government control.” In this case the government maintains control over the distribution of resources after community recommendations.
2. Alternative B “more community influence” retains many elements of the current funding processes but includes more community influence, thus resulting in a blend of government and community input to allocation of resources.
3. Alternative C “community control” gives the community complete control, with the government taking the role of mere provision of resources and information support.

Altogether, the survey aimed at gaining stakeholders’ views about and their responses to the suggested alternatives for the organization and the funding of NRM.

### *Sample*

With an overall response rate of 37%, 260 stakeholders took part in the Australian survey. In the run-up to the main questionnaire survey, semi-structured telephone interviews were conducted with stakeholders in the Moore Catchment region. On the basis of these interviews, the questionnaire was developed and distributed to a large sample of stakeholders in order to obtain a wide range of views throughout all areas of the catchment region. The stakeholders were first contacted by telephone and encouraged to take part in the survey. Committed individuals were sent the questionnaire and all accompanying documents (for details see [45-47]). Out of the total sample, 226 subjects were directly affected by decisions according to NRM in the Moore Catchment region. Subjects were asked if they belonged to a specific group (such as landholder, catchment council, state and local government, environmentalist). In the overall sample, men were over-represented by 155 subjects, whereas women were only represented by 103 subjects (two missing values). The average age was measured in categories where one category represented a period of 15 years; the modal value was 50 to 65 years.

### *Measurement Instruments*

In the Australian study, basically the same psychological constructs as in the German study were operationalized (see Figure 1). Judgments of justice,

self-interest as well as the overall fairness perceptions were all represented as variables in the questionnaire, each including several items measured on 3-, 4-, 5-, and 6-point Likert-type scales. As an example, the 5-point scale ranged from 1 = strongly agree to 5 = strongly disagree. These scales are slightly different from the ones used in the German studies, as they have been widely used in former research within Australian communities [48]. The variable fairness to self was added in order to explicitly measure the influence of self-serving bias in fairness.

Although the specific characteristics of the political problem in the German and Australian study had to be taken into account, it was nevertheless possible to parallelize the operationalizations of the psychological constructs in both studies to a great extent. Therefore, the reliability and validity of the measurement instrument were tested in the same way as in the German study. Within and between all psychological scales, principle axes factor analyses followed by a varimax rotation were conducted, and all scales were built on the basis of these factor analyses. Cronbach's alpha as well as Guttman's and Spearman-Brown's split-half reliability approve sufficient quality of the scales. All item statistics, like mean value, standard deviation, skewness, kurtosis, as well as corrected item-total correlations were computed and showed satisfactory values. Comparisons between the answering behavior of various groups being differently affected by alternatives A to C underline the sensitivity of the measurement.

*Overall fairness* was measured in exactly the same way as in the German study described above. *Fairness to self* was a single-item measure ("How fair is each alternative to you personally?"). *Distributive justice* was understood here in a more traditional way, since the case allowed for such an operationalization. Two principles (equality of chances and equality of costs) were measured by single items for each of the alternatives (example: "All groups in the catchment should have an equal chance of getting NRM funding."). As another facet of justice, *procedural fairness* was measured by two items, again asking to evaluate the fairness of each alternative (alpha = .68 to .74; example: "Everyone should be able to understand the funding system."). Finally, self-interest was understood as perceived personal benefits from each alternative, measured again by single items ("How beneficial is each alternative to you personally?").

## Results

### *Hypothesis 1: Affected vs. Non-Affected*

As in the German study, very definite answers on the perceived overall fairness of the various alternatives (alternative A, B, and C) emerged (see Table 3). In the overall sample, in the subgroup of people not directly affected by decisions of NRM, and in the matched group, alternative A was considered to be the most unfair decision, showing that the influence of the government on NRM should not be too extensive. Instead, in all groups alternative B (with more influence for the

Table 3. Means of the Overall Fairness Judgments (Australian Study)

| Sample   | AM   | SD   |
|--|------|------|
| Overall sample ( $N_{\text{total}} = 260$ )  |      |      |
| Overall fairness judgment of Alternative A   | 2.92 | 1.13 |
| Overall fairness judgment of Alternative B   | 4.53 | .91  |
| Overall fairness judgment of Alternative C   | 3.82 | 1.31 |
| Subgroup "not directly affected by the political conflict"<br>( $N_{\text{not affected}} = 17$ ) |      |      |
| Overall fairness judgment of Alternative A   | 2.93 | 1.10 |
| Overall fairness judgment of Alternative B   | 4.47 | 1.55 |
| Overall fairness judgment of Alternative C   | 3.80 | 1.61 |

community) was rated as the fairest alternative. Finally, the overall fairness of alternative C (community control) was situated between the two other alternatives.

Within the total sample as well as in the group of people who were not directly affected by the political decisions in the Moore Catchment area, the desire for more community influence was strong. Interestingly, the fairness judgments of the subgroup not directly affected and the group of directly affected subjects did not differ significantly, although the sample size for the non-affected group was small. This finding is parallel to the results in the German study. Again, this reflects the fact that stakeholders as well as those who are interested and informed but without any personal stakes in the issue have a clear idea about what they consider as fair. Furthermore, people who were directly as well as not directly affected seem to judge what is fair in the decision-making in a very similar way. As in the first study, this is a remarkable finding that speaks against the assumptions of pure self-interest to be the dominant human motive. In sum, Hypothesis 1 could successfully be cross-validated in the Australian study.

#### *Hypothesis 2: Explaining the Overall Fairness Judgments*

As in the German study, stepwise multiple regression analyses were conducted to predict the overall fairness judgments of the three alternatives as the criteria. For this purpose, all self-interest variables as well as the judgments of distributive and procedural justice were used as predictor variables. Table 4 shows that a maximum of 43% of the criterion variance (for alternative C) could be explained by this predictor set. Again, in all cases a combination of self-interest and justice perceptions explained the possible maximum of the criterion variance. The perceived fairness of alternative A increased the more fair it appeared to the subjects personally, the higher the contextual procedural justice (e.g., perception that everyone has the same say), the more alternative A covered pure self-interests,

Table 4. Multiple Regression Analyses to Predict the Overall Fairness Judgment of Each Alternative for the Affected Overall Sample (N<sub>affected overall</sub> = 226; Australian Study)

| Criteria                                   | Predictor variables   | R <sup>2</sup> | B     | beta | r   |
|--|---|----------------|-------|------|-----|
| Overall fairness judgment of Alternative A | Alternative A fair to you personally                              | .22            | .35** | .26  | .47 |
|  | Distributive justice perception for Alternative A (equality)      | .31            | .42** | .22  | .46 |
|  | Self-interest in Alternative A                                    | .34            | .22** | .18  | .35 |
|  | Distributive justice perception for Alternative A (cost equality) | .36            | .34** | .18  | .44 |
|  | (Constant)  |                | .39   |      |     |
| F <sub>total</sub> = 22.78** df = 4/159    |   |                |       |      |     |
| Overall fairness judgment of Alternative B | Alternative B fair to you personally                              | .19            | .40** | .31  | .43 |
|  | Self-interest in Alternative B                                    | .23            | .20** | .21  | .32 |
|  | Distributive justice perception for Alternative B (equality)      | .27            | .36** | .20  | .32 |
|  | Constant  |                | 2.02  |      |     |
| F <sub>total</sub> = 20.84** df = 3/173    |   |                |       |      |     |
| Overall fairness judgment of Alternative C | Alternative C fair to you personally                              | .32            | .43** | .34  | .56 |
|  | Distributive justice perception for Alternative C (equality)      | .39            | .36*  | .19  | .49 |
|  | Self-interest in Alternative C                                    | .41            | .21*  | .18  | .44 |
|  | Procedural justice perception for Alternative C                   | .43            | .33*  | .15  | .45 |
|  | (Constant)  |                | .72   |      |     |
| F <sub>total</sub> = 30.29** df = 4/163    |   |                |       |      |     |

\*.01 < p < .05. \*\*p < .01.



and the more contextual distributive justice in form of equal distribution of costs was recognized. For the prediction of the overall fairness of alternatives B and C, the judgment that the relevant alternative was fair to the subject personally was again the first and most powerful predictor. Next to this dominant predictor, other self-interest variables as well as contextual procedural and distributive justice judgments contributed. When the most dominant self-interest predictor (evaluating the relevant alternative as fair to the subject personally) was taken out of the equation, justice judgments became the significant predictors. Figure 3 shows an exemplary regression model illustrating the relative power of justice and self-interests for overall fairness judgments in the Australian study.

In sum, Hypothesis 2 was confirmed in the Australian study. In line with the German results, the data show that the overall fairness perceptions of different political solutions are not solely based on self-interests but rather on the combined influence of self-interests and procedural as well as distributive justice judgments. Which solution is considered as *fair* is therefore not primarily a question of what is in one's self-interest, but depends on what is regarded as just in the sense of a right

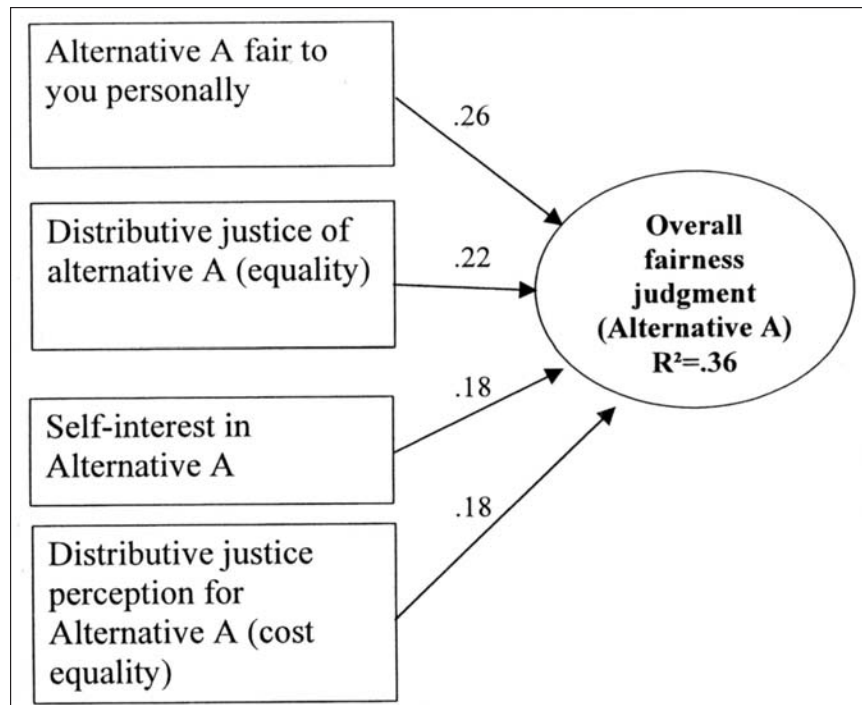


Figure 3. Exemplary empirical model of overall fairness in the Australian study (with standardized regression weights).

and just decision. The way to achieve just decisions is to evaluate the distributions of costs, burdens, and benefits that result from the possible solutions as well as from the decision-making processes.

## GENERAL DISCUSSION

The inclusive model of overall fairness judgments of political decisions presented in this article could be cross-validated by German and Australian data on community perceptions within real environmental planning issues. The German study dealt with a traffic planning conflict about alternative ways to connect newer built suburbs with the inner city, either by different options of new bus lanes or by using existing roads. The actual decision was taken by political authorities in the city administration, thus within a formal political organization. However, several informal organizations, groups, and individuals acted on the decision-making process in favor of their preferred option. The Australian study dealt with deriving an acceptable allocation of resources in the Moore Catchment area in natural resources management. The central question here was which political organization or group should get how much authority to decide on the resolution of the conflict. In both the German and Australian study, there are no significant differences in the data between subjects with personal stakes in the issue and subjects who are not directly affected concerning how fair they judge the alternatives.

This is an important finding because it shows that the way people judge fairness is not a matter of their personal involvement in the conflict. This interpretation can be reinforced when looking at the results on the prediction of the overall fairness judgments. In the German as well as in the Australian problem the overall fairness judgments are based upon a combination of self-interest and justice judgments, the latter covering distributive as well as procedural justice principles.

## OUTLOOK

The results have implications for model making, planning, and decision-making in environmental conflicts, as well as for further research in the field.

### Model Making

In future models of political decision-making in environmental conflicts involving the community, it would be wise to include community perceptions and views in a more extensive way than is currently the case. Community views not only embrace the personal and individual self-interests, the assumption of the rational-choice tradition, but also overall fairness judgments and justice perceptions. The concepts of justice perceptions should be acknowledged to be as concrete and differentiated as the operationalizations of self-interests. At least two types of justice judgments need to be differentiated: appraisals of distributive

justice and procedural justice [24]; when there is direct interaction between the parties in the conflict, one should also include appraisals of interactional justice, that is the fairness of the treatment and the communication between the parties and the authorities [49]. Tyler and Blader [50, 51] prefer to denote interactional justice as an informal component of procedural justice, whereas Colquitt [52] adds informational justice as a fourth factor of organizational justice. Regardless of its categorization, it deserves systematic attention.

### **Planning, Decision-Making, and Mediation in Environmental Conflicts**

Such attention also serves to guide practical help because the studies show that justice and fairness considerations are relevant in real political problems and conflict situations [53]. As stated earlier, the view that fairness judgments of laypeople are based on self-interests, is widespread. In research, community action has often been explained by self-interested motivations [1]. Yet the data show that self-interest is only one side of the coin, justice motivations being equally important. More so, justice beliefs even matter for those people who are highly personally involved with the problem. This finding is far from being a common sense. People, when asked to judge the motivation of others involved in conflicts, tend to overestimate self-interest and underestimate the role of justice. This is not only true for members of the community, but also for political decision-makers. As research has shown, this kind of perspective can be considered a judgmental bias that can be an impediment to conflict resolution and win-win solutions [54]. Mediation can help reduce this bias by communicating the motivations to the community and decision-makers alike, and thus reduce proneness to hard negotiation strategies [55]. This can be an important technique for conflict mediators when trying to de-escalate environmental conflicts.

Peterson suggested that *“once an impression of fairness has been produced it becomes extremely resistant to change (. . .) because it provides a cognitively available summary judgment. People use their summary fairness judgment in lieu of a more complicated analysis of policy each time they are asked”* [56, p. 99]. Psychologically grounded studies on the motivations of the community in environmental conflicts as well as mediation processes are rare [57]. With our data we can show that the impression of fairness is not solely based on self-interests, but to an important extent on differentiated justice judgments. Theorizing on the psychology of social justice shows that these motivations are clearly different from each other and have to be treated differently when planning interventions [58].

### **The Demand for Further Research in the Field**

These findings reflect the demand for further research. For this purpose, the initiated models should not only be tested on fictitious experimental conflicts, but researchers should rather turn also to studying *real-life* problems and conflict

situations with *real* issues. Certainly, practical problems of investigating real political conflicts are not easy to overcome. An effective strategy to commit the decision-makers as well as the conflicting parties to participate in a study does not only serve scientific purposes, but could also advance a resolution of the problem. Therefore it is crucial to present the data and the results to survey participants and decision-makers in well-prepared feedback. The results that self-interests are not in the focus of the conflicting parties could be used to further minimize the influence of self-interests, a method that was successfully implemented in the German case [55]. In this way the widespread “myth of self-interest,” as Miller and Ratner [9] call it, can be disclosed as such and be replaced by knowledge based on empirical data that justice judgments and fairness perceptions matter.

For drawing these conclusions, both studies presented in this article take environmental conflicts in the field as a starting point. We first chose real conflicts that seemed appropriate for our studies and then implicated all those community groups that were relevant for both the understanding and the resolution of the conflicts. Thus we were able to study actions and decision-making in a very narrow sense (as in the Australian conflict) as well as in a larger sense, like e.g., in the interest groups involved in the German conflict. The results have impacts on decision-making in environmental issues [59] on all levels.

This kind of research strategy in the field can be complementary to existing strategies and helpful in the way that empirical studies, like the research presented in this article, are important to show that individual conception of fairness matters, not only for people with a personal stake in the issue but also for other people, even for those who are not directly affected by the conflict. This should encourage us to take community perceptions of what is fair and what is just more serious than we have in the past, and to integrate these views in the processes of enlighten “the richness and diversity of contemporary justice research” [32, p. 809] in environmental conflicts and decision-making involving the community.

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