1 Introduction

'If you have only four fingers on one hand, that's not a problem, that is a situation.'
Kingdon, 1984

'Successful problem solving requires finding the right solution to the right problem. We fail more often because we solve the wrong problem than because we get the wrong solution to the right problem.'
Russell L. Ackoff, 1974 (on cit)

Policy analysis in multi-actor systems. Now what does that mean?

To start with policy analysis: although it can mean various things to various people in various situations, we can say that 'policy analysis' is about using analytical tools and a systematic way of working to support policy-making processes. For instance, we can use analysis to inform policy-makers and decision-makers about the pros and cons of different policy alternatives or we can use a systematic approach to support various parties in reaching an agreement on a suitable policy as a future course of action to address a problem.
In this chapter, we will explain how policy analysis contributes to problem-solving, and we position this book in the scientific debate on problem structuring during the initial stages of the policy analysis process.

1.1 The Challenge of Policy Analysis in Multi-Actor Systems

This book places policy analysis in a multi-actor environment. This means that it addresses policy problems and policy processes that involve multiple actors ('parties'), who are typically organized in a network rather than in a classic hierarchy. This means that no single actor will be able to unilaterally impose their desired solution on others, but rather that some form of cooperation between parties is required. Therefore we talk about multi-actor systems. In such a setting, complications quickly arise. Typically, different actors will have different views of a situation. They may not agree on what the main problem is, they may not accept the same forms of evidence as 'facts', they are almost certain to subscribe to different priorities and preferences for particular solutions and they may have different opinions about what is fair and just in policy-making. Any one of these multiple actors is likely to change views over time. Moreover, if these actors are addressing a problem that is characterized by complexity and uncertainty, then how do we go about supporting policy-makers and decision-makers, as policy analysts?

Text box 1.1 Example of the involvement of many actors

In the area of water management and water policies, we can see that at the international level there is not one single UN agency responsible for water, but rather that it is handled by UN-Water, an umbrella agency that includes a multitude of UN organizations (see: www.unwater.org/). On a national level, in the Netherlands for example, the national water plan is the joint responsibility of different ministries (see: www.platformparticipatie.nl/nationaalwaterprogramma/nationaalwaterprogramma_/default.aspx). Each of these ministries has its own priorities in terms of water using sectors to be served, and water problems to be solved. Increased flood risks due to climate change; insufficient water for agriculture, industry and nature; pollution, by industry, agriculture or households; water needs for recreation and tourism; siltation of fresh water resources, where nature and human uses are at odds. What problems take priority, in what locations and how to solve these problems? If these national ministries want to implement their plans, they need the cooperation of a whole range of other organizations, not least the regional authorities such as water boards, provinces and municipalities.

In the end, even with many actors and different interests, policy decisions and plans have to be made. Not doing anything is also a decision, which may not be in everyone's best interest either. The question is: how to support decision-makers and other stakeholders with meaningful analysis? In this book we provide readers with an answer to this question.

1.2 The Problem Structuring Focus

Our point of departure is a systematic way (i.e. done according to a plan; methodical) of analysing a problem situation which we call problem structuring. The principal objective of this book is to offer tools and approaches for problem structuring that help to create a clear picture of complex situations and to mark out a path for supporting the process towards a policy decision. We call the product that results from the activity of problem structuring a (rich) problem description. It is important to distinguish the process/activity from the product/outcome. Problem formulation, i.e. the structuring of a problem, is an activity fundamental to the problem-solving process.

A poorly structured problem creates the risk of a failure to recognize an urgent or impending problem in time, thus making it more difficult and more expensive to find a solution. Incorrect structuring may result in selection of the wrong solution, which will not alleviate the problem. It is even conceivable that an admirable solution will be designed and implemented to solve a problem that did not exist.

Text box 1.2 Examples of the consequences of inadequate problem structuring
Some solutions do not solve a problem at all, like the many schools constructed in rural areas in Latin American and African countries in places where there are no teachers. In such situations problem structuring has not been performed or it has been done in too limited a way, which has led to solutions that focus on school buildings rather than also taking into account teaching capacity.
A common example of a solution for a problem that does not exist or creates a new problem is the construction of infrastructure where there is no real need or use. The so-called 'Betuwelijn', a rail line dedicated to transport heavy goods and containers by train from Rotterdam Harbour in the Netherlands to Germany to warrant Rotterdam's position as an international hub for container transport, is an example of failing infrastructure. In their enthusiasm the Dutch built 160 km of rail line, which were ready in 2007, but forgot about the 70 km of new rail line needed in Germany to connect their line to the German rail system. Construction of the latter part is currently expected to be finished in 2026. Consequently the Betuwelijn does not reach its full capacity and its exploitation is leading to big financial losses. Although traffic has been gaining traction, many heavy trains are following the old routes, causing nuisance in the urban areas they are passing through.

In this chapter, we will examine the question of what a problem actually is. Although failures may seem obvious in hindsight, it is not easy to conduct problem structuring well. We will show the difficulties that arise during attempts to define the nature and content of problems and we will position ourselves in the field of policy analysis (Thissen & Walker, 2013).

It is important to recognize that a *policy analysis process* and a *policy process* are not the same. The policy process is the context in which a policy analyst operates. The policy analyst needs to be aware of this context when advising policy or decision-makers who are faced with a policy problem. The policy analyst conducts an analysis process in support of a policy process.

1.2.1 The Policy Process as a Problem-Solving Process

According to Nobel Prize winner Herbert Simon (1977, 1991), people solve problems in four steps: intelligence, design, choice and implementation. 'Intelligence' involves gathering information, identifying a problem and examining the problem situation. 'Design' entails developing alternative solutions that are possible. 'Choice' means selecting an alternative from the available solutions. 'Implementation' puts the selected alternative into effect. These four steps form the basis for numerous attempts to conceptualize decision-making, problem-solving and design processes in wide-ranging disciplines.

A policy process can be seen as a problem-solving cycle consisting of stages during which a policy problem is addressed. Many different representations of such a policy cycle can be found in the literature, but the general idea is similar. Figure 1.1 shows a representation of the public policy cycle consisting of four subprocesses that take place continuously (arrows). Every subprocess involves two types of actors (shown in rectangles).

- Agenda setting: citizens raise issues so that they will be brought to the attention by politicians in the political arena as policy problems.

- Decision-making: politicians decide, after deliberation, negotiation and formal decision procedures, on policies that are to be implemented by government.
- Policy implementation: administrators translate policies to more specific formal rules and guidelines that are implemented by executive agencies.
- Policy impact: the execution of new rules by public servants will lead to societal effects which may be perceived as problematic by some societal stakeholders. This will lead to the next policy cycle requiring a new policy decision.

Although the policy cycle is illustrated here for public policy-making, it can be translated to policy processes in other contexts.

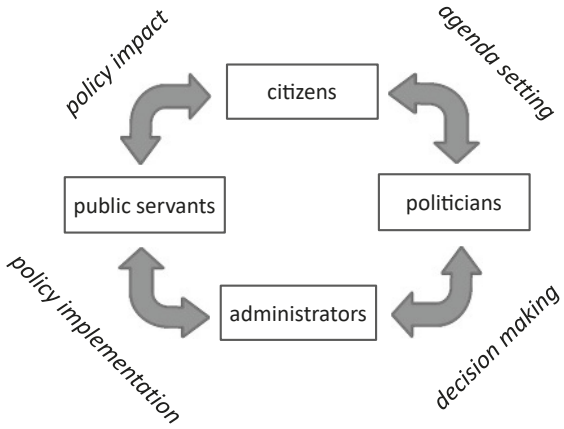

Figure 1.1 Cyclical representation of a policy process

The activities of a policy analyst can be aligned with a perspective of the policy process as a problem-solving cycle consisting of stages (Jann & Wegrich, 2017). Supporting the policy process thus implies conducting activities that support this problem-solving cycle.

In Chapter 2 we will see that actual policy processes are more complex than presented here by means of the policy cycle framework. The main message, however, is that the policy analyst supports a policy process and that the policy analysis process, i.e. the activities of the policy analyst, takes place in the context of the policy process.

1.2.2 Policy Analysis to Support Problem-Solving

A policy analyst can support any subprocess of the policy cycle. Policy analysis conducted prior to decision-making is termed ex ante policy analysis, and policy analysis conducted following a policy decision is termed ex post policy analysis. The ex ante activities will usually be conducted to support the decision-making subprocess and ex post activities are usually conducted as evaluation activities of the effects of implementing a specific policy. However, agenda setting and implementation may also be supported by policy analysis.

Articles and textbooks on policy analysis often distinguish a number of phases according to which a systematic policy analysis process is conducted. Table 1.1 shows the steps identified by a number of authors in this field.

Table 1.1 Policy analysis as a sequence of steps

Bardach (2000)	Walker (2000)	Patton et al. (2012)
Define the problem	Identify the problem	Verify, define and detail the problem
Assemble some evidence	Identify the objectives of the new policy	Establish evaluation criteria
Construct the alternatives	Decide on the criteria with which to evaluate alternative policies	Identify alternative policies
Select the criteria	Select the alternative policies to be evaluated	Evaluate alternative policies
Project the outcomes	Analyse each alternative	Display and distinguish among alternative policies
Confront the trade-offs	Compare the alternatives in terms of projected costs and effects	Monitor and evaluate the implemented policy
Decide	Implement the chosen alternatives	
Tell your story		

Although there are differences in the activities that are defined by different authors, the general sequence is similar. It can be seen that Walker (2000) and Patton et al. (2012) include both ex ante as well as ex post policy analysis in their steps. In general, during the policy analysis process the policy problem is explored in some detail in order to clarify the problem situation. It is also necessary to determine what would be considered to be a successful solution to the policy problem. This is done by identifying criteria for success. In addition, various candidate solutions (i.e. alternative policies) are selected and evaluated. This enables the choice of a policy, which has to be monitored and evaluated after implementation.

The summaries of activities in Table 1.1 suggest a chronology, but the authors consider them to be important activities, which are not necessarily taken in exactly that order. In practice, the policy analysis process is regarded as a cycle in which numerous iterations are possible.

This book focuses on ex ante policy analysis to support the early phases of decision-making. In the terminology by Simon (1977), the policy analyst supports decision-makers with intelligence and initial design. In the sequence of the stepwise policy analysis activities shown earlier, we roughly consider the first iterations of the steps up until a qualitative evaluation of alternative policies in order to provide an overview of the trade-offs involved.

What sets this book apart from other texts on ex ante policy analysis is an emphasis on the multi-actor perspective, hence the title *Policy Analysis of Multi-Actor Systems*. What also distinguishes this book is that specific attention is given to supporting decision-making under uncertainty. In many policy problems there are significant uncertainties about the current situation and about how the situation may develop over time, and decisions have to be made despite of and in light of these uncertainties. This multi-actor perspective and attention for decision-making under uncertainty are reflected in the tools and techniques that are presented and/or the way in which these can be utilized. Over the course of the book we will see that the activities that can be conducted by the policy analyst are more varied than the style of policy support described here in this introductory chapter.