# Policy Capacity, Design and the Sustainable Development Goals

## Wicked Problems in Uncertain Environments

Edited by

Andrea Lippi

Theodore N. Tsekos

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Emerald Publishing Limited
Emerald Publishing, Floor 5, Northspring, 21-23 Wellington Street, Leeds LS1 4DL

First edition 2024



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**British Library Cataloguing in Publication Data**
A catalogue record for this book is available from the British Library

ISBN: 978-1-80455-687-0 (Print)
ISBN: 978-1-80455-686-3 (Online)
ISBN: 978-1-80455-688-7 (Epub)

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Chapter 1

# Introduction: Governing Sustainable Development From Theory to Practice: Wicked Problems, Expected Capacities, and Design in Uncertain Environments

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## Abstract

The introduction of the book is aimed at providing the reader with a comprehensive analytical framework on the purpose and content of sustainable development analysis as a wicked problem in policymaking. The UN's 2030 Agenda is an ambitious and far-reaching initiative that encompasses 17 broad goals and 169 targets, which may be too general and potentially conflicting. Translating this agenda into practice is a challenging and possibly frustrating task that requires a pragmatic and methodologically structured approach. Accordingly, the introduction is organized around five key concepts that favor a translation into practice: the definition of problems and solutions, the policymaking of Sustainable Development Goals (SDGs), the wicked nature of policy problems in a sustainable development perspective, the specific kinds of capacity the policymakers must get to accomplish any task in the field of sustainable development, and, lastly, the type of policy design allocating ends and means for solving the problems. In particular, the theoretical framework supports the reader in understanding the wicked nature of sustainable development policies and the additional capacities policymakers must have in order to be able to design effective and coherent strategies. After a detailed presentation of each of the 12 chapters divided into two parts (six chapters in a section dedicated to the analysis of wicked sustainable development policies and six chapters dedicated to the analysis of the capacity of institutional instruments in resolving wickedness), the introduction anticipates the reader the rationale of the book.

**Policy Capacity, Design and the Sustainable Development Goals, 1–23**

**doi:10.1108/978-1-80455-686-320241002**

*Keywords*: Wickedness; Newtonian logic; conflict; administrative capacity; policy capacity; UN 2030 Agenda

## 1. Introduction

Alleviating poverty and hunger, enhancing good health and well-being, ensuring gender equality, producing affordable and clean energy, ensuring decent work and economic growth, facilitating industrial innovation, reducing inequality, building sustainable cities and communities, adopting responsible consumption and production practices, fighting climate change, guaranteeing peace and justice, strengthening institutions are all goals whose solution faces potential social conflict and trade-offs in formulating, deciding, and implementing them (OECD, 2019).

In a virtual world, the achievement of those goals may be conceived as feasible thanks to the strength of the related ideals: good values may be presumed to be good premises for leading to effective change. According to this assumption, the UN 2030 Sustainable Development Goal (SDG) Agenda was designed as a "blueprint for global development" with a transformative potential concerning five crucial areas for human beings: people, planet, peace, prosperity, and partnership (UN, 2015, 2016).

This approach took on and relaunched values and aims that had already emerged in previous documents, such as the Millennium Development Goals and the Brundtland Report on Our Common Future (1987) which established the link between development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

All those ideals are embraceable and fully convincing, on paper, since they trace a milestone of human emancipation. The universalist ambition of a balance between generations by matching the limits and needs of people around the world is almost a moral duty in a changing and turbulent world. As such, the pursuit of the 17 goals and the annexed 169 targets of the 2030 Agenda may be interpreted as a political aim of all the governments that undersigned the international memorandum.

In the real world, the implementation of such ideals is instead very problematic because of the interdependent nature of the relations among the goals and the intrinsic complexity strictly deriving from any attempt to translate them from theory to practice. Such complexity is not theoretical but empirically rooted in the potential tensions that arise from governing public action between divergent streams of interests, cultures, priorities, or actors who have in mind different expectations and roads to gain the results.

## 2. The Problem: How to Make Sustainable Development Real and Feasible Beyond Good Intentions

In other words, the implementation of the 17 goals is not a consequence of a stated claim, but an open problem to be solved thanks to the political mediation

by the policymakers. Seen from this point of view, the governance of the SDGs can be understood as a challenge. This complexity does not concern the ambition of the expected change, as one might think, or the selection of appropriate tools, nor does it concern the culture required to tackle such a project, but the process of implementation and the related interaction.

More concretely, the complexity concerns the number of interconnections between objectives and problem, effects, actors, and resources, on the one hand, and, on the other, the definition of the problem itself: what is meant by sustainable development in every specific decisional setting and how to understand its implementation in a dynamic and turbulent environment where even just touching on interests, visions, values, and actors is enough to trigger conflicts that can hinder any attempt to achieve it.

Indeed, the implementation of UN Agenda 2023 is not a foregone conclusion, nor is it mechanical, nor can careful planning ensure the expected impact, as the complexity of its implementation is equal to the magnitude of the expected change.

Implementation is a complex matter because it depends on several factors that any policymaker must consider, beyond goodwill and good intentions, but also beyond the remit of a rational government, which normally aims to achieve ends through means.

This book addresses the issue of SDGs implementation as an open problem and a process to be managed through the intelligence of policymaking that has to take into account a number of complexity factors.

These factors can be summarized in five: the definition of problems and solutions, the policymaking of SDGs, the wicked nature of policy problems in a sustainable development perspective, the specific kinds of capacity the policymakers must get to accomplish any task in the field of sustainable development, and, lastly, the type of policy design allocating ends and means for solving the problems.

The first point is the issue of defining what "sustainable development" really is and what we should mean and, consequently, what might be appropriate and acceptable solutions and strategies to solve the problems of sustainability.

Regarding the concept of sustainability, the Achilles heel of "sustainable development" concerns its polysemic nature and multifaceted literature. For the sake of brevity, it is possible to identify five main theoretical frameworks that bring out the leading keywords related to sustainable development and addressed with the acronym "HEEEL," namely: Human-Environmental-Economic-Ethics-Local.

The five keywords Human-Environmental-Economic-Ethics-Local (HEEEL) show how, over time, the one environmental concept of sustainable development that we find in the UN Stockholm Conference of 1972 has been enriched and broadened, as reflected by the dominant perspectives of the UN Rio 2012 Conference, and especially, the UN 2030 Agenda (Amato et al., in this book, see chapter 10).

An understanding of sustainable development presented as three nested circles (environment, society, and economy), closely interdependent, emerges.

Goals are multidimensional and interdependent; they have a particular timescale to realize; but at the same time, they are also synergetic. Finally, they also have a latent conflictive nature as the pursuit of each potentially conflicts with the interests, values, development, or criticality of each other.

As such, in itself, the UN 2030 Agenda is not a program that can be linearly implemented following predefined patterns, but only a premise, a political direction that must be reshaped.

Consequently, any real intervention aimed at implementing one or more of the goals or targets of the UN 2030 Agenda must reckon with a definition on the ground. Specific objectives must be identified, selected, amalgamated, and made harmonious to achieve strategies that are adequate, coherent, feasible, and congruent with the aims of policymakers operating in very different institutional contexts: states, levels of government, and policy sectors.

More precisely, in order to make such an ambitious and interconnected design a reality, contingent choices are needed. These choices must be confronted with specific declinations of sustainable development consistent with each country's political climate, resources, public opinion, limitations, and challenges.

Even more, when a government begins to implement such a program, it must ask itself the question of what kind of sustainable development it really wants to pursue, with what degree of depth, and considering to what extent what potential interconnections may arise in the interaction between specific goals.

In other words, the process of defining and redefining goals and targets does not stop with the issuing of a document but proceeds as the program is implemented in each country. This opens questions about what is to be done and how the intertwining of goals can be resolved. The specific characteristic of sustainable development is that it is an excellent idea without an unambiguous political definition.

Having such a well-articulated and 169-target-specified program behind you is no guarantee of success, but neither is it a guide as to what is to be done: it is a matter of understanding, evaluating alternatives, reformulating objectives, resources, and expected impacts. In short, the definition of sustainable development does not offer solutions, but only new problems that must be redefined and solved.

More in detail, sustainable development must be translated into specific public policies. This transformation involves a political translation from a set of general objectives into specific goals. This has two implications.

The first is that the policymaking of the UN 2030 Agenda is already a new plan compared to the initial document. It is also a policy plan, but of a different kind, transferred to another level where, once general principles and universal values subscribed to by all governments through the agreement have been abandoned, we move on to specific policy arenas with actors, interests, and institutional frameworks that characterize and influence action.

The second implication is that in this shift from general to contingent, policymakers are forced to redefine the type of change expected consistent with the degree of solution they estimate they can achieve. This change is likely to be second or third order (Capano, 2020; Wison, 2000) and, therefore, makes implementation ambitious and risky.

This kind of implication means that change resulting from sustainable development policies is challenging, open-ended, and problematic. The problem concerns the definition of goals and contingent solutions, actors and resources, ends and means, etc. It is important to note that there are no ready-made solutions for our problems or any successful models to copy or shared solutions to adopt.

Furthermore, there is no generalized agreement on what the exact problem is, except for the fact that we are all faced with a challenge that is closely linked to the UN 2030 Agenda, which represents a set of values that drive us toward progress and growth, but we are yet to find a way to actualize these values.

This is the kind of policy problem that the policymaking literature labels as wicked or super wicked, and which we will deal with in the next section, since this book assumes that the implementation of the SDGs is a wicked problem.

## 3. The Framework of Wickedness in Public Policy

### *3.1 From Rittel and Webber Toward a Hyper-comprehensive Concept*

The concept of "wicked" problems in the theory of public policy first appeared in the seminal article by Rittel and Weber published in 1972 and titled "Dilemmas in a General Theory of Planning." In their paper, the authors, approaching the issue from the point of view of spatial planning and, broadly, social planning, argue that confronting social policy problems is bound to fail, because of their nature. While science is prepared to deal with "tame" problems and seems unable to do the same with policy problems that cannot be definitively described as far as in a pluralistic society there is no incontestable public good, there is no objective definition of equity, and hence, policies dealing with social problems cannot be meaningfully correct or false, so it makes no sense to talk about "optimal solutions" (Rittel & Webber, 1973, p. 155).

Consequently, social problems become "wicked" problems for which efficiency is being challenged by a preoccupation for equity; thus the apparent "consensus around distributional problems is being eroded by social pluralism and the differentiation of values that comes with differentiation of publics." As a result, policy styles based on "Newtonian mechanistic physics" do not adapt to contemporary interacting open systems, while wickedness is produced at the "juncture of goal-formulation, problem-definition and equity" (Rittel & Webber, 1973, p. 156). A multitude of competing objectives generated by pluralities of interests and values makes it "impossible to pursue unitary aims" and produces "tenacious difficulties" regarding rationality. This is why the classical paradigm of "engineering" scientific rationality is not applicable to the "wicked" problems of open societal systems (Rittel & Webber, 1973, p. 160).

It becomes clear that Rittel and Webber directly connect wicked problems, firstly with social problems and secondly with the pursuit not of universal technically correct solutions but with competing definitions of the socially fair and desirable solution to a given problem. What explicitly differentiates the problems that we can consider as wicked from the others that, on the contrary, can be considered as tame is that the solution of the former requires a different

rationality that escapes from the "classical paradigm of science and engineering" (Rittel & Webber, 1973).

However, the concept evolved to be extremely comprehensive and generic, ending up including a very wide range of problems and, almost, losing its specificity (Head, 2022, p. 21; Peters, 2017, p. 386). Attempts to classify individual subcategories of wicked problems increase the complexity. An example is the article by Alford and Head (2017) where the authors attempt a classification based on two variables: technical complexity and (value-based or interest-based) disagreement in the perception and definition of a given problem (p. 402). In the first dimension of a bidimensional matrix, they record three alternatives. (A) In the first, both the nature of the problem and the solution may be clear to the decision-makers. (B) In the second, the nature and causes of the problem may be known, but the solution is not, due to analytical or political complexities. (C) In the third, neither the problem itself nor the possible effective solutions are clearly known to the decision-makers. In the second dimension of the matrix, they also list three alternatives. (A) Neither knowledge nor interests are fragmented. (B) Knowledge is fragmented among various parties, but the stakeholders are broadly in consensus about the nature of the problem and the possible solutions. (C) Knowledge about the problem is divided across multiple actors, each with a different part of that knowledge, but also, with conflicting interests that make them reluctant to share understandings with others, perceived as rivals.

The combination of these two variables produces nine different types of wickedness, with tame problems at one end and "very wicked" problems at the other end, and with seven other types in between, five of them based on complexity (analytical, communicative, cognitive, political complexity) and two based on the divergence and antagonism between actors (politically turbulent and conceptually contentious problems). A main characteristic of this classification is that it incorporates both technical complexity and political or value opposition without differentiating them.

The fact that within the framework of wickedness some scholars consider it necessary to define a more specific subset of unquestionably wicked problems, that of "very wicked" or even "super wicked," (Auld et al., 2021; Gruetzemacher, 2018; Lazarus, 2009; Levin et al., 2012) confirms that the term has become excessively inclusive and has lost its specificity (Peters, 2017, pp. 386–387).

### *3.2 Technicalities, Interests, and Values*

One of the main reasons that the concept of wickedness acquires such complexity and becomes unable to analytically capture and classify an already complex reality is that it includes two distinct forms of complexity in the same analytical category: (a) the one resulting from poor understanding and insufficient documentation of a complex physical or technical situation and (b) that which arises from the opposition of values and/or interests, of the actors participating in the specific field.

Nevertheless, these two sources of difficulties in understanding and handling problems do not belong to the same field of causality. The first is linked to inadequacies in the construction and use of the classical tools of scientific rationality, while the second is to different value choices and different interests. So the former can be dealt with by using the rational tools in a more agile, innovative, and efficient manner, while the latter requires a completely different handling that allows the bridging of value differences and/or the convergence around common places of problem definitions and solutions. Conflictual definitions produce wickedness, while ill-defined problems and solutions due to the complexity and incomprehensibility of their technical aspects need improvement of definition and comprehension that can be achieved through the better use of classic rational scientific tools, or, in a different conceptual approach, moving outside the "satisficing" solutions framework, defined by Herbert Simon (1976, pp. 118–120).

Similarly, the 10 characteristics of wicked problems as classified by the two founding fathers of the concept, Rittel and Webber, include simultaneously elements that cause the impossibility of defining and handling the problems due to difficulties in correctly assessing the technical aspects of a policy problem and the completeness of documentation, as well as elements that influence the choice of an explanatory scheme and a relevant resolution of the problem based on divergent values, ideological priorities, and connection with opposed interests.

In relation to the above remark, Peters notes:

> To the characteristics presented explicitly by Rittel and Webber we can add the general sense from the discussion that wicked problems involve multiple actors and are socially and politically complex. The formulators of the concept did not list this as a separate dimension but much of the discussion about difficulties in reaching decisions in the emerging policy world revolved around the political difficulties of making decisions in a more participatory and politically complex environment. (Peters, 2017, p. 388)

This observation confirms that if we approach the analysis of wicked problems solely or primarily through the 10 characteristics listed by Rittel and Webber in their groundbreaking 1973 paper, then we are missing very important elements of both their approach and chiefly, the real nature of the problems in question.

### *3.3 Wickedness as a Characteristic of Societal Problems*

On the contrary, if we get away from trying to understand wicked problems based on the 10 characteristics and focus on some other insightful observations in the same paper that are mainly related to value divergences and antithetic interests within strongly differentiated societies, then our effort changes perspective.

Rittel and Webber repeatedly emphasize the central role that value and interest differences play in the production of wickedness, locating the source of wickedness in the social context.

> Societies of the Western world are becoming increasingly heterogeneous, increasingly differentiated, comprising thousands of minority groups, each joined around common interests, common value systems, and shared stylistic preferences that differ from those of other groups[...] In a setting in which a plurality of the publics is politically pursuing a diversity of goals, how is the larger society to deal with its wicked problems in a planful way? How are goals to be set, when the valuative bases are so diverse? Surely a unitary conception of "public welfare" is an anachronistic one. We do not even have a theory that tells us how to find out what might be considered a societally best state. We have no theory that tells us what distribution of the social product is best- Social science has simply been unable to uncover a social welfare function that would suggest which decisions would contribute to a societally best state. As the population becomes increasingly pluralistic, inter-group differences are likely to be reflected as inter-group rivalries of the zero-sum sorts. If they do, the prospects for inventing positive non-zero-sum development strategies would become increasingly difficult. What was once a clear-cut win-win strategy, that had the status of a near-truism, has now become a source of contentious differences among sub-publics […] Our point, rather, is that diverse values are held by different groups of individuals- that what satisfies one may be abhorrent to another, that what comprises problem solution for one is problem-generation for another. Under such circumstances, and in the absence of an overriding social theory or an overriding social ethic, there is no gainsaying which group is right and which should have its ends served. Whichever the tactic, though, it should be clear that the expert is also the player in a political game, seeking to promote his private vision of goodness over others' […] Planning is a component of politics. There is no escaping that truism […].
>
> We are also suggesting that none of these tactics will answer the difficult questions attached to the sorts of wicked problems planners must deal with. We have neither a theory that can locate societal goodness, nor one that might dispel wickedness, nor one that might resolve the problems of equity that rising pluralism is provoking. We are inclined to think that these theoretic dilemmas may be the most wicked conditions that confront us. (Rittel & Webber, 1973, pp. 167–169)

As all public policy problems are societal problems, by applying the main criterion used by Rittel and Webber, they must be considered potentially wicked, even if, as usual, they comprise technical dimensions. Technical dimensions should be considered in principle as "tame" subproblems as far as classic rational