Climate Change Research: Evaluation and Policy Implications
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Institutional barriers to waste reduction in Finland

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Abstract

Waste reduction, which is the top priority of waste management in industrialized countries, can significantly reduce greenhouse gas emissions. The aim of this study was to improve the capacity of Finnish decision makers to implement long-term waste management policies, such as waste reduction. Focused interviews were conducted in 1992 with 24 researchers, consultants, politicians, government officials, and entrepreneurs. The interviews are the empirical basis of cognitive maps, which represent the causal models underlying expert decisions. The analysis indicates that Finland's environmental institutions integrate conflicting policy interests and systematically prevent decision makers from taking long-term policy action. Administrative and procedural decoupling of conflicting interests characterizes the proposed reforms.

1. INTRODUCTION

Waste reduction is the top priority of waste management policy in industrialized countries. Waste reduction can significantly reduce greenhouse gas emissions, because it entails a radical reduction in the material and energy intensity of industrial production, particularly in the burning of fossil fuels. But implementing long-term environmental policies, such as waste reduction, involves significant socio-political and institutional contingencies (1). This study set out to explore the institutional constraints of long-term waste management policy in Finland. The goal of the study was to develop strategies to improve the capacity of decision makers in Finnish waste management to control and adapt to uncertainties of the very long-term future.

The main proposition of this study is that there exists an ironclad relationship between Finnish environmental institutions and the expert beliefs that uphold the institutions. Institutions such as laws, regulations, cultural traits, and habits are the rules that organizations follow in the social game. Institutions determine what individuals perceive to be possible to achieve, and these perceptions in turn shape social institutions (2). According to this study, far-sighted waste reduction policy is currently impossible in Finland, because the dominant environmental institutions nurture waste management experts' short-term operating assumptions, which in turn weave together the short-sighted institutional structure.

2. COGNITIVE MAPPING OF EXPERT BELIEFS

The perceptions of central decision makers and experts in Finnish waste management were investigated by means of a policy analytical approach known as cognitive mapping, which is based on the notion that it is not the empirically verified reality that determines our decisions, but rather what we perceive to be the reality (3–5). Analysis of the mental models upon which experts and decision makers in waste management base their decisions identifies many institutional constraints of policy making. Focused interviews were conducted in the summer of 1992 with 24 Finnish waste management experts and decision makers on problems that they perceive to become central in the country's waste management in the next 50 years. The interviewees, who were selected through snowball sampling (6), represent various interest groups in waste management, with 4 consultants, 5 researchers, 5 politicians, 6 government officials, and 4 entrepreneurs.

The interviewees mentioned 282 different, causally related problem statements in the field of waste management. For analytical purposes the problem descriptions were coded as problem networks (7). Each interviewee's scenario of waste management problems can be represented as a problem network composed of nodes and links, where nodes are problem statements about future waste management and links the causal relationships between them as expressed by the interviewees. Since the interviewees' descriptions of future problems contain some elements in common, individual problem networks can be aggregated into "socially constructed" scenarios. Problem networks reveal mental constructs that an individual expert does not necessarily perceive. The circular network, or loop, is the most interesting one for policy planning, because it obscures the difference between cause and effect. Since the loops are made of statements that the interviewees perceive as problematic, they are unstable, positive feedback loops. Problems included in a loop keep reinforcing themselves (on feedback, see 8–9).

3. ENVIRONMENTAL CORPORATISM IN FINLAND

The results of cognitive mapping can be summarized as follows:

First, waste management experts typically describe future waste management problems as loops. Fourteen of the 17 loops that emerged in network aggregation by interest group were mentioned by individuals, and half of the 24 individuals mentioned loops. Loops are held together by a cognitive goal conflict between profit maximizing goals, which prioritize short-term economic profitability, and sustainable goals, which aim at preservation of ecosystems over generations. Second, experts do not let the goal conflict interfere with their day-to-day decision making. All of the loops indicate that expert advise and decisions are guided by profit maximizing, short-term operating assumptions. Third, the loops indicate that the profit maximizing operating assumptions are institutionalized in the administrative, technological, economic, and political structures of the Finnish society. This phenomenon will in the following be referred to as environmental corporatism (on social corporatism, see 10). Its most prominent feature is the systemic integration of conflicting environmental policy interests, to the extent that open conflict resolution is impossible. Finally, the interviewees expect that profit maximizing operating assumptions will lead to troublesome consequences in the long run. The aggregated problem networks have 54 terminal problems, i.e., problems without

outgoing causal links, 40 of which describe threats to the survival of Finnish waste management organizations, society, and ecosystem.

Each of the 17 loops identified in the group-level aggregation of problem networks and the terminal problems that result from them support the results. Interviewee no. 1 (a government official) mentioned loop 3, which illustrates the results (Figure 1). The loop describes how Finland's semi-governmental hazardous waste treatment monopoly Ekokem is in a cycle of planning excess treatment capacity only to find the capacity inadequate when environmental regulators order more of the nation's hazardous wastes to be treated at the plant. The dual goals of short-term economic profitability of the plant and long-term ecological safety of waste treatment forces decision makers into a cognitive dilemma, in which they can but alternate their allegiance between the conflicting goals (the first result).

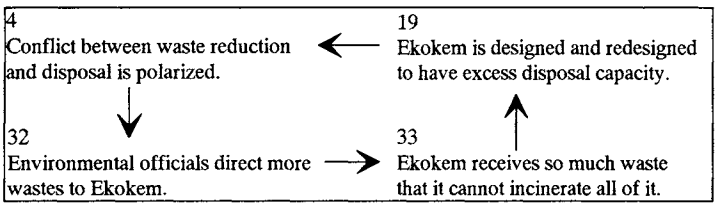

Figure 1. The government officials' loop 3.

Loop 3 also shows interviewee 1 to believe that actual waste management policies will conform with profit maximizing operating assumptions (the second result). Ekokem is described as an automaton, which keeps on expanding as a result of continuous planning for excess capacity. Two features of environmental corporatism secure the operation of the automaton (the third result). First, the corporatist decision making system views waste management purely from a techno-economic point of view, which obfuscates the socio-economic conflicts of interest between waste reduction and waste treatment. Second, implementors and regulators have intimate linkages in the administration of hazardous waste management -- the Ministry of the Environment is the top regulator of hazardous waste management but also owns a third of Ekokem -- which secures the flow of waste to Ekokem.

Finally, the terminal problems emanating from loop 3 support the fourth result. According to interviewee 1, decision making may become systematically irrational, enterprises may lose all interest in sustainable waste management and focus on turning a profit regardless of means, and regulators may end up shifting waste from one environmental sector to another.

4. RECOMMENDATIONS

The central principle of the following recommendations is the administrative and procedural separation of conflicting environmental policy interests. The objective is not to polarize environmental conflicts, but to resolve issues through existing conflict resolution

mechanisms. Where they do not exist, they should be created.

First, the close integration of implementation and regulation in Finnish waste management persuades regulators to compromise long-term ecological considerations for the sake of short-term economics. Regulation should therefore be clearly separated from implementation in waste management. Second, the socio-economic conflict between different technological stages of waste management is a problem particularly in public waste management agencies, which are not just technical implementors but policy makers as well. Administrative separation of waste reduction, recycling, collection, and disposal in the public sector would increase the organizational autonomy of sustainable principles. Third, administrative separation of the technical steps of waste management would not remove the economic friction between them. It would just transform an intra-agency conflict into an inter-agency one. More attention should therefore be paid to political procedures for resolving such conflicts. Environmental impact assessment should be developed into a procedure that would promote scientifically enlightened political discourse on environmental policy (11). Policy choices in waste management would be made after comprehensive public criticism, much like the scientific community selects theories after competition between scientists. Finally, more neutral regulatory mechanisms, such as economic regulation, would dismantle some of the structures of environmental corporatism. The institution of environmental taxes, for example, would require political decisions, which would transfer negotiations from the closed corporatist arena to the open parliamentary one. This would force politicians to make the difficult choices between short-term economics and long-term ecological sustainability. What is more, it would allow the regulators to concentrate on what they do best, namely, monitor and evaluate the effects of regulation on environmental quality.

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