

The Carrot and the Stick

Changing Policy for Household Waste Management
in a Swedish Municipality: A Case Study

Linn Annerstedt

Preface

I want to thank the persons who have made this thesis possible by sharing their insights and experiences. I am especially grateful to the persons working in the municipality of Falkenberg. I have promised them that they will remain anonymous. Therefore they are not mentioned by name.

Jakob Skovgaard, my academic supervisor, has been very supportive and provided excellent help during my work on this report.

Any misunderstanding or misinterpretation is my responsibility.

Linn Annerstedt

Abstract

Despite policy efforts to reduce waste and to recycle material, household waste in Europe continues to grow. In Sweden, most 290 municipalities use volume-based tariffs for household waste management.

This report is about two alternative policies for household waste: (1) a weight based waste system and (2) a system of kerbside containers for sorted waste (FNI). It is a case study of policy development in the municipality of Falkenberg that strives to become environmentally more sustainable by improving waste management and stimulating recycling.

Source material includes policy documents and interviews with policy-makers and professionals.

A comprehensive analytical framework, the Institutional Analysis and Development (IAD), helps explain the inputs to Falkenberg's principal waste policy decisions in 2011 on what was then perceived as environmentally ambitious, technically feasible and economically reasonable. One such input is overall cost considerations regarding required additional investments by the municipality.

The analysis also covers external features such as the influence on Falkenberg by waste policy experiences among other municipalities: Varberg (weight-based waste) and Helsingborg (FNI). By 2014, Falkenberg will implement Varberg's well-established weight based household waste system through a joint company, VIVAB, responsible for water supply, sewage treatment and solid waste management in both municipalities.

Key words: Household waste management, municipal governance, policy process, weight based waste tariff, Institutional Analysis and Development Framework

Words: 9683

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Abbreviations

EPR – Extended Producer Responsibility
FNI – Fastighetsnära Insamling (Kerbside containers)
IAD Framework – Institutional Analysis and Development Framework
KF – Kommunfullmäktige (Municipal Executive Board)
KS – Kommunstyrelsen (Municipal Council)
PAYT – Pay as you throw
PPP – Polluter Pays Principle
VBWT – Volume Based Waste Tariff
VIVAB – Vatten & Miljö i Väst AB
WBWT – Weight Based Waste Tariff

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1 Introduction

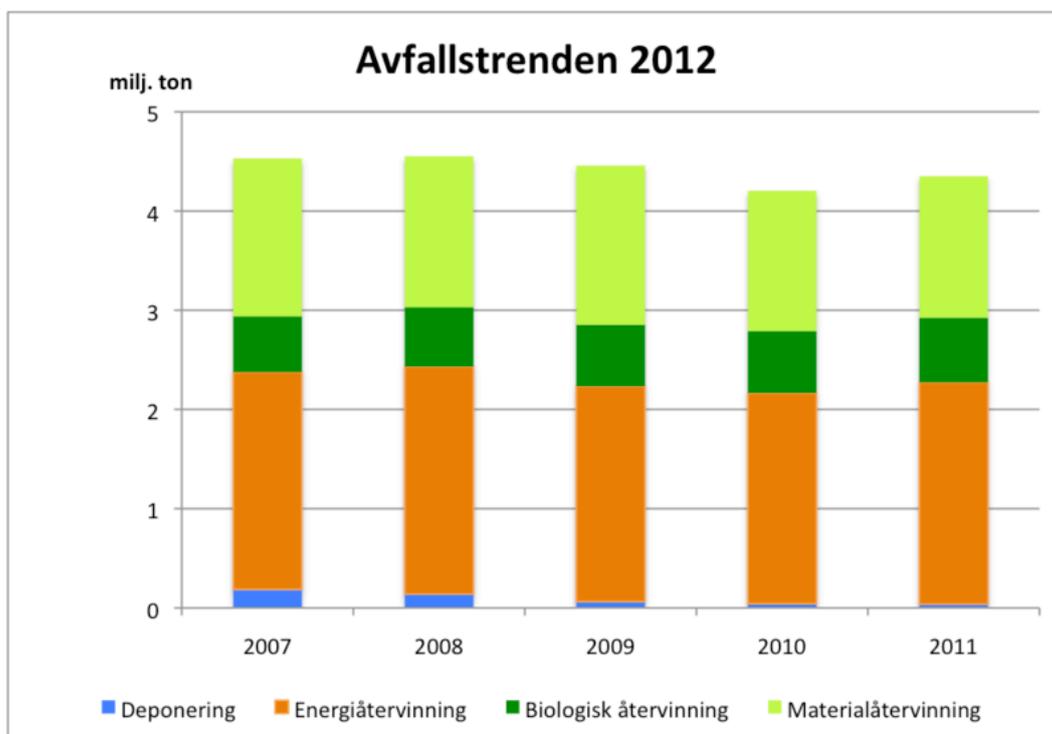
Sustainable development, “the ability of the present generation to meet its needs without undermining the ability for future generations”(Carter 2007, p. 2)

In 2011, Sweden produced a total of 4 349 910 tons of household waste. This means 459 kg of household waste per person.¹ Total household waste in Sweden represents about 5% of total waste. If the relatively large mining sector is excluded, household waste represents some 20% of total Swedish waste (Statistical Yearbook of Sweden 2012, p.41).

One hundred years ago, Swedes threw away about 30 kg per person and year (Nordiska Muséets exhibition about waste). Comparing to the average human being today it is a huge development.

Figure 1.1 shows the trend in household waste generation and how waste is handled in Sweden. *“If the amount of waste continues to increase at the same rate as now, with both a richer and bigger population, the amount of waste might be 50 percent higher in year 2035”* (SOU 2012:56 p.117).

Figure 1.1 The Household Waste Trend and Management of Household Waste in Sweden



Source: <http://www.avfallsverige.se/statistik-index/avfallsstatistik/> 2012-11-18

¹ <http://www.avfallsverige.se/statistik-index/avfallsstatistik/> 2012-11-18

According to the European Union, the goal was to reach a limit of 300 kg of waste per person already by 2000, but this was not achieved (EEA 2005 p.316). Most of the EU member states increased their household waste between 1995-2009. In 2009 the average household waste was 500 kg per capita in the EU.²

1.1 From the EU Level to the Local Level

In Table 1.1 there is an overview of guidelines from the international level to local level on how to reach environmental goals.

Table 1.1 Governance: Actors & Environmental Sustainability Guidelines, Goals and Objectives

Actors and guidelines	Objectives	Roles and desired impact
Agenda 21 ³	Program established in 1992 at the Rio conference with goals and directions about sustainable development: environmental, economical and social. This will be the base for all environmental work on either the international, national or local level.	Agenda 21 recommends local governments to work with citizens, companies and organizations to develop a sustainable way of living. About 70% of the municipalities in Sweden have adopted local versions of Agenda 21
The European Union ⁴	Gives directions on goals to reach.	In 2000 the EU decided that all member states must develop national waste plans.
The Ministry of the Environment; The Environmental Code (law) ⁵	In the Environmental Code's chapter 15, the role of the municipality on waste management is explained and codified. According to this law, waste management is the responsibility of Sweden's municipalities.	According to the law, each municipality is responsible for managing and transporting household waste.
Naturvårdsverket ⁶ (Sweden's Environmental Protection Agency)	Is assigned by the Swedish Government to develop and decide on a national waste plan for Sweden. Since 2004 responsible for making waste management environmentally acceptable, effective for society and acceptable to consumers.	Provides directions and general advice to municipalities on how to handle waste. Identifies areas for sustainable development concerning waste.
Länsstyrelsen (the County Administrative Board of Halland) ⁷	The board develops goals for municipalities in the county according to the national goals for waste management. Responsible also for monitoring that the goals and objectives are achieved.	Advise the municipalities in their role as supervisors/inspectors of environmental sustainability and protection. Assess the capacities for treatment of waste. Evaluate the achievements of regional environmental objectives.
Kommunen (the Municipality) ⁸	EU and the national decision-making bodies locate the responsibility for waste management to the local administrative level	Manages and operates the flow of waste in the community

Source: Own summary, based partly on SOU 2012:56.

² [http://epp.eurostat.ec.europa.eu/statistics_explained/images/5/58/Municipal_waste_generated_by_country_in_1995,_2002_and_2009,_sorted_by_2009_level_\(kg_per_capita\).PNG](http://epp.eurostat.ec.europa.eu/statistics_explained/images/5/58/Municipal_waste_generated_by_country_in_1995,_2002_and_2009,_sorted_by_2009_level_(kg_per_capita).PNG)

³ Agenda 21. <http://www.ne.se.ludwig.lub.lu.se/lang/agenda-21>, Nationalencyklopedin, 2012-12-02

⁴ <http://www.avfallsverige.se/om-avfall-sverige/> 2012-01-07

⁵ Avfallsplan för Varberg och Falkenberg 2010-2015 page 7

⁶ Från avfallshantering till resurshushållning – Sveriges avfallsplan 2012-2017, Naturvårdverket, p.5

⁷ Avfallsplan för Varberg och Falkenberg 2010-2015 p.12

⁸ Avfallsplan för Varberg och Falkenberg 2010-2015 p.7

As Table 1.1 reveals, little is actually executed by the national government. Instead the goals and objectives come from international treaties or agreements and are later executed at the local level. In Sweden there are also other actors - like Avfall Sverige - that handle the contacts between the Government and the municipalities.⁹

According to Swedish law, the producer has the responsibility to make it possible for the customer or client to collect and recycle products in a suitable recycle system. This includes newspapers and other recycled paper; packaging made of paper, metal, plastics and glass. The law was extended in 2001 to include electronic waste; this responsibility by producers is shared with the municipality. This system is called Extended Producer Responsibility (EPR) (Dahl 2010, p.14).

1.2 Three Models for Waste Collection

During the last 20 years, municipalities in Sweden have implemented different solutions for waste management. Today, there are three dominant ways of handling the issue of waste reduction and recycling: volume based waste tariff (VBWT), weight based waste tariff (WBWT) and sorting systems in separate containers (FNI) (Dahlén 2009).

There are 290 municipalities in Sweden. The most common waste management system is volume based waste tariff. Around 30 municipalities have adopted weight based waste tariff and around 20 use kerbside container system (FNI).¹⁰

What motivates municipalities to adopt any of these solutions? How do they reason when tackling the problem of waste reduction and recycling?

I decided to do a case study focusing on weight based waste tariff. My case is Falkenberg, a small town on the Swedish west coast, which in 2011 decided to adopt a system of WBWT for household waste.

How did the municipality of Falkenberg prepare for and reach a principal policy conclusion to implement this in 2014?

⁹ <http://www.avfallsverige.se/om-avfall-sverige/> 2012-01-07

¹⁰ Avfall Sverige

Table 1.2 Collection of Household Waste: Three Models

	Volume based waste tariff (VBWT)	Weight based waste tariff (WBWT)	Kerbside collection of sorted waste (FNI - fastighetsnära insamling av sorterat avfall)
Primary method of household waste collection, prescribed by the municipality¹¹	-Pick up of household waste in a standard container	-Pick up and weighing of household waste in a standard container or sack	-Pick up of household waste in a number of standard containers
Tasks at the household level¹²	-Waste stored in container -Recycled materials must be stored and transported to the drop off centre -Tariff based on the size and frequency of collection	-Waste stored in container or sack -Recycled materials must be stored and transported to the drop off centre -Tariff based on waste weight and fixed fee based on the size and frequency of collection	-Waste and recycled materials sorted into several (typically up to 8) containers -Tariff based on container sizes and frequency of collection
Tasks at the intermediary level¹³	-Un-manned drop off centres for waste materials to be recycled (private) -Manned drop off centres for toxic and bulky household waste (municipal)	-Un-manned drop off centres for waste materials to be recycled (private) -Manned drop off centres for toxic and bulky household waste (municipal)	-Manned drop off centres for toxic and bulky household waste for recycling (municipal)
Tasks at the municipality level¹⁴	-Collection of waste from each household -Simple invoice	-Collection of waste from each household -Waste to be weighed as flexible input to the invoice	-Collection of both waste and recycled materials from each household -Simple invoice
Economics at the household level¹⁵	-Fixed fee -No incentives to avoid, sort and recycle waste above the size of the container	-Variable fee structure (e.g. 1-4 SEK/kg) -Incentives to avoid, sort and recycle waste	-Fixed fee
Economics at the level of the municipality¹⁶	-Fixed costs -Fixed income	-Fixed costs -Variable income -Extra costs for weighing waste and invoicing	-Fixed costs -Fixed income -Extra cost for containers and transportation
'Green incentives' for the household?¹⁷	-'You can just fill the container' -No further incentives to reduce waste and promote recycling	-'Pay-as-you-throw' means incentives to reduce waste and do more recycling -Risk for illegal dumping	-'You must sort all waste' means waste reduction and more recycling -More transportation
Overall impact¹⁸		-Could reduce waste by 20%	-More recycling -Less household waste

Source: own creation based on different sources

¹¹ SWECO and Dahlén

¹² SWECO and IVL Miljöinstitutet p. 12

¹³ SWECO and Dahlén

¹⁴ Avfallsplan för Varberg och Falkenberg 2010-2015

¹⁵ Avfall Sverige

¹⁶ SWECO

¹⁷ Dahl and Dahlén

¹⁸ Dahlén

1.3 In the Bigger Picture

Why do European households of today throw away so much? Today we can afford to buy items to a much larger extent than before. The EU Commission identifies several general reasons: the level of wealth, growth of consumption, increasing numbers of single-person households, single-use products, short life-span of products, and the “dramatic rise in the use of hi-tech products”(European Commission 2010, p.2).

The EU’s Sixth Environment Action Program (2002-2012) states that “Its primary objective is to ensure that economic growth does not lead to more and more waste”. The prevention of waste should be prioritized (EC 2010, p.4).

Why is waste management so important? Three examples:

1. Waste can spread toxic substances and greenhouse gases if not treated with caution.
2. Resources are finite and, like metal, will last longer if reused.
3. If substances and resources are treated well, we can both extract and save energy (EC 2010, p.2).

EU has developed a model for waste management and recommended member states to prioritize household waste. The model is called the Waste Hierarchy.

Figure 1.2 EU’s Waste Hierarchy



Source: European Commission (2010). *Being wise with waste: the EU's approach to waste management*, Luxembourg: Publications Office of the European Union, p. 5.

1.4 Outline of This Report

This report will start by introducing my research question, and then the central definitions and the theories that will be applied to my case study. The next part

will focus on the methods chosen, the application of case methodology and interview technique.

I find it important to place this case in a wider context. Therefore I have presented a quick overview where the relevant guidelines come from and provide some insights into waste management in general. My case analysis will identify key actors and map the decision-making process.

The first part of the analysis will be fact-oriented, based on documents and interviews, my primary material. Then I will discuss different actor's influence.

This report aims to study the policy process of waste management. To map the decision-making process I will use the IAD Framework. IAD is short for 'Institutional Analysis and Development' (see below). The IAD Framework identifies the components in an action situation, where the decision-making process takes place. Which actors are parts of this process? How much can they influence the process? What goals do they aim for? Which are the satisfactory outcomes?

2 Question

Swedish municipalities are facing critical policy challenges to reduce household waste, increase recycling of materials, handle toxic waste and save energy. They need to address these challenges within the law and according to the established procedures.

I will study how policy-makers in a municipality make the choices needed to develop their policy for household waste. I will focus on the municipality of Falkenberg, which has decided to implement a model for weight based waste tariffs (WBWT) for households by 2013/2014. In Falkenberg there will be a divide between household waste and food waste.

How did the Falkenberg decision-makers choose between (1) WBWT and (2) kerbside collection of sorted waste (FNI) or – as a fall-back position – just maintain the already existing model for (3) volume based waste tariffs? The three models are summarized in the previous chapter.

Previous research on these issues has focused on impact and results, following a policy decision. I am looking at the process that comes before the policy is implemented: how a policy for household waste is generated:

- How did the municipality of Falkenberg prepare for and reach a principal policy decision to implement WBWT for household waste?

When applying environmental policies, at least three aspects are usually taken into consideration: is the solution technically possible, is the solution economically reasonable and is the solution environmentally motivated (Pihl 2007, p.11)? This implies that interests and activities by more actors than the municipality should be included in the policy analysis. For this purpose, I will use a more comprehensive analytical framework called ‘Institutional Analysis and Development’ (IAD) to explore the policy process. My second, more theoretical question to be answered in this report is:

- Can IAD (‘Institutional Analysis and Development’) help us understand the policy-decisions in a municipality?

2.1 Studies and research on WBWT in Sweden

There is a variety of studies and research on waste management at the level of municipalities in Sweden. My focus is on the policy process to reach an acceptable outcome in a municipality. For such a purpose, the number of studies is more limited.

A handful of studies have been made on weight based waste tariff (WBWT) and they are not about the policy process. Yet, I have been able to use some of their results to develop my analysis of decision-making and make it more comprehensive. Below, I will summarize some relevant findings in five reports from these studies.

The most comprehensive Swedish report on WBWT was written by Dahlén et al (2009). Their research covers all 26 municipalities that had implemented WBWT (in 2009). Most municipalities noted that WBWT led to lower amounts of household waste (some 20% in the period 2004-2006; Dahlén 2009, p 21) as well as an increased intensity in recycling. This was also the principal objective set by local authorities. Another objective was to provide a simpler and fairer tariff system. However, they also noted that the costs for waste collection and processing according to WBWT was higher than for the 'volume based waste tariff' model. (Dahlén 2009, p 21)

Dahl (2010) looks into waste prevention according to a more general model than weight based waste tariff (WBWT), called 'Pay-As-You-Throw'. She examines strategies in eight Swedish municipalities for implementing waste policy to local conditions and concludes that weight based waste tariffs do encourage waste reduction and will receive high acceptance from households and other stakeholders. She also points at risks for illegal waste disposal. Dahl concludes that waste prevention according to WBWT and related models seem to offer limited solutions, since levels of household waste, after initial decrease, continue to follow national trends of an overall increase, yet at a lower level.

Jensen (2011) offers a more general assessment of the implementation of WBWT models by a review of a wide range of studies in Sweden and abroad. Based on existing literature, he claims that Swedish household waste decreases by some 20% through WBWT, while WBWT implemented abroad have led to a waste decrease of up to 45-50%.

A report by Andersson et al (2011) represents a study that centers on household behavior by interviews at 100 villas (in Helsingborg). Here, the focus is not on WBWT, but on kerbside collection of sorted waste (FNI). Each household sorts its waste according to a multi-container system. The study concludes that sustainability is a motivating force for the household to engage, but that more could be achieved by economic incentives. More than 50% of the interviewees claimed that they would sort waste more effectively, provided that there was an economic or other incentive (Andersson et al, 2011, p. 37). FNI seems to be limited also by rigidity in the container design and system of collection.

Nielsen (2012) is an up-to-date study of literature on drop off centers (the Bring system) compared to the FNI model. One conclusion is that FNI generates more of sorted waste than the Bring system, but also costs more due to more expensive containers, more expensive vehicles for collection and more transportation (Nielsen, 2012, p 4-5).

3 Theories and Central Definitions

To go from theoretical to empirical issues we need to define the keywords of this essay: “municipality”, “waste”, “volume based waste tariff”, “weight based waste tariff” and “FNI”. Some of these have already been defined in Chapter 1. Cf. Table 1.2.

3.1 Central definitions

Municipalities are defined differently according to countries. Because of this I believe it is important to describe what is a municipality in Sweden.

Municipality is a territory within a limited boundary with a local government. The municipality is responsible for its citizen’s concerns. According to law municipalities have to implement certain duties, specified by the laws of the state.¹⁹ There are 290 municipalities in Sweden. All differ in sizes and number of inhabitants.

Household waste: In Chapter 15 1-3§§ of the Environmental Code, the definition of household waste is as follows: “*By household waste means waste from households and comparable waste from other activities*”. This is the definition used in the “Avfallsplan för Varberg och Falkenberg 2010-2015”. Therefore I will use it as well.²⁰

3.2 Theory

This study is about how policy in a municipality is emerging by a series of decisions and actions. It deals with several actors that are facing the challenge of handling household waste to attain more of sustainable development. I have selected the municipality of Falkenberg as my case study.

I have decided to focus on the early stages of the decision-making process to choose a new model for household waste collection and to make the principal policy decision. Therefore I have looked into theories making such analysis possible. I have found the Institutional Rational Choice theory particularly useful

¹⁹ kommun. <http://www.ne.se.ludwig.lub.lu.se/lang/kommun>, Nationalencyklopedin, hämtad 2012-11-29.

²⁰ Avfallsplan för Varberg och Falkenberg 2010-2015 p.6

for this type of policy study. It belongs to a family of theories or analytical frameworks that focus on “how institutional rules alter the behaviour of intendedly rational individuals motivated by material self-interest” (Ostrom 1999B, p. 8).

Within this family of theories, I have selected Elinor Ostrom’s ‘Institutional Analysis and Development’ (IAD) Framework. A framework is different from a theory. While a theory sets patterns, a framework is more fluent and a frame for how to work in analysis but not aiming to predict outcomes. “Frameworks identify the elements and general relationships among these elements that one needs to consider for institutional analysis and they organize diagnostic and perspective inquiry” (Ostrom 2011, p. 8).

One challenge, says Ostrom is to avoid a “blueprint approach”, which means that the model might not always work in a different political-economic setting (Ostrom et al 1999, p.5).

My choice of theory is also based on what McGinnis points out: “in the fields of politics and policymaking, the presence of linked action situations is the norm rather than the exception.” And, as he continues, “Simpler models that isolate, analyze, and predict outcomes in a single-action situation or a single game have a hard time providing convincing and coherent explanations of actual policy-making experiences” (Blomquist et al 2011, p.3).

3.2.1 The IAD Framework and Institutional Rational Choice

In 2009 Elinor Ostrom, a political scientist, was awarded the Prize in Economic Sciences in Memory of Alfred Nobel for her analysis of economic governance. She claims that policy studies must combine analysis at several levels. For example, rules for waste management are influenced by actions at several levels, but implemented also at the household level, influencing individual behaviour.

When setting rules and selecting policy instruments according to Institutional Rational Choice, there will be many issues to consider. Factors that influence the choice of policy instruments are complex. For example, the choice of policy instrument is influenced by concerns about costs and benefits (Hill 2005, p.140-141).

The concept of economic efficiency plays a central role in Elinor Ostrom policy studies, estimating the benefits and costs or rates of return to investments. Efficiency is “often used to determine the economic feasibility or desirability of public policies. When considering alternative institutional arrangements, therefore, it is crucial to consider how revisions in the rules will alter behaviour and hence the allocation of resources.” (Ostrom 2011, p. 16.)

In my Falkenberg case study, the alternative models for tariffs on household waste represent the key policy instruments. But it is not only about what is considered economically sensible policy instruments, but also on what is considered technically achievable and environmentally motivated. I will come back to these policy instruments a more detailed analysis in Chapter 5.

The handling of household waste in a municipality could be seen as a production process with control and distribution systems. In such an economic context, Ostrom looks at sanitation, metered energy and water supply as systems that produce toll goods. They have a public character, according to Ostrom. Many people can use toll goods at once. And, it is “possible to physically control consumption access so that consumers contribute to the cost of provision and production” (Ostrom et al 1999, p.11).

Applying the IAD Framework includes analyses of the provision and production of such goods and services (Ostrom et al 1999, p.9).

3.2.2 Homo Economicus

Initially, I decided to perform my case study from a not-so-complex perspective when assuming that municipalities choose policy instruments mainly by looking at costs and benefits. This approach to policy analysis could be linked to the well-established theory *Homo Economicus* (Ostrom 1999B, p. 44). When using *Homo Economicus*, we must assume that the actors are able to have complete information and well-ordered preferences and that they are trying to maximize net value of expected returns to themselves (Ostrom 1999B, p 44-45).

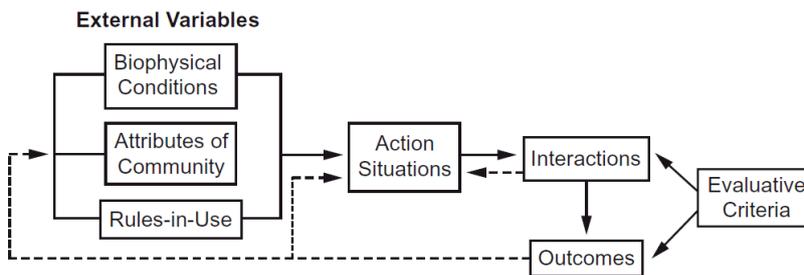
The *Homo Economicus* hypothesis will be used for elaboration of the waste management decisions by the municipality of Falkenberg. Was the *Homo Economicus* approach followed, when the municipality assessed the household waste management models considered for implementation?

3.2.3 The “Action Situation” within the IAD Framework

In the IAD Framework, Ostrom’s key concept is the Action Situation. The “Action Situation is the core component of the IAD Framework, in which individuals (acting on their own or as agents of organizations) observe information, select actions, engage in patterns of interaction, and realize outcomes from their interaction.” (McGinnis 2011B, p. 173.)

“The action situation is the ‘black box’ where policy choices are made. Originally the action situation was enclosed within an action arena, which also included the set of actors as a separate component; however, since the capabilities of actions can be attributed to the effect of the position rules defined below, Ostrom (2010) recommends abandoning this distinction between action situation and arena.” (McGinnis 2011B, p. 172.)

Figure 3.1 A Framework for IAD (Institutional Analysis and Development)

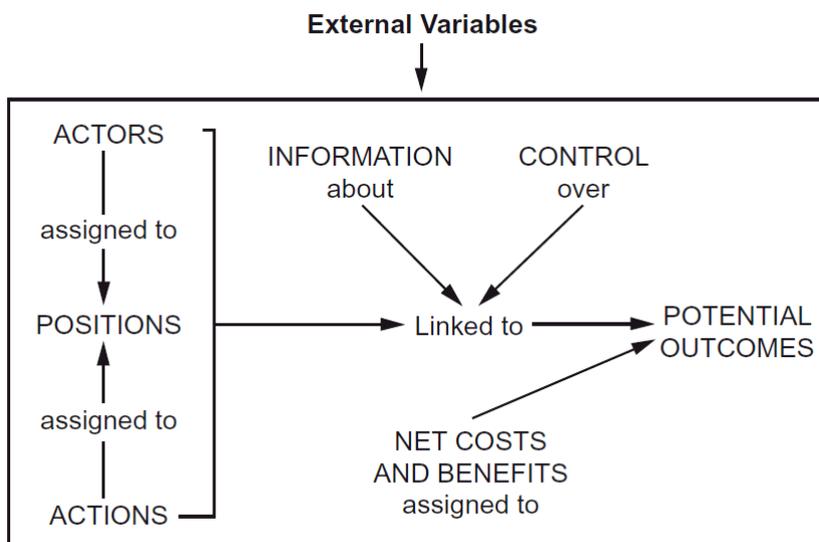


Source: Ostrom (2011), p. 10.

In the Action Situation there are: *actors, actors positions, the set of allowable actions, potential outcomes, level of power for each actor, information available, and costs and benefits of each outcome* (Ostrom 1999B, p 43-44). “Outcomes are shaped by both the outputs of the Action Situation and by exogenous factors” (McGinnis 2011B, p. 172).

In my study I will refer to Actors when talking about participants. Actors are the local politicians but also the municipality staff, companies directly involved and consultants.

Figure 3.2 The Internal Structure of an Action Situation



Source: Ostrom (2011), p. 10.

Using the IAD Framework when interviewing the actors in the Action Situation, I have looked for four types of facts: information, control, potential outcomes and net costs and benefits.

The action situation is what my study is going to focus on. Although the external variables cannot be ignored I will mainly focus on the actions situation. Since I believe the action situation is the core of my case I have chosen to just study this part of IAD framework. That is also why I have chosen only to briefly mention the external variables drawn from my case study. Critics would say you

cannot ignore the context of the case. I will not ignore the context but just briefly mention it. This is because of time limits and the limited empirical material.

3.2.4 Evaluating the Outcome

During my interviews, I realized that the actors in the policy process pursue their goals under what Ostrom calls “constraints of limited cognitive and information-processing capability, incomplete information, and the subtle influences of cultural predispositions and beliefs.” (McGinnis 2011B, p. 170). This limitation is also called “Bounded Rationality”.

For example, during several occasions, the policy process was put on hold so that the actors could get more relevant information – also of alternative waste management policies. They used the experiences from other municipalities to get more information on the costs and benefits of different rules, actions and expected outcomes.

In Ostrom’s IAD Framework, the actors evaluate actions, inputs, and outcomes, and these evaluations may affect any stage of the process. When evaluating the actions and output, economic efficiency seems to be a key word in many policy-making processes. This means that costs and benefits are considered particularly important in the decision-making process (Ostrom 1999B, 48). “Feedback and adaptive learning may affect inputs and processes within the action situation.” (McGinnis 2011B, p. 172.)

In my case studies, I have also used some other evaluation criteria to understand if the outcomes are satisfactory to the persons involved in the policy process and legitimate as seen by participants in the processes.

4 Methodology

An important part of this work is using a case study methodology. This part is based on a series of interviews of decision-makers and supporting specialists. I am also benefitting from documents and investigatory reports of particular relevance to the waste management area. An overall question is how the municipality decided to prepare for new policy and, finally, adopt WBWT as the solution. This part is analysed according to the IAD Framework.

4.1 From Theory to Empirical Studies

The interviews were strategically chosen (Teorell et al 2007, p. 84): I interviewed relevant persons involved in or with special insights into the decision-making process, both politicians and senior staff of the city Hall. What did they consider important in the decision-making process?

The difference between analytical framework and theory is not clearly established. I use the term theory when talking about how to use Ostrom's IAD Framework. My case study could then be classified as an attempt to theoretical generalization of how municipalities reason and act a decision-making process (Teorell et al 2007, p. 238). In other words, this is also a theory testing study: can the IAD Framework help explain the policy process when deciding on a major, principal issue related to waste management (Esaiasson et al 2007, p. 40)?

4.2 Choice of Case

I have chosen to use Falkenberg for my case study. The main motivation is the fact that this municipality reached the decision to meet waste management challenges by selecting WBWT as the model for household waste collection. The process covers a relatively long time period and involves many actors.

The case of Falkenberg is also interesting, because Varberg, its neighbouring municipality, was the first municipality in Sweden to adopt the solution of WBWT in 1995 (Dahlén 2009). Since 2009, Varberg and Falkenberg also share a common waste management company called VIVAB, a fact that is an important precondition for the policy process.

4.3 To Use Interviews

There are at least five different reasons or points when to use interviews in mapping and explaining a policy process.

First, when we try to study a subject that has not been studied before.

Second, when we want to know how people understand the world they are living in.

Third, when our purpose is to develop theories and definitions.

Fourth, when we want to analyse the ability of theories to explain.

Fifth, when used as complement to other research (Esaiasson et al 2012, p. 253-257).

My study aims for the second and the fourth way of using interviews. I would like to know more on how people understand and explain their world. And, I would also like to test how theories can explain their behaviour.

During the case study work, I have tried to answer at least part of my research questions by interviewing people involved in the decision-making process. This was also a way to achieve centrality, to identify the most central sources: Who are the most important people within this area (Esaiasson et al 2012, p. 258)? These persons could probably provide a good overview and suggest other people to interview.

In the course of my research work, I have practiced an open attitude towards alternative interview subjects. Methodologically, this is called “snowball” selection – when interviewing people, I was advised to interview also others (Esaiasson et al 2012, p.258).

4.3.1 To Interview

When planning my interviews, I have practiced the following methodology: You ask questions about how to begin, how to avoid influencing and how to analyze? How many interview subjects will I need (Kvale 1996, p.12)?

When it comes to number of interviews, it tends to be too large or too small. Recommendations on this matter are between 5-15 depending on the subject (Kvale 1996, p.102). Before starting my interviews, I was advised to interview around eight persons. In the end I have interviewed nine people, five in person, three by telephone and one by e-mail.

When preparing for interviewing it is important to create two guides. The reason for this is for the interviewer to keep track on the thematic issues in the interview and also know specifically what to ask. I have prepared two guides, one for myself and one for the person I will interview.

I have decided to keep my sources anonymous. The reasons for this are two: (a) to achieve quality by trust and (b) the fact that the amount of information is likely to be larger, if the interviewee knows they cannot be easily identified.

I have chosen not to use a recording device, since I believe this creates a better interview climate. The interviewee might feel more relaxed when being

interviewed without such a device. Not recording each interview could of course be problematic, if someone would like to check the correctness or use my primary sources as secondary source material, but, for my research purposes, the value of information from an interviewee under no pressure is more important.

4.3.2 Problems with Method

Critics tend to say that the result of interviews cannot be generalized. Yet, in psychology, a few intensive case studies have proved to be enough for obtaining generalized knowledge (Kvale 1996, p.102).

To ask questions about how the interview person's experience of the decision-making process or what they think about citizen's incentives to change, could be quite problematic. First, "experience" is subjective and someone's experience in relation to different sources can - for objective reasons - not carry a lot of weight. It is the full entity that matters. If many interviewees consider something true, it is probably more likely to be so.

My choice of case for interviews might also be seen as questionable. Why not pick a municipality that has long time experience of WBWT, instead of one that is still in the making of such a waste management solution?

From the beginning, I wanted to focus my study on how decisions are prepared and made. To study a case still in a working mode represents more of a 'fresh case'. The decision-makers will probably remember well why they considered the solution preferable and legitimate. This could also be related to the criteria called 'concurrency'. Concurrency means that people tend to forget, if the time and space between the occasion and the interview is very long (Esaiasson 2012 p.284). There is a risk that the answer could be constructed afterwards, based on the actual outcome and not on what was really discussed during the decision-making process.

It might be good to do a pilot interview, to test or try out the questions for the real interview. This is a procedure to make sure that the questions are easy to understand and not open for ambiguous interpretations (Kvale 1996, p. 147). As a consequence, I have tried out my interviews, on an experimental basis on a member of a board in a housing cooperative that recently adapted FNI.

4.3.3 Operationalize

"Validation is often defined by asking the question: Are you measuring what you think you are measuring?" (Kvale 1996, p.238). Validity is to check and confirm and verify what has been said. To validate is also to question what has been said. What is the truth? (Kvale 1996, p.241-244). This is important to keep in mind both when interviewing and transcribing.

It is important to also note that, in order to find an answer to my research question, I have interviewed different people: both politicians and senior staff of the city hall. They may differ in political standpoints. I have also interviewed a

journalist in order to give me a good overview of a series of policy-relevant events. All of this will give the case study a wider perspective and not only from one point of view.

In retrospect, the interviews have provided the case study with important, primary material from first-hand sources, material that would have been difficult, perhaps even impossible to find and collect by other means.

When considering power and power relationships (also in relation to a municipality like Falkenberg) there are three faces, according to Steven Lukes: Power over actions, power over the agenda setting, and power over thoughts. To find out who has influence and power and what that influence is, you must ask and observe.

5 Analysis

In this section, I will briefly introduce the municipality of Falkenberg and the history of the policy-process with waste management. Then I will do the analysis by placing the case of Falkenberg in the IAD Framework. The IAD Framework consists of seven steps of analysis:

1. Define the policy analysis objective and specify the analytic approach,
2. Analyze physical and material conditions,
3. Analyze community attributes,
4. Analyze rules in use,
5. Integrate analysis in the ‘Action Situation’,
6. Analyze patterns of interaction,
7. Analyze outcome (Ostrom et al 1999, p.27-29).

I will briefly study all seven steps, but focus mainly on Step 5 which I believe is the most important step for my analysis.

The centrality from interviewing was to understand the decision-making process and, by doing so, my interviews have been centred on two sets of questions: Did the decision-makers unite around one solution? Which were the principal arguments for adopting WBWT as the model for household waste collection?

5.1 The municipality of Falkenberg

Falkenberg is a small town on the west coast of Sweden with 41 000 inhabitants.²¹ The leading political party is Centerpartiet. Since a number of years, Centerpartiet has branded itself as a ‘green’ party. The municipality of Falkenberg promote sustainable development as an important local political issue.

²¹ <http://www.falkenberg.se/omfalkenberg/kommunfakta.4.4c02fa61127c78cf0380005100.html> 2012-11-30

5.1.1 History of the new Waste-Policy

This section summarizes the main history of the preparations for changing policy for household waste management in Falkenberg.

Table 5.1 Actors and History

Year	Episode
1995	Varberg is the first municipality in Sweden to adopt weight based waste tariff.
2004	A working group is established that will work towards a common system for Falkenberg and Varberg concerning water- and waste management. This group consisted of representatives from both cities. They discussed the future of waste management in Falkenberg. The conclusion was two possible solutions: WBWT or FNI.
2008-2009	Senior staff of the city halls in Varberg and Falkenberg, consultants and VIVAB work together towards a common plan concerning waste management called "Avfallsplan för Varbergs och Falkenbergs kommun 2010-2015". It is decided that VIVAB will investigate the tariff's influence on the amount of waste during 2010-2011.
2009	VIVAB, the common water-and waste management company, is established
2010	Politicians and senior staff of the city hall in Falkenberg go on a tour to Helsingborg, a city who is managing waste according to the FNI model since 1989. "Avfallsplanen" is accepted by KF The municipality of Falkenberg asks VIVAB to investigate the FNI. SWECO, a consulting company, is asked to investigate FNI on behalf of VIVAB. The result of this is the report "Fastighetsnära insamling (FNI) av förpackningar och tidningar i Falkenbergs och Varbergs kommuner"
2011	The investigation is presented and VIVAB suggests adoption of WBWT KF decides to adopt WBWT based on the suggestion from KS.

Source: Own creation based on interviews and documents

In this time period, there are events that I would call 'critical chapters' in the history of waste management in the Falkenberg municipality. As Table 5.1 shows, a common water- and waste management solution between the two municipalities was discussed already in 2004. Interviewee F provided me with this information and this is also confirmed by VIVAB's website. The group investigating the possibilities also produced the ideas for FNI and WBWT. This agreement could be identified as the starting point in the decision-making process. One politician and one senior staff member tell me about a trip that was made to Helsingborg that later led on to an investigation on FNI. There are still questions I wonder about:

1. Why did Falkenberg and Varberg establish VIVAB?
2. Why chose between the FNI and the WBWT?
3. Why was the investigation to study waste management solutions made? Who ordered the investigation? When the investigation was completed, what happened?

To answer these questions and to analyze further, I will use Ostrom's "Action Situation". I will study the *actors, actor's positions, allowable actions, potential*

outcomes, level of power for each actors, information available and costs and benefits of each outcome.

5.2 Setting the Scene in the IAD Framework

Step 1: Define the policy analysis objective and specify the analytic approach.

The municipality of Falkenberg aims to reduce the amount of household waste and extend recycling. The decision-makers decided to choose between WBWT and FNI, since the decision-makers believe that these two systems each is able to achieve the objectives. If the process will be postponed, there is always the fall-back position - Volume Based Tariff (VBT) - although this model is not considered very satisfactory.

Step 2: Analyze physical and material conditions

These conditions refer to production inputs like capital, labour, and technology, but also finance, storage and distribution channels (Ostrom et al 1999, p.9). In other terms, the economic nature of policy activity, which is transforming inputs into outputs, called production. What is the best way to organize the waste management? The answer depends on the circumstances that refer to time, place and people (Ostrom 1999A, p.13). A summary of the potential outcomes and their economic rational can be found in Table 1.2 Collection of Household Waste: Three models.

Step 3: Analyze community attributes

How is the community within which this process takes place? Are there beliefs and values, which are homogeneous or heterogeneous? Is there a shared understanding about preferences among the actors (Ostrom et al 1999, p.13-14)?

Falkenberg is a small town. Area-wise Falkenberg represents the largest municipality in the county of Halland. Most people live in one-family houses (SCB 2011). The municipality of Falkenberg has a long tradition of prioritizing energy questions and sustainable development. The municipality's vision is to "grow for at sustainable future". There are 'homogeneous beliefs' about changing the waste management but 'heterogeneous beliefs' on how to do it. The local newspaper, Hallands Nyheter, reports regularly on local politics of waste management and on sustainability issues more generally.

Step 4: Analyze rules-in-use

The rules-in-use evolve around seven types of rules: position, boundary, authority, aggregation, scope, information, and payoff.

Information rules and payoff rules are described in the section below on the Action Situation. Information rules and payoff rules are most interesting rules-in-use for my analysis.

Step 5: Integrate analysis in the Action Situation

Who is present? What roles do they play, what actions do they take and what affect them (Ostrom et al 1999, p.20)? Step 5 is the most important in my IAD analysis and it is presented further below.

Step 6: Analyze patterns of interaction

If the choices of options or possibilities are clear - and with little or no uncertainties - the actors will have a limited range of strategies. Then, it will be easier to analyze and predict the actors' behaviour. In my case, the strategies for the household waste models are two, FNI and WBWT. These strategy outcomes are summarized in Table 5.3 on the decision-making process on waste management: Actor Types and Key Action Situations.

Furthermore, the strategies can change over time, as the participants learn about results from past actions, while the flow of information changes (Ostrom et al 1999, p.24).

Step 7: Analyze outcome

According to the IAD Framework, an outcome can be analysed from at least six perspectives: efficiency, fiscal equivalence, distributional equity, accountability, conformance to general morality and sustainability/adaptability. These perspectives are seen as evaluation criteria and as part of the process of analysis (Ostrom et al 1999, p.25, 29-30). When evaluating the potential outcomes of FNI and WBWT, several of these criteria have to be taken into consideration:

Efficiency: if the solution is technically efficient and cost effective to produce something at lowest possible cost. This is summarized in Table 1.2 Collection of Household Waste: Three models.

Fiscal Equivalence: if you benefit from a good or a service you bear the costs for the provision of that good or service. In my case study, WBWT is considered fair because you pay by the principle of pay-as-you-throw. The outcome aims also to encourage sustainability.

5.2.1 The Action Situation

Ostrom says “answers to the following questions are needed before one can proceed far with analysis” (Ostrom 2011, p.12). Table 5.2 lists some of initial answers to be elaborated further. I have abbreviated or reformulated some of her questions to be asked in order to analyze the Falkenberg Action Situation:

Table 5.2 Overview of the Action Situation

The set of actors: Who?	KF, KS, Committees, senior staff and VIVAB
What positions exist?	Politicians, senior staff and staff from VIVAB
What set of allowable actions?	FNI WBWT VBWT
Which potential outcomes?	FNI WBWT VBWT – Fall-back position
What level of control over choice?	KF, KS – decision-makers Senior staff and VIVAB – no direct control but can influence
How much of relevant information is available?	The trip to Helsingborg The SWECO investigation
Which are the costs and benefits of actions and outcomes?	FNI – expensive and encouraging citizens to sort and recycle WBWT – efficient and the amount of waste is reduced

Source: own creation of case based on Ostrom (2011) p.12

In table 5.2, I present a table with *the set of actors* in the decision-making process that I have been able to identify in the case of Falkenberg: Kommunfullmäktige (KF), Kommunstyrelsen (KS), senior staff, committees and VIVAB. Committees are able to impact according to law. Through my research I have been told they have been able to comment on suggestions but not to the same level as the other actors. Because of this I have chosen to just mention the committees briefly.

KF is officially the decision-making organ in the municipality. This means the formal level of control is set already from the beginning. Legally, KF is the most powerful actor. Even if opinions differ among the 51 politicians belonging to eight different parties, the decision that is taken here is final.

KS consists of 13 politicians from five political parties (S, C, FP, M, KD) and alternate members also from two other parties (V, MP). According to interviewee F, proposals from KS carry great weight. From studying documents on waste management issues, this claim can be confirmed. Proposals by KS on waste management have been accepted in the KF. De facto, KS operates as the decision-making body for the waste management issues in the period under study.

Senior staff working for the municipality do not have an official role in the decision-making process, but they may have a considerable impact from what I understand from my interviews. The working group from 2004 consisted of both politicians and senior city hall staff. Today, there is a sustainable development group, discussing what to do next and this group also includes politicians as well as such senior staff. Interviewee E says there is always a dialogue between the politicians and such officials of city hall. Interviewee F confirms this by telling me that it all started with a working group in 1990's when both politicians and officials from Varberg and Falkenberg came together to discuss waste management issues.

- *Why did Falkenberg and Varberg establish VIVAB?*

Since 2004 a group of both politicians and senior staff from the municipalities of Varberg and Falkenberg have gathered to search for a common solution on water- and waste management. According to VIVAB, as well as other sources, this type of interaction is needed to work efficiently, to save money and to exchange experiences and ideas.

Many of my interviewees do identify VIVAB as the main party in the decision-making process.

Some of my interviewees criticize VIVAB for having too narrow a perspective of WBWT. Interviewee G considers VIVAB an important part in the process. According to the same source, VIVAB should fill such a role, since the company has the knowledge and competence to suggest proper waste management solutions. The interviewee from VIVAB states that it has been a tough process. Even though it has been a bit demanding, the politicians have listened to VIVAB's recommendations.

5.2.2 Actions and Outcome

To introduce *actions and outcomes* I will answer the question:

- *Why chose between the FNI and the WBWT?*

The two household waste management solutions, which the municipality of Falkenberg considered to be the best to choose from, were brought into consideration by the working-group from 2004. This is what I am told by Interviewee F. Interviewee I claims that the idea was born even earlier - in the 1990's - when Varberg was already contemplating WBWT. The main goal for both solutions was to reduce the amount of household waste.

Table 5.3 provides an overview of actors and their opinions on *actions and outcomes*. This is based on information I was given during my interviews. At first it seemed like the politicians and the senior staff were united around WBWT as a solution for Falkenberg, but it turns out there were many persons pushing towards FNI. Table 5.3 is divided in three sections according to primary goals for each actor, the overall primary motivations (evaluative criteria) and to which extent these actors have power over the decision-making process.

KF and KS, politicians agreed to adopt the WBWT and a majority voted for this solutions. From the interviews I have come to understand there were not such a great majority after all. Some said that the WBWT solution was better than the existing VBT solution. It was a disappointment among others that the ambition was not set higher. This implies that some found FNI to be better for the environment. Interviewee G says there will probably be a change towards the FNI in the future. Interviewee F claims the divide between food waste and other household waste - a two-container system - was a bit of a compromise between those who voted for FNI and those who pushed towards WBWT.

Interviewee E states that the politicians were afraid of increased costs for the citizens. Interviewee I says that the politicians were disagreeing on the technical solutions, but agreed up on the need of another solution concerning waste management.

Among the senior staff at city hall, there was almost the same state of opinions as among the politicians. Officially, the senior staff members have no power in the decision-making process but they were engaged in discussing different solutions with the policy-makers. Interviewee F says that the boards have been given submission for comment but that they did not have a great impact. According to law a submission of comment is needed from the boards.

VIVAB made it very clear that they wanted Falkenberg to adopt the same system as Varberg, says Interviewee C. Everyone confirms this, from the politicians to the officials. Interviewee C says it was because of VIVAB's clear position that an external investigation was commissioned to get more information on FNI. VIVAB stated that there is no meaning with a common waste company, owned by the two municipalities, if the same waste management system is not adopted. Interviewee E agrees and claims that it is the whole point of VIVAB to work more efficiently towards a sustainable development in the two cities. The WBWT is considered a successful waste management solution in Varberg and this is also an important argument for VIVAB as well as for Interviewee C.

Table 5.3 The Decision-Making Process in Falkenberg concerning waste management: Actor Types and Key Action Situations

Actor Types	Primary Goals (actions and outcomes)	The Overall Primary Motivations (Net costs and benefits)	Control or Power In the Decision-Making Process
KF (V, S, MP, C, FP, M, KD and SD)	FNI vs. WBWT	 Simplicity Efficiency Environment Not too expensive	Final decision-makers
KS (S, C, FP, M, KD) and alternate member (V,MP)	FNI vs. WBWT		Powerful. Preparing decisions by KF
Permanent committees	FNI vs. WBWT		According to law they have to give submission of comment
Senior staff in city hall	FNI vs. WBWT		Have some impact, can give recommendations
VIVAB	WBWT	Efficiency	Officially none, but have been given an important role in issues concerning waste management

Source: Own creation partly based on McGinnis guide to IAD Framework (2011A) p.69

5.2.3 Level of Control over Choice

Table 5.3 also estimates the extent of power the actors may have in the decision-making process. Even if senior staff in city hall and VIVAB do not have formal power to decide, the interviews leave the impression that there exists an enduring and close dialogue among all actors. Formally, KF is the final decision-maker. As already mentioned, one of the interviewees, identified KS as a powerful actor. Many proposals from KS are accepted by KF without changes.

Permanent committees and boards: In the policy-process of waste management committees like the committees of environmental protection etc. have been involved. I have not identified the committees as central actors. Some of my interviews have said they are able to influence but not like the other actors.

Senior Staff are able to give recommendations but are not formal part of the final decision-making. But the on-going dialogue between officials and politicians is highly relevant in the policy preparation process. Many times the committees are able to give a submission of comment.

VIVAB stated early they were in favour for the same system in the both cities. One could say that the existence of VIVAB depends on the cooperation between Varberg and Falkenberg. From the interviews it is clear VIVAB had a big role in the process. Everyone agrees with this. But both officials and politicians also claim there were a lot of people who preferred the FNI and pushed towards that solution anyway. VIVAB states it was not easy to go through with what they believed to be the best decision. Even if VIVAB said they preferred WBWT, Falkenberg still decided to investigate FNI. Some people say they disagree with VIVAB's opinions but still think VIVAB's existence is important for Falkenberg.

5.2.4 Information Available

Information available: Table 5.2 shows that people from the municipality of Falkenberg went on a study trip to Helsingborg to investigate how the FNI had been established and assessed its strengths and weaknesses. On this trip Varberg was not included. After this Falkenberg wanted an investigation made of the two alternative solutions, FNI and WBWT.

In September 2010, the municipality of Falkenberg (KF) asked VIVAB to investigate the possibilities of waste management with the FNI. A year later, the report was published. The investigation, made by SWECO, was about cities in Skåne which had adopted the FNI, and their experiences with this waste management system.

The overall goal for the municipality of Falkenberg was to reduce the amount of household waste. Most of my interviewees confirmed this overall goal or ambition. The purpose of the SWECO investigation was to see if the FNI solution could reach that overall goal, says Interviewees C and E.

VIVAB claimed that it would be much more efficient to use the same system in both cities. VIVAB also wrote a statement to the municipality of Falkenberg and declared that they preferred the WBWT.

The overall conclusion in the report with regard to household waste management was not favouring the FNI. The SWECO investigators could not conclude that the FNI system would actually reduce the amount of waste. And, it was not completely certain if FNI actually leads to increased collection of recycled material.

Even though the system makes it easier for people to recycle and sort their waste according to different materials, the increased costs and increased transportation make the conclusion on the impact of the environment by FNI uncertain (SWECO, p.13). Interviewees C and F both say that the report was of critical importance and influenced the outcome of the final decision.

5.2.5 Net Costs and Benefits

Now, when the components for the Action Situation have been identified, there is one area left to consider and that is *the net costs and benefits* assigned to actions and outcomes (Ostrom 2011, p.11). The interviews have revealed that economic aspects did matter in the decision-making process. Interviewee C says, if FNI would have been adopted, the costs for the household would have increased a lot.

Some of my interviewees claim that some politicians did not dare to adopt FNI because of the increased costs, not only for the households, but also the municipality in general.

VIVAB claims FNI would definitely imply increased costs and it would not be efficient to adopt FNI. However, the cost aspect was not crucial, according to Interviewee H.

Table 5.4 Key Arguments for the WBWT

Arguments
1. Reduction of waste and more recycling
2. Varberg's success with WBWT
3. Favourable relations between Costs and Benefits
4. Simplicity

Source: Own creation based on interviews

Table 5.4 shows a summary of the key arguments that were taken into consideration before making a decision about waste management.

From interviewing nine people with good insights into the policy process the arguments are clear. To sum up the arguments that mattered when comparing WBWT and FNI: reducing the amount of waste, with little environmental impact. If you would make people to care about waste, it must be easy to do so. It must not be too expensive, neither for the household nor for the municipality. Interviewee E says it should be simple and easy to recycle.

5.2.6 Homo Economicus?

Did the decision-makers think in economic terms when deciding between FNI and WBWT? My hypothesis was that the persons represented the municipal governance considered the economic consequences important.

Quoting another report, SWECO says that the utility of FNI in relation to the cost for FNI is too small (SWECO p.12-13).

Based on the interviews, I can confirm that investigations on costs and benefits for each solution were considered in the decision-making process. Would people actually be prepared to pay more for the FNI solution? Given increased costs, would this system be legitimate and would people actually start sorting for recycling?

The FNI was not only going to be more costly for the municipality as well as for the households. FNI would not be simple to adopt. For any major change that affects the economy of a household, the municipality must strive for legitimacy. The decision-makers in the municipality had to recognize that the households would look at any new waste management system from a cost-benefit point-of-view. Like Homo Economicus, the household would be trying to look at the net value of expected returns to themselves.

Therefore, key arguments were linked to the costs and benefits consideration, even if it is not the heaviest argument for or against the two alternative waste management solutions.

“Alternatively, one could assume that the individuals that calculate the benefits and costs are fallible learners who vary in terms of the number of other persons whose perceived benefits and costs are important to them and in terms of their personal commitments to keeping promises and honouring forms of reciprocity extended to them” (Ostrom, 1999B, p. 45).

It seems clear that the decision-makers recognized cost-benefit calculations among households, when discussing which waste management solution to adopt.

5.3 How Do We Change Human Behaviour?

This report does not cover change in human behaviour. Since other studies on this subject area consider human behaviour in relation to environmental sustainability, I believe it is important to at least mention this dimension in my policy analysis context.

The SOU 2012:66 underlines that unsustainable lifestyles and behaviour contribute to carbon dioxide emission and may influence also a wide variety of sustainability issues (SOU 2012:66 p.12). Therefore I have added an open question in my interviews and simply asked my interviewees what they believe to be the driving force behind the change of people' behaviour with regard to sustainability?

For example, interviewee B says that everything depends on what kind of person you are. People who already are concerned about the changing

environment just need information on how to do it right. Establishing a sustainable thinking among the youth is also important. Interviewee E agrees and says, children can influence their parents and the children will be brought up thinking about the environment and later transfer this to the next generation.

Interviewee F says it is important not to force people to take action; eventually people will spread this norm to others who are not yet concerned.

Economic considerations should rather been seen as a carrot or a bonus in the process of working towards a sustainable development than a driving force, says Interviewee B. Many of the interviewed persons did agree.

People are likely to change, if empirical evidence is provided, or if they experience environmental catastrophes like powerful storms, says Interviewee I and Interviewee A agrees.

Interviewees E and I state that there is a need for a shift in norms. Nowadays we live in a society where “wear and tear” is highly accepted. Interviewee G says it is a shame that, many times, it is costly to be sustainable.

Information is the key to reach acceptance among people. The probability for you to actually do something is higher, if you understand what you are doing and why you are doing it.

The Dahlén report says that information should be prioritized to make the purposes of the policies clear. She also says that recommendations can only be given within the socio-economic context of each municipality. This is because the economic and social structures may be different (Dahlén 2009, p.22). WBWT can contribute to an increased interest for waste management and recycling. Tariffs are experienced as fair. In general they may help reduce the amount of waste with 20 % (Dahlén 2009, p.20).

Dahl says there is a social aspect to consider: to educate or inform for a successful outcome (Dahl 2010, p.25). The WBWT solution offers strong incentives for waste reduction (Dahl 2010, p.20-21). The economy is not the only factor to make people change (Dahl 2010, p.17).

6 Discussion

6.1 The Municipality of Falkenberg as an Example

The municipalities in Sweden face challenges with waste management. Cities can move from VBWT towards FNI, WBWT or some other solution. Since the municipality of Falkenberg made its decision to implement WBWT, things have happened that might influence future decisions. Both Stockholm and Gothenburg, two big municipalities, have recently adopted the WBWT solution. Will this start a trend towards WBWT? Municipalities with WBWT have been asked about their experience with this solution and 96% answered that they were satisfied with the WBWT (Dahlén 2009, p.8).

If the municipality of Falkenberg had adopted FNI, it would also mean a risk for increased costs, because of the Extended Producer Responsibility (EPR). In August 2012, the SOU “Towards a Sustainable Society – resource efficient waste management” (SOU 2012:56) was published. According to the old law, it is difficult for the municipality to cover its cost for collecting materials under EPR. The SOU suggests that the collection should be assigned to the municipality. This means the conditions for FNI could change and the municipality would be able to cover its costs (SOU 2012:56 p.20).

Not involving Varberg might have been a mistake, according to interviewee E. Having a common waste management system must be essential, if you have a common water and waste company. However, the outcome could have been different if both cities had wished to change towards FNI or if Falkenberg had not acted on its own.

6.2 Prevention

“If you buy three large bags of food at the supermarket, when you come back home you can through one of those three bags straight into the trash bin, because this is what you would do in the end anyway...” It is 3PM, 26th of November 2012 in Falkenberg and a lecture starts with Anders Modig’s dreadful truth about household waste. Modig is an environmental scientist and very concerned about the future. It is clear; we throw away far too much. But what shall we do to reduce our waste?

Historically we ate ever bit on an animal from muzzle soup to chicken feet without even hesitate. As people become richer, we can afford to consume more. Nowadays we can pick the best bits.

EU's Waste Hierarchy - the flipped pyramid - is a good illustration of how to prioritize the handling of waste: Waste prevention and reuse is essential. There are several steps for the prevention of waste. Waste is of course is always related to production. Change towards a more sustainable production of items and consciousness in consuming are needed for a better environment.

6.3 Future research

“In field settings it is hard to tell when one action situation starts and another stops” (Ostrom 2011 p.15).

If I would proceed with these studies the external variables could be studied further. As Ostrom says it is important to understand the context in which the action situation is placed. This procedure might have added new insights for a wider set of conclusions.

It might also be of special interest to continue working on the Falkenberg case to study the actual impact and outcomes of the decisions taken. A special study could also be made of the implementation process.

7 Conclusion

I began this study of the policy process leading to a municipality's decision on household waste management models by formulating two critical questions:

- *How did the municipality of Falkenberg prepare for and reach a principal policy decision to implement WBWT for household waste?*

- *Can IAD ('Institutional Analysis and Development') help us understand the policy-decisions in a municipality?*

Now, when I have already answered vital parts of both questions, I will conclude by summarizing some of the key points in the analysis that serves as a basis for my answers.

The decision-making process in Falkenberg proved to be a long process. An interviewee told me that WBWT was already up for policy deliberations in the 1990's. Still, I consider the establishment of VIVAB in 2009 as the starting point for the policy process that would lead to a major decision on which solution for household waste management to adopt.

2009 was the year when the municipality of Falkenberg started to prepare and investigate two alternate waste solutions to the existing system of volume based waste tariffs. Information collection had begun as a basis for the policy process.

From the beginning, VIVAB was in favour of WBWT and a successful variety of WBWT was already well established in the neighbouring city of Varberg.

To add further information by also looking at the principal alternative solution for household waste management and recycling, a group from Falkenberg made a study trip to Helsingborg to see how the FNI was working. After this trip an investigation of the FNI model was commissioned to SWECO.

The SWECO report was not in favour of the FNI model. The uncertainty of its impact and risks for increased cost were arguments for a negative conclusion.

The report had a major impact on the policy process. Some politicians pushed for the FNI anyway and they still believe that it was a better solution for the municipality. Yet, finally, the municipal government decided to adopt WBWT to be implemented during 2013/2014.

Was the principal policy decision on household waste management made on the basis of economic considerations? To some extent yes but these considerations were probably not the crucial.

Despite my detailed case study and the generous sharing of first-hand insights by the interviewees, this is a complex case. To narrow down its main conclusion to one component is difficult.

As already mentioned, Pihl (2007) says: When applying environmental policies, at least three aspects are usually taken into consideration: is the solution technically possible, is the solution economically reasonable and is the solution environmentally motivated.

In the case study of Falkenberg's emerging waste management policy for the households, all these aspects were considered. Costs did matter, but I would say the heaviest argument was the wish for waste reduction and finding a solution that would fulfil this request. Another important factor was the desire to continue working with Varberg, using the jointly owned waste management company VIVAB.

I have been studying the *actors, actors' positions, allowable actions, potential outcomes, level of power for each actor, information available and costs and benefits of each outcome*. By studying these components has given me an answer to my research question.

The IAD Framework has been particularly useful when analysing the decision-making process in Falkenberg. Elinor Ostrom presents a framework for how to proceed systematically when analysing what she calls an Action Situation. The Action Situation is opened to find out where and how policy choices were prepared and made. I have come to understand how a municipality might reason when making decisions.

This framework was the centrality to my study. I am very satisfied with the outcome. My research has showed how IAD Framework can be used successfully in analysing a complex decision-making process over a long period of time. Hopefully my results may help other persons to do the same.

The world faces great challenges with sustainable development. The waste management is only a part of this but still important because it goals to not "*undermining the ability for future generations*" (Carter 2007, p. 2).

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Appendix

Interviews

Interview A Senior staff: 2012-11-26 – Meeting

Interview B Senior staff: 2012-11-27 – Meeting

Interview C Politician: 2012-12-04 – Meeting

Interview D Journalist: 2012-12-04 – Meeting

Interview E Senior staff: 2012-12-05 – Meeting

Interview F Politician: 2012-12-13 – Interview by telephone

Interview G Senior staff: 2012-12-17 – Interview by telephone

Interview H Senior staff: 2012-12-19 – Interview by telephone

Interview I Politician: 2012-12-22 – Interview by e-mail

Interview Questions

1. Beskriv ditt arbete, vad gör du? Hur länge har du arbetat som detta?
2. Kan du berätta hur du och din verksamhet jobbar med hållbar utveckling?
3. 2014 ska kommunen införa viktbaserad avfallstaxa, varför tror du kommunen valde detta alternativ? Vad var det som drev fram beslutet? Hur tror du att man resonerade under förberedelserna inför beslutet?
4. Uppstod bred politisk enighet i kommunen kring den lösning man till slut kom fram till? Vem eller vilka tog det första initiativet och vad hände sedan i processen?
5. De finns många olika typer av hushåll i kommunen. Gör ni åtskillnad kring den viktbaserade taxan och t ex personer som bor i en-person-hushåll i innerstaden och de som bor på småorter utan återvinningsanläggning i närheten? Gör ni någon form av geografisk uppdelning när det gäller avgifter? Varför inte?
6. Vad har kommunen fått för reaktioner på sitt arbete för hållbar utveckling? Hur uppfattas åtgärderna? Från hushållens sida? Från företagens? Ge gärna exempel!
7. Vad tror du driver människor till att tänka mer hållbart, mera ekologiskt? Vilka sätt? Exemplifiera! Ekonomiska, normer?
8. Något mer att tillägga?