Why Should the Public Participate in Environmental Decision-Making?

Theoretical Arguments for Public Participation

Gabriella Kiss

Abstract

In modern societies dealing with environmental issues has become a part of everyday life. Making decisions on waste- or water-related issues is part of the public discourse in Hungary as well. The Hungarian literature on public participation discusses different participatory tools applied in particular policy fields. Public participation seems to have greater significance in environmental decisions than any other kind of democratic decision making processes. These experiences raise the question of 'why should the public participate in making environmental decisions?' In this paper we are looking for the answers to this question analysing the literature on public participation and exploring the relevant theoretical approaches. Arguments based on democracy theories, communication theory, sustainability, environmental democracy, risk research and behavioural economics will be summarized. The paper presents an analysis of how these different theoretical approaches treat public participation in environmental decision making and what arguments they present for its justification.

Gabriella Kiss

Department of Environmental Economics and Technology,
Corvinus University of Budapest,
Fővám tér 8., H-1093 Budapest, Hungary
Budapest Business School, College of Finance and Accountancy,
Buzogány u. 10-12., H-1149 Budapest, Hungary
email: gabriella.kiss@uni-corvinus.hu

Introduction

In modern societies dealing with environmental issues has become a part of everyday life. Making decisions on waste- or water-related issues is part of the public discourse in Hungary as well. The Hungarian literature on public participation discusses different participatory tools applied in particular policy fields. Public participation seems to have greater significance in environmental decisions than any other kind of democratic decision making processes. These experiences raise the question of 'why should the public participate in making environmental decisions?' In this paper we are looking for the answers to this question analysing the literature on public participation and exploring the relevant theoretical arguments. The aim of the paper is to find the theoretical arguments for public participation in environmental decision-making in different disciplines.

To the question why should the public participate in environmental decisions various answers can be given. As people are thought to be citizens in their democratic country they should have the power to decide in issues affecting the circumstances of their lives. Every people have to have the right to influence the decisions connected to their everyday life. But what about the long term decisions which would affect future generations? Who should make the decisions related to the environmental issues having very long term implications? In the literature on public participation there are many arguments to support the implementation of participatory mechanisms as it strengthens democracy, or it can enhance knowledge and improve understanding, or it ensures public discourse to make decisions legitimate, etc.

In a much cited article, Fiorino [13] expresses three arguments for why the public should participate in environmental decision making. He derived his arguments from democratic theory. He calls a *normative argument* that a technocratic orientation is incompatible with democratic ideals. An *instrumental argument* – he argues – is that effective lay participation in risk decisions makes them more legitimate and leads to better results. He denotes a *substantive argument* that lay judgments about risk are as sound, or – in some circumstances – more so, than those of experts. Non-experts see problems, issues, and solutions that experts might miss due to their disciplinary blind spots [13, p. 227-228].

If one wants to understand this reasoning the theories should be analyzed where particular arguments are coming from. One should dig deeper in the theories of public participation in order to find the main roots of these arguments. They are related to different theoretical approaches that justify the necessity of public participation in environmental decision making. Most of them are rooted in democracy as shown in Figure 1.
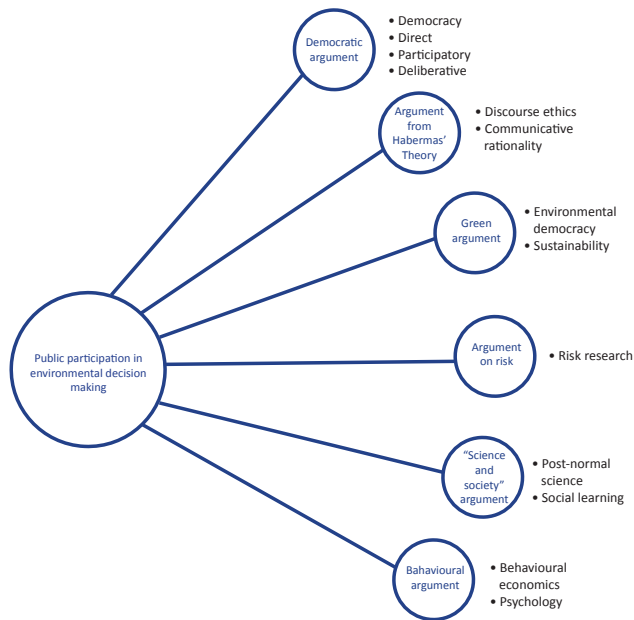

Fig. 1. Arguments on public participation in environmental decision making

Democratic arguments come from the theory of democracy itself and the three models of democracy. *Arguments from Habermas' theory* are based on deliberative democracy and communication theories. *Green arguments* are rooted in the concept of sustainability and connected to the model of environmental democracy. The *arguments on risks* and particularly environmental risks are based on the different risk approaches and assessments. The relationship between *science and society* could be the basis for the next argument. The *behavioural arguments* stem from behavioural economics and add a psychological point of view to these approaches.

The arguments that are coming from the theoretical approaches shown in Figure 1 will be discussed in the next chapters. Every chapter presents an analysis of how these different theoretical approaches treat public participation in environmental decision making and what arguments they present for its justification.

Theoretical arguments for public participation
Democratic arguments

The theory of public participation is rooted in democratic theories. In modern societies democracy (i.e. people's power) is mainly realised by representation due to the size and complexity of nation states. In a representative democracy, professional political elites make the decisions that could be positive sum for the electorate [35]. In representative democracies, people have only indirect connections with exercising power which has been professionalised by the political elite representing them. However, this distance can undermine democracy itself since representation can result in the rotation of groups of elites applying political marketing campaigns devoid of any democratic deliberation on public issues and democratic power can become a mere competition among the elites for being in power [25, 28]. Consequently, people will easily develop a feeling of being excluded from exercising democratic power, which can result in democratic deficit of legitimacy as well. People over time tend to loose trust in the political elite and they turn their attention away from as well as decrease their engagement with politics as public issues. All this can lead to political apathy and passivity of the people [20]. This phenomenon can be treated in various ways, of which the most important ones are offered by the other models of democracy, the new institutions of citizenship as well as the theories of deliberation. All of them aim to involve people in exercising democratic power and repoliticising society [4, 25].

In the theory of democracy, three other models of democracy are distinguished: direct, participatory and deliberative democracy [1]. The term *direct democracy* exists in the theory and history of democracies where people exercise power directly without representation. In a direct democratic system decision-making is carried out by means of referenda. However, direct democracy is criticised by being significantly restrictive, or even unachievable, in populations of more than a few hundred people [35].

The other terms of democracy are *participatory democracy and deliberative democracy*, where decisions are made by deliberation. It aims at resolving the isolation between the citizens and the institutions. Participation has also the function of education: on the one hand, at the individual level, teaching and enhancing democratic skills, while, on the other, at the collective level by building tolerance and empathy in the political community and trust in democratic procedures [22].

Rousseau and Mill, important scholars in the theory of democracy, emphasize the educating function of participation [30]. According to Rousseau the most important function of participation is education because citizens can learn how to separate their own interests from the ones of the public and they can become aware of them depending on each other rather than conflicting with each other. Rousseau saw participatory procedures as self-sustaining since the skills obtained by citizens enable them to participate in further decision-making. According to Mill citizens can learn to take other people's interests and opinions into consideration and start thinking about public interest besides their own. Participating in local decision making teaches people to govern themselves so that they learn democracy [30].

Since pure direct and participatory democracies cannot be realised in modern societies due to their size and pluralistic nature, in this sense representative democracy seems more appropriate. Participatory tools can be supplementary, by which the power of the citizens can be restored, the isolation of the elite from the non-elite groups of society can be reduced, the political participation as the basis of democracy can be ensured and democracy can be practised [28].

Arguments from Habermas' theory

Jürgen Habermas is considered to be a major scholar of critical social theory and member of the Frankfurt School dealing with the criticism of the modern society. One of Habermas' main concerns is how to maintain the possibility of direct participation in complex and pluralist societies [15]. He argued that the political system has its own self-propelling nature making the decisions every day. To channel the opinions of people to this system some deliberative platforms are needed which can thematise and amplify the ideas, concerns and expectations of the community. These deliberative platforms can pursue the legitimacy of the decisions that the political system made: "… the discourse theory of democracy implies that the binding decisions, to be legitimate, they must be steered by communication flows that start at the periphery and pass through the sluices of democratic and constitutional procedures situated at the entrance to the parliamentary complex or to the courts" [15, p. 356]. According to Habermas' theory, in the course of these deliberations different problems can be identified and solutions can be proposed. The outcomes of these discourses are channelled into the political center which needs these deliberations to justify its decisions, thereby gaining legitimacy for them [21, p. 152-154].

Related to democratic theories the question of communication plays an important role in the theoretical foundation of public participation. Other works of Habermas on *communicative rationality and discourse ethics* are determinative and are often cited in the literature on public participation as well [e.g. 16, 40]. According to Habermas the big issue of modern societies is not only their depoliticisation but also the scientification of politics, which mystifies the practical terminology. For instance, by professionalizing planning procedures new technical terms and definitions, bureaucratic and legal instruments have been introduced which can lead to partial and token public participation in the planning process. This leads to legitimizing crisis. True legitimacy can be achieved by repoliticising the society and reaching a consensus through discourse [16].

According to Habermas's communication theory legitimate decision can only be made if it is accepted by everybody who is affected by the decision. Consensus by domination-free communication is reached based on public interest so different interests can get closer and citizens persuade each other by means of arguments. Creating the ideal speech situation ensures that

decisions are not made by mere power. Discussions are able to make people aware of what they want to achieve [12].

One key term of the theory is the ideal speech situation which criteria ensure that the consensus to be reached serves general interests rather than personal ones. The criteria are as follows [16, p. 187-188].

1. All potential participants must have the same chance to initiate and perpetuate the discourse. They must be able to raise questions and provide answers throughout the discourse.
2. All potential participants must have the same chance to express attitudes, feelings and intentions, which ensures that there is no internal constraint on the participants and they are supposed to be honest and sincere to themselves and to the others.
3. All potential speakers must have equal chance to command and oppose, permit or forbid arguments. They must have equal opportunity to make and accept promises; provide and call for justifications.
4. All potential participants must have equal opportunity to provide interpretations and explanations. No one view is exempt from consideration and criticism.

According to Habermas the ideal speech situation cannot be achieved in reality due to the external political and internal psychological constraints on the participants. The concept of the ideal speech situation should be used as rational standard for real discourses to be judged. It can be used as a critical measure of the existence of constraints on communication [16].

Green arguments

According to Habermas' theory discourse acts help to reach a consensus which serves public interest. However, in environmental decisions it is a question whether a consensus through discourse can serve the protection of the natural environment and whether a decision through consensus would protect the natural values. Critical theorists argue that a participatory decision-making process would consider preservation of natural values as an ethical norm [5]. In undistorted communication situation one has to recognise that humanity and nature are interdependent and nature depends on human actions. It would make clear the human responsibility for natural environment based on ecological sciences and would take it into account in deliberations. Additionally there exists an aesthetic argument too. Brulle [5] states that despite all these arguments discourse ethics do not assure human decision supporting the protection of natural values. Green critics of Habermas' theory say that non-human beings and future generations cannot be represented in the discourse [9]. Habermas' theory is about human-human interaction and it is only the manipulation and the control that are presented in the interaction between man and nature [8]. According to Eckersley one can only trust in precautionary principle, which ensures the consideration of the impact of decision making on non-human beings [9]. Moreover the

development of a strong public sphere opens up the possibility for ecological politics for fair hearing [5, p. 16].

Although discursive ethics of Habermas was criticized by environmental theorists, communication plays an important role in the theory of *environmental democracy* [8]. Environmental democracy is also built on communicative rationality, but communication is expanded beyond human relations and implies signals of the natural environment and that is how non-human beings, which are unable to communicate verbally as humans do, are involved into the communicative actions [8]. Not only communication, but deliberative democracy and participatory decision making are thought to be important tools of sustainability [2].

In environmentalism one of the most important, as well as contested, concepts is sustainability [17, 26]. Public participation is closely related to the concept of sustainable development in 'Our Common Future' which outlines particular relations between them. It is pointed out that social justice is one of the main criteria for sustainable development and it can be achieved by integrating economic, social and ecological point of views in decision making and providing the responsibility for the decisions [39]. „Such equity would be aided by political systems that secure effective citizen participation in decision making and by greater democracy in international decision making." [39, p. 16]. „The law alone cannot enforce the common interest. It principally needs community knowledge and support, which entails greater public participation in the decisions that affect the environment." [39, p. 56]. To achieve this kind of knowledge and support, free access to relevant information and the availability of alternative sources of technical expertise is needed. The culmination of these ideas in international politics and law was the Aarhus Convention (Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters) in 1998 [27].

In the concept of sustainability public participation is considered as a tool to accord society and the natural environment. Beyond the concept of sustainability, there are different green approaches that justify the necessity of public participation in environmental decision making and different models of democracy.

It is claimed that the proper model of democracy which is best suited sustainability and environmental values is deliberative democracy. In the green point of view, the aim is not the completion of democracy but realisation of environmental democracy. Environmental democratic theory adapts the constitutions of representative and deliberative democracy to solve environmental problems and to preserve human and natural values [1].

Arias-Maldonado [2] discusses five reasons in the defence of green deliberative democracy:

1. environmental values emerge more easily in deliberative contexts
2. the inclusive character of deliberative democracy makes the incorporation of traditionally excluded actors and voices into the democratic processes possible
3. deliberative democracy is the best arrangement for developing environmental citizenship[11]
4. deliberative democracy is the best way to combine expert judgement and citizen participation in decision making processes
5. deliberation and inclusion lead to more legitimate and efficient decision-making on sustainability.

Note that deliberative democracy is not the solution for environmental problems, but it is the way how environmentally advantageous, or at least less harmful, decisions can be made. It can deliver environmental advantages and improvement, but one cannot expect that deliberation itself would green the society. As he claims „…environmentalism can only provide its commitment to democracy, not democracy's commitment to green values." [2, p. 246].

Arguments on risks

Another significant part in the literature of public participation comes from *risk research*. As Beck [3] stated in modern societies the social production of wealth is systematically accompanied by the social production of risks. „As the risk society develops, so does the antagonism between those afflicted by risks and those who profit from them. The social and economic importance of knowledge grows similarly…" [3, p. 46]. In risk research public participation has paramount importance in risk assessment and management. In deliberative processes different risk perceptions are being discussed. Different assessments can integrate new perceptions into the discussion, which convey new information, knowledge and values. Public participation in conflicts concerning environmental risks plays an important role by contributing to processes of conflict resolution or prevention.

In risk research there is a common view that the impartial assessment of risks is not possible (technical approach) since assumptions about reality are different and experts are subjective [11]. Beyond the technical (1), there are other approaches in risk assessment. The economic approach (2) considers and weighs undesirable and desirable consequences. The psychological approach (3) sees people assessing risk as subjectively expected risks that are not (or only to a certain extent) based on statistical data and former experience. Assessment is rather based on how well-known and dreadful risks are [36, 11]. Moreover, people do not only rely on their own perceptions but they are also influenced by their social status, cultural background when they assess risk, which is investigated by the sociological-anthropological approach (4) by assessing risks based on common values, interests, knowledge, beliefs and ideologies.

---

1 „The state, character or behavior of a person viewed as a member of the ecosystem with attendant rights and responsibilities, especially the responsibility to maintain ecological integrity and the right to exist in a healthy environment. (Source:http://glossary.eea.europa.eu/terminology/concept_ html?term=environmental%20citizenship. downloaded 16.07. 2012)

Similarly, Lupton [23] classifies risk approaches in social sciences according to their epistemological positions. The realist position considers risk as an objective hazard, threat or danger that exists and can be measured independently of social and cultural processes (technico-scientific perspective). Weak constructionism means that risk is an objective hazard, threat or danger that is inevitably mediated through social and cultural processes and can never be known in isolation from these processes (e.g. risk society perspective, cultural/symbolic perspective). Strong constructionism claims that nothing is a risk in itself, what we understand to be risk is a product of historically, socially and politically contingent way of seeing (governmentality perspective) [23, p. 36].

Ortwin Renn, one of the most cited authors in the public participation literature assesses participation issues from the perspective of risk analysis. According to Renn everyday people' aspects of risk, that affects the perceived riskiness of an object or activities, are based on the following factors [33, p. 477]:

- the expected number of fatalities or losses
- the catastrophic potential
- the context in which the risk is taken: e.g. possibility of personal control, equal share of risk and benefit, identification of responsible institution, judgment of threat and consequences
- the beliefs associated with the cause of risk.

This list of factors demonstrates that public understanding of risk is a multidimensional concept and cannot be reduced into single probabilities and consequences.

As was argued earlier, opinions differ not only between experts and lay people but also among experts and among the various social groups in terms of assessing environmental risks. Therefore, different risk perceptions in environmental decisions lead to debates or in other cases to conflicts. Conflicts can be defined as competition between the parties to achieve goals and interests. These conflicts over environmental risks can be characterized by differential knowledge, vested interest, value conflict, and mistrust of expert knowledge [6]. Related to these characteristics Faragó and Vári [11] differentiate between five types of conflicts:

- information conflicts: different level of being informed, different assessment of information
- relationship conflicts: the relationship between the parties: for instance the lack of trust
- structural conflicts: power relationships due to external rules
- interest conflicts: collision of perceived or real interests
- value conflicts: perceived or real difference of values.

One conflict can be characterised by more than one characterization of these types. The conflict resolution technique should suit the characteristics of the conflict. For instance, in case of the information conflict it is sufficient to ensure the appropriate and mutual information flow, while in case of the conflicting interests a discourse should be ensured where different

(and less variable) values can be accepted and considered right from the beginning in the decision making process.

This characterization of conflicts [originally 10] is similar to the division of Renn [33], in which he differentiates three levels of the debates on environmental conflicts [33, p. 493]. The first level is that of knowledge and expertise, where the debate is of technical character and is carried out by experts. On the second level – the level of experience and competence – the debate is about the costs and benefits of the risk, where personal experience and social recognition of performance plays a role as well. The third level is that of values and worldviews and it is argued that if on the third level the debate is about values and the future directions of the development and there is no consensus or resolution of conflicts, it is not worth trying to find solutions on the previous two levels. It is obvious that while ideologies clash with each other, neither factual data nor practical experience can help the participants to reach agreement. According to Renn [33] the debate on environmental risks is carried out on the third level in terms of values, which is predestined by the preoccupation of society with environmental problems, the perceived ambiguity of technical change and the overall decline of trust in public institutions. The level of the conflict also determines what arguments help the other party to change their opinion or behaviour. Emphasising scientific findings can be appropriate on the first level but it is not feasible on the third level as it rather deepens the conflict.

There is a big scientific uncertainty about environmental issues (so there is no consensus even on the first level, either); one often confronts the situation of unknown uncertainties [6]. The institutional level is characterised by the lack of trust. So the issue of environmental risk is well beyond the technical and institutional levels. The conflict is debated on the level of values [33]. If the resulting conflicts cannot be resolved, this will lead to further erosion of trust and personal frustration. Therefore, rational discourses are needed to ensure the appropriate conditions for the debates. The conditions of the rational discourse are set by an appropriate risk communication framework [33]: „Risk communication is defined as any purposeful exchange of information about health or environmental risks between interested parties" [33, p. 467].

"Science and society" arguments

Others have also come to the conclusion that science in itself is unable to resolve conflicts that are characterised by multi-dimensionality, urgency, scientific uncertainty, mistrust, and value conflicts and uncertainty [6, p. 441-442]. As Funtowicz and Ravetz [14] stated in their theoretical work on *post-normal science*, science has to face the complexity and uncertainty of natural systems as far as the urgent issues, the enormous responsibility of the consequences of decision making and the diverse human values and opinions. Post-normal science has to leave the traditional normal role and scientists have to face the

challenges of today. It has to be perceived that science cannot control the natural systems and its uncertainty and handle the lack of knowledge in the same time. The uncertainty in the data relates the biases in the consequences. Post-normal science has to sell off the illusion of ethical neutrality and interpret the inclusion of stakeholders into the process of scientific analysis [29].

To cope with the complexity and uncertainty of social-ecological systems involving the stakeholders into decision making processes can enhance their adaptive capacity and competency as well [32]. As it is claimed, participatory processes can stimulate and facilitate *social learning*. Through participation the change of understanding could go beyond the individuals and can become situated within wider communities. Participation can facilitate a social learning process when people learn from each other and from scientist as well and start a social change [34].

Building new relationships between science, society and policy makers could be one of the aims of public participation. The lack of trust among public institutions and corporations is significant in environmental issues, since governments and businesses were contributing to the problems and made plenty of incorrect decisions in the past. The lack of trust undermine public programs on sustainable development from being implemented locally, since citizens cannot see how these institutions responsible for the problems are able to solve them [24]. Therefore it is indispensable to embody a new relationship between policy makers, science and people. Making science useful for policy and people responsible for its judgements it is necessary to combine science with deliberations and to make decisions through an analytic-deliberative process which enables a structural discourse among the scientists, decision makers and various interest groups [6]. The analytic-deliberative process aims to consider and combine scientific findings and social values in a balanced way. It is mutual and recursive, based on the discourse between experts and laypeople. According to Kindler [18], it is often impossible to separate facts from values [14, p. 298]. Concepts concerning facts influence values and values influence the interpretation of facts.

This mutual impact can be seen in the analytic-deliberative process, where the two approaches complement each other. Analysis ensures technical knowledge and the implementation of the latest scientific findings, while the deliberative process facilitates the understanding of risks and the agreement. Decisions through the analytic-deliberative process enable the identification of the problem, the enhancement of knowledge, the appropriate implementation of controversial analysing techniques, the identification of positions and the acceptance of the decisions [37].

The study on the analytic-deliberative process [37] has been criticised by many. Raffensperger [31] objects that risk management is treated as the only method in case of risk and there are no other approaches mentioned, such as risk reduction or elimination by ceasing the risky action or not starting it at all.

So the starting point of the decision making process in risk management is to accept the existence of risk and there is no attempt to reduce it or avoid it. It is only the risk management in focus. The most crucial part of the criticism is that there is no adequate place for the precautionary principle[2]. Which is "…differs from risk assessment which seeks certainty before action can be taken and requires action before certainty is in place, if there is a possibility of substantial harm" [31, p. 38]. In this criticism comes up the idea that environmental decision making and risk management has to face with the precautionary principle and the responsibility for making decision that could affect future generations.

Behavioural arguments

In the literature of *behavioural economics* participation in environmental decision making is currently widely discussed while producing another argument for participation [19]. Taking part in the decisions that define the circumstances of everyday life is a basic physical-psychological need for every human being. Recent research has pointed out that the individuals who have the right to make decisions had higher quality of life in the physical as well as psychological senses. The findings demonstrate that the capability of making decisions in working life has a significant impact on people's quality of life and health. Other research stated that people embrace the decisions or recommendations more in which they have been involved in the decision making process. The possibility of making decisions is a basic need for human beings in the behavioural economics approach. If people or animals do not have the opportunity to control the decisions on their circumstances of life they became passive and apathetic [19].

Conclusions

The answers to the question why the public should participate in decisions on environmental issues come from various fields of scientific disciplines, but they clearly correlate.

Democratic arguments say that democracy is rooted in the people's power and the means of this power is participation. Democratic deficit of legitimacy can be treated by deliberation and involving people in exercising *democratic power*. Another democratic argument is the role of *education*. Participation has also the function of education, as participating in local decision making teaches people to govern themselves so that they learn democracy.

Arguments from Habermas' theory related to democratic theories say that the existence of deliberative platforms can pursue the legitimacy of the decisions that the political system made. They are needed to channel the opinions of people to this

---

2 'When human activities may lead to morally unacceptable harm that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm.' UNESCO, [38, p. 14.]

system. These deliberations offer that different *problems can be identified and solutions can be proposed* and decisions can be justified. Habermas arguments say that true legitimacy can be achieved by repoliticising the society and reaching a consensus through discourse. *Legitimate decision* can only be made if it is accepted by everybody who is affected by the decision.

Green arguments on public participation are related to the concepts of environmental democracy, sustainable development and environmental justice. In *environmental democracy* communication can be expanded beyond human relations and implies signals of the natural environment. The deliberation gives place for the consideration of the impact of decision making on non-human beings, and the possibility for ecological politics for hearing. Another green argument is social justice, which is one of the main criteria for *sustainable development*. In the concept of sustainability public participation is considered as a tool to accord society and the natural environment. According to the green argument the proper model of democracy which is best suited sustainability and environmental values is deliberative democracy. It is the way how environmentally advantageous, or at least less harmful, decisions can be made.

Arguments on risks claimed that in deliberative processes different *risk perceptions* are being discussed. Different assessments can integrate new perceptions into the discussion, which convey new information, knowledge and values. Public participation in conflicts concerning environmental risks plays an important role by contributing to processes of *conflict resolution* or prevention.

"Science and society" arguments conclude that science has to face the *complexity* and *uncertainty* of natural systems as far as the *responsibility* of the consequences of decision making and the diverse human values and opinions. Making science useful for policy and people responsible for its judgements it is necessary to combine science with deliberations and to make decisions through an *analytic-deliberative process*. It enables the discourse among the scientists, decision makers and laypeople. This argument also says that involving the stakeholders into decision making processes can enhance their adaptive capacity and competency as well (*social learning*).

Last but not least, *behavioural arguments* say that all human being needs the possibility to define the circumstances of their lives for being capable to enjoy a healthier and happier life.

References

1 Antal A., *A környezeti demokrácia elmélete és gyakorlata. [The theory and practice of environmental democracy]* Politikatudományi Szemle, 18(4), 82–101 (2009).

2 Arias-Maldonado M., *An imaginary solution? The green defence of deliberative democracy.* Environmental Values, 16(2), 233-252 (2007). DOI: 10.3197/096327107780474573

3 Beck U., *Risk society: towards a new modernity.* SAGE, London (1992).

4 Bogdanor V., *Politikatudományi enciklopédia. [The encyclopedia of political science]* Osiris Kiadó, Budapest (2001).

5 Brulle R. J., *Habermas and green political thought: two roads converging.* Environmental Politics, 11(4), 1-20 (2002). DOI: 10.1080/714000651

6 Dietz T., Stern P. C., *Science, values, and biodiversity.* Bioscience, 18(6), 441-444 (1998). DOI: 10.2307/1313241

7 Dietz T., Stern P. C., Rycroft R. W., *Definitions of conflict and the legitimation of resources: the case of environmental risk.* Sociological Forum, 4(1), 47-70 (1989). DOI: 10.1007/BF01112616

8 Dryzek J. S., *Political and ecological communication.* in: ,*Oikosz és polisz. Zöld politikai filozófiai szöveggyűjtemény' [Oikos and Polis – Reader in green political philosophy]* (ed.: Sheiring G., Jávor B.) L'Harmattan, Budapest, 581-599 (2009).

9 Eckersley R., *The discourse ethic and the problem of representing nature.* Environmental Politics, 8(2), 24–49 (1999). DOI: 10.1080/09644019908414460

10 Faragó K., Vári A., Vecsenyi J., *Csak ne az én kertembe! Konfliktus a dorogi veszélyes hulladékégető körül. [Not in my Backyard! Conflicting Views on the Siting of a Hazardous Waste Incinerator]* Magyar Közvéleménykutató Intézet, Budapest (1990).

11 Faragó K., Vári A., *Kockázat. [Risk]* in 'Döntéselmélet' [Decision Theory], (ed.: Zoltayné Paprika Z.) Alinea Kiadó, Budapest, 447-484 (2005).

12 Felkai G., *A diskurzusetika és a demokratikus politikai eljárások eszménye. [Discourse ethics and the ideal of democratic political processes]* in 'Kommunikatív etika: a demokratikus vitákban kiérlelődő konszenzus és társadalmi integráció politikai-filozófiai elmélete [Jürgen Habermas: Communicative ethics]' (Habermas J.) Új Mandátum, Budapest, (2001).

13 Fiorino D. J., *Citizen participation and environmental risk: a survey of institutional mechanisms.* Science, Technology, & Human Values, 15(2), 226-243 (1990). DOI: 10.1177/016224399001500204

14 Funtowicz S. O., Ravetz J. R., *Science for the post-normal age.* Futures, 25(7), 739–755 (1993). DOI: 10.1016/0016-3287(93)90022-L

15 Habermas J., *Between facts and norms: contributions to a discourse theory of law and democracy.* MIT Press, Cambridge, MA, (1996).

16 Kemp R., *Planning, public hearings, and the politics of discourse.* in ‚Critical theory and public life' (ed.: Forester J.) MIT Press, Cambridge, MA, 177-201 (1985).

17 Kerekes S., *Happiness, environmental protection and market economy.* Society and Economy, 33(1), 5-13 (2011). DOI: 10.1556/SocEc.33.2011.1.3

18 Kindler J., *A környezeti kockázat elmélete és a kockázatok kezelése. [Theory of environmental risk and risk management]* in 'A vállalati környezetmenedzsment elméleti alapjai' [Corporate environmental management] (eds.: Kerekes S., Kindler J.) Aula Kiadó, Budapest, 245-308 (1997).

19 Király G., *Másképpen dönteni: a részvétel igénye és esélyei Magyarországon. [The needs and possibilities of public participation in Hungary]* in 'Bölcs laikusok. Környezet, részvétel, demokrácia Magyarországon' [Environment, participation, democracy in Hungary] (eds.: Pataki Gy., Fabók V., Balázs B.) Alinea Kiadó, Védegylet, ESSRG, Budapest, 11-34 (2012).

20 Király G., *Részvétel és döntéshozatal – Elméleti, fogalmi áttekintés a deliberatív demokrácia témakörében. [Participation and decision making. Theory of deliberative democracy]* in 'Az iskolák lehetséges szerepe az oktatáspolitikai döntés-előkészítésben' (ed.: Török B.) Oktatáskutató és Fejlesztő Intézet, Budapest 9-54 (2012).

21 Király G., Várnagy R., *Citizens' Jury in Kaposvár.* in 'Deliberative Methods in Local Society Research' (ed.: Lengyel Gy.) Corvinus CESR, Új Mandátum, Budapest, 151-174 (2009). http://unicorvinus.hu/fileadmin/user_upload/hu/tanszekek/tarsadalom-tudomanyi/szti/etk/KG_VR.pdf. (Accessed 17.07.2012.)

22 Lánczi A., *Demokrácia és politikatudomány. [Democracy and political science]* Aula Kiadó, Budapest (2000).

23 Lupton D., *Risk.* Routledge, London (1999).

24 Macnaghten P., Jacobs M., *Public identification with sustainable development: investigating cultural barriers to participation.* Global Environmental Change, 7(1), 5-24 (1997). DOI: 10.1016/S0959-3780(96)00023-4

25 Miller D., *Politikai filozófiák enciklopédiája. [Encyclopedia of Political Thought]* Kossuth Kiadó, Budapest (1995).

26 Molnár L., *Are concepts of justice in political and environmental philosophies compatible?* Periodica Polytechnica Social and Management Sciences, 6(2), 129-144 (1998).

27 Palerm J. R., *Public participation in environmental decision making: examining the Aarhus convention.* Journal of Environmental Assessment Policy and Management, 1(2), 229-244 (1999). DOI: 10.1142/S146433329900017X

28 Pataki Gy., *Bölcs „laikusok": társadalmi részvételi technikák a demokrácia szolgálatában. [Public participation methods in democratic processes]* Civil Szemle 4(3-4), 144-156 (2007).

29 Pataki Gy., Takács-Sánta A., *Bevezetés. [Intorduction]* in 'Természet és gazdaság. Ökológiai közgazdaságtan szöveggyűjtemény' [Nature and economy. Reader in ecological economics] (eds.: Pataki Gy., Takács-Sánta A.) Typotex, Budapest, 7-28 (2004).

30 Pateman C., *Participation and democratic theory.* Cambridge University Press, Cambridge, (1970).

31 Raffensperger C., *Guess who's coming for dinner: the scientist and the public making good environmental decisions.* Human Ecology Review, 5(1), 37-41 (1998).

32 Reed M. S. et al., *What is social learning?* Ecology and Society, 15(4) (2010). http://www.ecologyandsociety.org/vol15/iss4/resp1/

33 Renn O., *Risk communication: towards a rational discourse with the public. Journal of Hazardous Materials,* 29(3), 465-519 (1992). DOI: 10.1016/0304-3894(92)85047-5

34 Rodela R., *Social learning and natural resource management: the emergence of three research perspectives.* Ecology and Society, 16(4), 30 (2011). DOI: 10.5751/ES-04554-160430

35 Sartori G., *Demokrácia. [Democracy]* Osiris, Budapest (1999).

36 Slovic P., *Perception of risk.* Science, 236(4799), 280-285 (1987). DOI: 10.1126/science.3563507

37 Stern, P. C., Fineberg, H. V., *Understanding risk: informing decisions in democratic society.* National Academy Press, Washington D. C., (1996).

38 UNESCO: *The precautionary principle.* World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), (2005).

39 United Nations, *Report of the world commission on environment and development: our common future.* (1987). http://upload.wikimedia.org/wikisource/en/d/d7/Our-common-future.pdf (Accessed 28.02.2012.)

40 Webler T., *'Right' discourse in citizen participation: an evaluative yardstick.* in ‚Fairness & competence in citizen participation: evaluating models for environmental discourse' (eds.: Renn O., Webler T., Wiedemann P.) Kluwer Academic Publishers, London, 35–86 (1995).