The article deals with structuring of problems in public policy. First, I briefly explain and argue why it is so important to structure policy problems in a way they can be effectively solved and what are the positive effects for public finance and public policy. Second, I distinguish between political and cognitive processes of policy problems structuring. Then I focus upon intentional cognitive process of problem structuring. I propose several stages of this process and review methods and heuristics that can be used in these various stages. Last but not least, we will discuss practical experiences with teaching and applications of this methodology.

1. Introduction

One of the prerequisite of effective utilization of public funds is their allocation on projects and programs that are actually important and desired. In turn, it presupposes precise delimitation of public objectives and problems. From Lasswell’s introduction into policy sciences (1951), problems have always been the ultimate focus and necessary starting point of public policy analysis. Textbooks on public policy analysis usually strongly stress the key role of correct formulation of public problems for further steps of analysis such as choosing among possible solutions: „policy analysts fail more often because they formulate the wrong problem than because they choose the wrong solution“ (Dunn 1988: 720).

The importance of effective and correct problem formulation is now accepted even in political practice. It is for instance first step in conducting regulatory impact assessment (RIA). Nevertheless, still very little have been written about the process of how problems are structured and how they should or could be structured. In this article we will focus upon the latter aspect, although we will consider the former, too.

2. Two streams in problem structuring

As in public policy in general, there are two major approaches in problem structuring1. Because of the lack of more pertinent terms, I call them “political stream” and “policy stream”, respectively. The first approach - “political stream” aims at an understanding of how concrete public issues are identified, conceptualized and defined by different actors, why certain societal conditions become defined as public problems (and others not) and what are the reasons and consequences of different definition or frames of public issues. Examples of this approach include contributions from Dery (1981), Rochefort and Cobbs (1994), Stone

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1 In this respect, recall classical distinction of Harold Lasswell between two strands in policy studies: „knowledge of policy” and „knowledge in policy“.


(2002) and Peters (2005), and they are often found under the label “politics of problem definition”. Political stream is mostly analytical and non-normative. Its main focus is more scientific than practical – to describe and explain different definitions or frames of public issues.

In contrast, the second approach – “policy stream” – is more practical and aims at providing precise formulation of public problems so that the problem can be effectively and efficiently solved. Although policy stream also involves an analysis of different subjective approaches to problems, the basic motivation behind activities in policy stream is to help to find – through exact problem formulation – a solution for a public issue, and not to understand why a certain public issue is defined exactly in this way by particular actor. Authors from the policy stream are mostly concerned with methodology and methods of problem formulation (e.g. Bardach 1981, Dunn 1988). There basic concern is: “which methods and how are to be used when formulating policy issues for policy makers?” The policy stream is rather broad and includes several rather different sub-streams.

The difference between “political stream” and “policy stream” is summarized in Table 1. It is important to note that these two approaches are not contradictory but rather complementary. Some authors indeed combined these two approaches (Hoppe 2002, Dunn 2004), and succeeded at both aiming at both understanding and contributing to an effective formulation of public problems.

Table 1. Different approaches to problem delimitation

<table>
<thead>
<tr>
<th>Stream</th>
<th>Basic aim</th>
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<tr>
<td>Problem delimitation</td>
<td>Political stream: To understand how and why certain societal conditions become defined as public problems and what are consequences of different problem formulations (definitions)</td>
</tr>
<tr>
<td></td>
<td>Policy stream: To formulate public issues as policy problems so that they are well informed by stances of different actors involved, and quantitative data available and they fulfill other criteria (such as solvability by public policy instruments)</td>
</tr>
</tbody>
</table>

Source: Author.


As can be inferred from the above, problem structuring involves at least two quite distinct processes. The first is the political process, the second is cognitive. Before we will briefly discuss our experience and recommendations for the intentional cognitive process of problem structuring, we must stress several things. First of all, we take problems not as given

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2 As Guess and Farnham (1989: 7) put it: problem definition refers to formulating “an ‘actionable’ statement of issue dynamics from which expenditures can be made, personnel deployed, and procedures developed that will reduce or eliminate the undesirable state of affairs without undue harmful consequences to related activities”. 

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entities waiting to be revealed but as social constructs that are made by people. Problems inherently involve subjective dimensions and cannot be strictly formulated by scientific way only. There is indefinite number of legitimate claims of what is supposed to be a problem and how it should be formulated. But the fact that there is no way how to choose the best problem formulation (indeed there are many “the bests”) does not imply that all problem formulations are of the same argumentative strength. We know from experience that many so called problems suffer from serious flaws: they are not based on persuasive empirical evidence, they are formulated as too technical lacking the involvement of broader factors that might actually cause the problem, they ignore perspectives of important stakeholders, they are formulated in a way that cannot be solved by legitimate tools of public policy etc.

Actually anyone who has ever tried to formulate public policy problem in a meaningful, useful and persuasive way would confirm that it is quite complicated task. It thus has some sense to think about ways how to help those who formulate problems. In general, there are two complementary ways of how to do it. The first is to elaborate various methods and heuristics that might be employed during the process of problem structuring. Many authors have actually formulated dozens of possibly useful techniques in a process of problem structuring (see Dunn 1988). The second way is to think about the whole cognitive process of problem structuring and delimitate various activities that should not be omitted. Surprisingly, to the best of our knowledge, there is no such an attempt in public policy analysis literature and this is exactly what I would like to do here.

Based upon my experience with structuring real problems as well as experience with teaching students how to formulate problems effectively, I distinguish eight phases of problem structuring that can be also though of as eight activities. They are as follows:

1. Problem searching;
2. Problem mapping;
3. Problem categorization and classification;
4. Problem description;
5. Problem framing analysis;
6. Problem modeling;
7. Problem decomposition and structuration;
8. Problem (re)formulation.

The first step of problem structuring is problem searching. By this I mean intentional scanning of environment for problematic situations, signs of tensions, worries, conflicts, disagreements, but also for possible improvements. This can include participatory
observation, conversation with different types of people or reading literature (both scientific and non-scientific). It can, however, include also more structured activities such as focus group, forecasting or brainstorming sessions. The result of these activities is unstructured set of statements of what is wrong or what could be better, and also what could go wrong in the future. The rule here is: the more diverse set here, the better.

The second stage – called **problem mapping** – means first and very premature grouping of issues and statements in a way the analyst see it. The basic method here is mind mapping. The statements are grouped in a way that makes sense to the analysts and that helps him/her organize the material he/she has got. For instance, the analyst may distinguish between several problematic areas and their interconnections, may sketch different dimensions of the problems etc. This stage helps to ensure that all important aspects of the “problem terrain” are involved in analyst mind and in an explicit way. It should reduce the tendency to formulate the problem in overly technical terms.

The third stage – **problem categorization and classification** – is similar to the second step but is more systematic. It involves grouping of statements and issues on some logic criteria. The methods here include so called classificational analysis (Dunn 2003) or problem tree (Veselý 2005, 2007).

The fourth stage – **problem description** – is arguably the most time-consuming. It involves gathering of data of various types and their brief – mostly descriptive – analysis. We can use both primary and secondary data, and they might be both qualitative and quantitative. Very often we use different types of indicators to describe the magnitude of the problem. However, this step also includes description of the problem development over time as well as development of policies that were assumed to solve the problem at hand.

Once we got the basic descriptive picture of the problem terrain we can move further to analysis of different frames of the problem – **problem framing analysis**. Here we aim at analyzing and understanding the various constructions of the problem by the different stakeholders. It is very important – but usually overlooked – step. We can employ so called stakeholder analysis and on the basis of information provided by the stakeholders themselves or by the artifacts they produce to reconstruct the way they see the problem and also why they see the problem in this particular way.

The sixth step – **problem modeling** – is the most traditional approach to problem structuring in policy analysis. Policy models are “simplified representations of selected aspects of a problem situation constructed for particular purposes … [policy models] are artificial reconstruction of reality in issues areas that range from energy and the environment
to poverty, welfare and crime” (Dunn 2004: 86). In other words, models are “purposeful reduction of a mass of information to a manageable size and shape” (Stokey and Zeckhauser 1978: 8). Although models can take many different forms (such as physical model or verbal model), in policy analysis mostly graphical and formal mathematical models have been developed and used (Greenberger, Crenson and Crissey. 1976). Problem modeling is based upon dissecting the whole complex issue into small components, choosing the most relevant ones and building a model of their interrelations. Very often these components are quantitative variables and the purpose of analysis is to find out causes of the problem on the basis of available empirical evidence. Special attention is given to problematic conditions that can be altered by government action, so called manipulable variables (MacRae and Whittington 1997: 38).

While the first six steps together might be termed “problem analysis”, the last two steps might be called “problem formulation”. Once we have come to understand the problem (its various dimensions, perspectives of various stakeholders on them, causality of causes and consequences etc.), we are facing the necessity to choose one particular perspective or aspect of the problem. It is important to know the context of the problem, its relation to other problems and issues, multiplicity of different perspectives etc. but in reality only parts of the problem might be addressed and solved by public policy. Decision-makers have very rarely the chance to change the whole system and to deal with all dimensions of the problem. Rather, they are faced with the necessity to deliberately choose one or a few problem aspects that are supposed – when solved – to have the highest effect on the most burning problem situations and that are at the same time most amenable to public policy.

The seventh step is thus so called problem decomposition and structuration. By this I mean distinguishing various parts of the problem in terms on their solvability by public policy instruments. For instance, the problem of youth unemployment can be decomposed into several clusters of problems: (a) low quality of initial education in terms of job preparation, (b) insufficient cooperation between labor market and educational institutions, (c) insufficient capacity of labor market to absorb young people. These clusters can be obviously divided into further sub-types. More importantly, the decomposition might be done in different ways, e.g.: (a) institutional factors, (b) structural factors (by type of occupation), (c) psychological factors (low motivation etc.). In other words, analyst is here supposed to provide some broad
conceptual framework of the problem that is its basic aspects, dimensions and interrelations.3

The last step is actual choosing one part or aspect of the problem that is recommended to be solved – problem (re)formulation. It should be a precise statement or a set of statements about what is supposed to be wrong and why. Although it is a grand finale of the often long cognitive problem structuring process, it should be easily understandable and persuasive. Only in that case it has a chance to enter public policy agenda.

4. Conclusion

Before conclusion, I must stress that what I have proposed must not be taken as a rigid and linear process. The complete opposite is true: Effective cognitive problem structuring is an iterative process and thinking back and forth. It can also be thought of as a spiral: we return again and again to various activities already done (even to the first ones such as searching for problematic situations) but every time we are “higher” that is we have better understanding of the problem.

I have observed that for some people – those that are most creative and analytic at the same – the process of problem structuring is quite natural. For instance, they draw conceptual maps of the problem, sketch the possible causality or classify clashing perspectives. Even they, I hope, may benefit from more explicit thinking about what they are doing. But obviously the aim is not to make problem structuring a laborious or clumsy process, but to help to cultivate our natural cognitive potential to its fullest. After all what counts to the client is not a process but the product – and if one feels that any particular step or method does not lead to cultivation of his/her thinking capacities, he/she should rather skip it.

Nevertheless, the process of problem structuring mentioned above has proved useful in my teaching experience. It is quite rewarding to observe progress of students in terms of their problem formulation. They usually start with some very general topic, often directly taken from mass-media (e.g. drug legalization, corruption of politicians etc.). Very often they suggest problems that are in fact flaws in public policy instruments and not the problems themselves (such as the system of social security benefits, insufficient or ineffective public

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3 It is important to note the distinction between conceptual framework and model. In my view, modeling in its essence aims at proposing some kind of causality between empirically observed variables (indicators). These variables should be of the same level. Conceptual framework, on the other hand, might include concepts from different levels (e.g. both micro and macro factors) and does not have to say anything about causality. In this sense it is something “less scientific” than modeling. The reason why we place modeling before (definite) conceptual framework is that modeling is usually necessarily limited in a number of indicators included and it does not allow inclusion of the various perspectives. In a way, proto-conceptual framework is already set in previous phases such as phases 2 and 3.
administration). Gradually, they are, however, forced to take into account many new dimensions and aspects they had not considered before. This obviously produces a certain kind of tension: “how should I put all these perspectives together, and at the same time provide clear-cut problem formulation?” Most of them recognize that better than to omit various aspects of the problem and to make it overly simplistic is to draw broader map of the problem and only then decide what part of the problem to follow. Given the fact that we spend a lot of time on this process (about half a year), the reformulation of problems are often very substantial and – in my view – always better. For instance, some students started with the problem that in the one particular area of Prague there is not enough day care centers for children under three (it was an un-official statement of the mayor). The problem was: how many, what type, and where day care centers should be established. After research, discussion with stakeholders, literature search, brainstorming sessions etc. the students found that problem should be formulated differently, that is as “the lack of opportunities for pleasant and engaging time spending with young children”. In other words, the students discovered that the problem is not that the parents (mostly mothers) want or need institution to give their children to be able to go to work. On the contrary, most of them disagreed with it. What they felt as a need was a place they can communicate with other parents (mothers), and where their children may meet other children.

I could cite many other examples of effective problem reformulation. For instance, several students started with the “problem” of “graduates entry into labor market”. After the course, two groups of students come to more specific problems related to the original topic: “increasing level of drop-outs among higher education students” and “difficult harmonization of studying and work among higher education students”. What I would like to stress that these reformulations were not influenced only by the new facts the students discovered, but also by a new perspectives on the problem. In other words, in my opinion it is very important not only to gather and analyze data but also – and more importantly, to critically think about these data in a broader context.


