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# Engendering Spatial Planning

A Gender Perspective on Municipal  
Climate Change Response

CHRISTIAN DYMÉN



**KTH Architecture and  
the Built Environment**

# **ENGENDERING SPATIAL PLANNING**

## ***A GENDER PERSPECTIVE ON MUNICIPAL CLIMATE CHANGE RESPONSE***

**CHRISTIAN DYMÉN**

Kungliga Tekniska högskolan  
Royal Institute of Technology  
School of Architecture and the Built Environment  
Department of Urban Planning and Environment  
Division of Urban and Regional Studies  
S-100 44 Stockholm  
<http://www.kth.se/>

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## **Abstract**

While climate change mitigation has been on the agenda of spatial planning practitioners for over two decades, adaptation has only become influential in spatial planning practice in recent years. This trend is evident not only at the municipal level but also at the regional and national levels. The revised planning and building law from 2011 states that municipalities must consider climate change. In parallel, a body of research focusing on the relationship between gender and concern for environmental and climate change and arguing that women are more concerned and proactive with respect to environmental issues has emerged. However, this research has been criticized for being essentialist and for stigmatizing women and men.

The long-term aim of the present dissertation is to contribute to knowledge on how a gender perspective on municipal spatial planning can contribute to efficient and well-informed climate change response, as well as on how a gender perspective, as an analytical framework, can be developed to analyze, on the one hand, spatial planning related to climate change and, on the other, spatial planning more generally.

One of the main contributions of my dissertation is to demonstrate that, by including a gender perspective in municipal climate change response, aspects that may be important for achieving efficient and well-informed spatial planning related to climate change response that are not typically prioritized can be afforded prominent places on the agenda. In this dissertation, I refer to these aspects as feminine values and perspectives—or attributes. I also contribute to the development of an analytical framework that can be used by policy makers and scientists to assess how a gender perspective is and can be integrated within municipal spatial planning processes related to climate change response, as well as spatial planning more generally.

Furthermore, in addition to the development of efficient and well-informed responses, a dimension of gender equality must be considered. My dissertation contributes to the understanding that planners who adopt a gender perspective must consider the general level of gender equality in a country. Although the primary objective of this dissertation is to contribute to the development of efficient and well-informed policy, issues of equality and democracy cannot be overlooked. As I argue in my dissertation, participatory approaches to spatial planning are imperative for municipal efforts related to climate change. Nonetheless, participatory approaches require spatial planners to ensure that democracy and equality, on the one hand, and efficient and well-informed policy delivery, on the other, do not conflict.

**Keywords:** Spatial planning, climate change, gender perspective

## Sammanfattning

Medan samhällsplanerare i över två årtionden har arbetat med att minska utsläpp av växthusgaser, har klimatanpassning bara börjat ta plats i samhällsplaneringen. Trenden märks såväl på kommunal nivå, som på regional och nationell nivå. Den nya Plan- och Bygglagen från 2011 är tydlig med att kommuner ska beakta klimatfrågor i sin planering. Parallellt, har ett forskningsfält utvecklats där relationen mellan genus och oro för miljö- och klimatförändringar studeras. Ett huvudargument är att kvinnor är mer oroad för och pro-aktiva vad gäller miljöfrågor. Emellertid har denna forskning kritiserats för att vara essentiell och att den stigmatiserar kvinnor och män.

Det långsiktiga syftet med min avhandling är att bidra till kunskap om hur ett genusperspektiv i kommunal samhällsplanering kan bidra till effektiva och välinformerade gensvar på klimatfrågan. Syftet är också att bidra till kunskap om hur ett genusperspektiv, som ett analytiskt ramverk, kan utvecklas för att analysera samhällsplanering, dels när klimatfrågor står i fokus, och dels mer generellt.

Ett av avhandlingens huvudbidrag är att demonstrera att, genom att inkludera ett genusperspektiv i kommunalt klimatarbete, kan aspekter som är viktiga för att uppnå effektiva och välinformerade gensvar på klimatfrågan, men som normalt inte prioriteras, lyftas upp på agendan. I avhandlingen tillskrivs dessa aspekter feminina värderingar och perspektiv. Avhandlingen utvecklar även ett analytiskt ramverk som kan användas av praktiker och forskare för att utvärdera hur ett genusperspektiv integreras, alternativt kan integreras, i kommunal samhällsplanering, dels när klimatfrågor står i fokus, och dels mer generellt.

Vidare, utöver utvecklandet av effektiva och välinformerade gensvar, bör även ett jämställdhetsperspektiv beaktas. Min avhandling bidrar till förståelsen att samhällsplanerare som beaktar ett genusperspektiv, även bör beakta nivån av jämställdhet i landet. Även om det primära syftet med avhandlingen är att bidra till att utveckla effektiva och välinformerade gensvar på klimatfrågan, bör frågor om jämställdhet inte ignoreras. Som jag argumenterar i avhandlingen, är ett deltagandeperspektiv i samhällsplaneringen nödvändig för kommunalt gensvar på klimatfrågan. Icke desto mindre kräver deltagande att samhällsplanerare säkerställer att demokrati och jämställdhet och effektiv och välinformerad policy inte skapar konflikter.

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- I** Dymén, C., Langlais, R. (2012). Adapting to climate change in Swedish planning practice. *Journal of Planning Education and Research*, 33(108), 108-119. doi: 10.1177/0739456X12463943
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- III** Dymén, C., Langlais, R., & Cars, G. (2013). Engendering climate change: the Swedish experience of a global citizen's consultation. *Journal of Environmental policy and Planning*. doi:10.1080/1523908X.2013.824379
- IV** Dymén, C., & Ceccato, V. (2012). An international perspective of the gender dimension in planning for urban safety. In V. Ceccato (Ed.), *Urban fabric of crime and fear* (pp. 311-339). Springer Science.

Papers 1-4 have been reused with kind permission from Springer Science and Business Media B.V., Taylor and Francis, and SAGE.

## Preface

My first experience studying gender issues in spatial planning occurred on a field trip to the east coast of Kenya. I was there, as part of my master's degree thesis research, to study how women and men experience their everyday lives and how these experiences are addressed in policy making in a coastal town called Mombasa. It became obvious to me that gender affects how urban space is used and, as a consequence, how everyday life is performed. Specifically, I saw women walking for hours each day between their informal workplaces in downtown Mombasa to their homes in the outskirts and shantytowns surrounding the city center. Buying a single bus ticket would consume at least 50 percent of their daily income. Witnessing this reality, every day, made me conscious of the pervasive relationships between gender and urban environments and spatial planning. Men with higher incomes could take public transportation between their homes and downtown and thereby gain a few extra hours per day, something that poor women could not even dream about. The most fortunate men even had access to a car. During my fieldwork, I also observed that, within the informal economy, a clear hierarchy exists between women and men regarding access to urban space to market and sell various goods. Men often had access to the main streets, while women were driven to the outskirts and smaller streets. Furthermore, men generally have more time to socialize than women, providing them with greater social capital and influence.

For several years after those experiences, I worked as a professional planner. Between 2006 and 2008, I managed a project at the County Administrative Board of Stockholm to introduce a gender perspective to spatial planning and especially housing issues. My work in this project reinforced my understanding that experiences related to, for example, transportation, housing, time use, and the environment, were gendered.

Consider the following example. Relative to men, women generally work closer to their home environment in jobs that are often related to health care, childcare, and elderly care. Several possible explanations exist for this phenomenon. While these jobs are heavily dominated by women, women might also choose these jobs because they are often located in their neighborhood, thereby facilitating domestic tasks, such as shopping for groceries, picking up children from school, and visiting grandparents. Thus, the use of transportation may be gendered. Women tend to use public transportation in their neighborhood and during off-peak hours. Moreover, this observation reflects the everyday reality for those working evenings and nights at hospitals. Men tend to use cars or public transportation during peak hours when public transportation is much more available. Failing to account for these gender differences would result in poorly planned urban environments.

Gender differences related to the abovementioned aspects imply that attitudes toward and uses of urban environments are gendered. Because urban environments are used and experienced in different ways, spatial planning processes must consider gender to take into account the perspectives, attitudes, behavior, and experiences of not only men but also women. Incorporating a gender perspective could, with the proper tools and methods, ensure that urban environments accommodate the experiences of both women and men. For me, including a gender perspective is a question of not only justice and equality but also function. To create urban environments that respond to the lives of both women and men, planners should be informed of and driven by the expertise of citizens.

The example presented above is only one of many in which gender matters. Continuing the example, gender differences in transportation and travel patterns are well known to influence the way that the environment is exploited. Driving cars generates a larger carbon footprint than using public transport. In recent years, the topics of global warming and climate change have received high priority in spatial planning policy. While climate change and its consequences for the built environment have long been studied and discussed in academia and practice, the debate over global warming took a new turn a few years ago when the media amplified the debate; Al Gore presented his movie, *An Inconvenient Truth*; and the Intergovernmental Panel on Climate Change presented its *Fourth Assessment Report: Climate Change 2007*.

Municipalities are increasingly aware of climate change issues and increasingly seek spatial planning strategies to cope with it. Such strategies involve both adapting to inevitable changes in the climate, in which flooding, droughts, erosion, and heat islands are among the more extreme impacts, and mitigating the long-term effects of climate change by reducing greenhouse gas emissions from housing and transportation. As municipalities are seeking strategies to respond to climate change, I perceived an opportunity to contribute relevant knowledge by considering a gender perspective in this search for climate change response strategies.

In March 2010, the Swedish Government presented parliament with a proposition for a new planning and construction law. The law was passed by parliament on the 21st of June 2010 and came into force on the 2nd of May 2011 (Sweden, 2010). This legislation clearly stated that municipal spatial planning authorities have substantial responsibility in adapting to and mitigating climate change. The law now clearly states that spatial planning authorities must consider climate change issues in their planning processes.

# 1 Introduction

While spatial planning practice has considered climate change mitigation for over two decades, adaptation has only become influential in spatial planning practice in recent years. This trend is evident not only at the municipal level but also at the regional and national levels. The revised planning and building law from 2011 requires municipalities to consider climate change. In parallel, a body of knowledge focusing on the relationship between gender and concern for the environment and climate change and arguing that women are more concerned with and active in environmental issues has emerged.

Women not only travel in more environmentally friendly ways than men but also are more apt to reduce automobile use than men if doing so can contribute to a better environment for current and future generations. One logical explanation for this difference is that in contemporary society, women are generally primarily responsible for domestic tasks related to unpaid work, such as childcare, elderly care, and shopping. This responsibility also entails a concern for interpersonal relationships for current and future generations. Drawing further conclusions from these simplistic observations is tempting; for example, when women constitute the majority of municipal officials or decision makers involved in municipal spatial planning, attitudes, behaviors, and concerns related to the environment will, in turn, necessarily be more feminine.

I wish to avoid this temptation, however, as female planners might also be educated in a masculine tradition. Additional empirical evidence regarding how including a gender perspective in municipal spatial planning influences climate change response is required. This dissertation aims to fill these research gaps and to find ways to integrate gender, spatial planning, and climate change response, both as a contribution to academia and as inspiration for spatial planners.

Research that includes a gender perspective must also avoid reinforcing gender inequalities by dichotomizing the behaviors and attitudes of women and men. This dissertation attempts to transcend differences between women and men, which are certainly driven by numerous factors, such as ethnicity, culture, and a country's general level of equality, and to identify feminine and masculine values and perspectives that reveal the power relations in spatial planning departments. Given the prospects presented above, the long-term aim of the present dissertation is to contribute to knowledge on how a gender perspective in municipal spatial planning can contribute to efficient and well-informed climate change response, as well as on how a gender perspective, as an analytical framework, can be developed to analyze, on the one hand, spatial planning related to climate change and, on the other, spatial planning more generally.

In the next section, I formulate the research objectives of my dissertation. Next, in Section 3, I present a literature review, which is crucial for framing my understanding of a gender perspective in municipal spatial planning related to climate change response. The literature review helps me to identify research topics to which I can contribute. As stated above, my research attempts to go beyond a simple investigation of differences between women and men by focusing on how a gender perspective in municipal spatial planning practice can contribute to efficient and well-informed climate change response. To do so, I develop the theoretical framework presented in Section 4.

Section 4 introduces the core concepts that are employed and discussed in the four papers and particularly in this cover essay. Next, Section 5 provides a discussion of my methodological approach, and Section 6 summarizes my four papers. The final section discusses my papers in relation to the research objectives and theoretical concepts.

As knowledge regarding gender and climate change is lacking, especially relative to other fields of spatial planning, such as issues of gender and urban safety, I am specifically interested in studying the relationship between gender and climate change. My research is primarily reported in four papers and this cover essay. Each paper elaborates on the issues of climate change, gender, and spatial planning in different ways. Paper 1 empirically investigates the primary challenges facing Swedish municipalities when they attempt to integrate climate change into their spatial planning practices. Papers 2 and 3 discuss how a gender perspective can contribute to efficient and well-informed climate change response in Swedish municipalities. Paper 3 also develops a gender perspective as an analytical framework in spatial planning related to climate change. Paper 4 presents information on integrating a gender perspective in spatial planning with a focus on safety, an area that has been researched and addressed in practice for many decades. Paper 4 also contributes to the development of a gender perspective as an analytical framework in spatial planning generally. This cover essay discusses the overall theoretical and methodological approach of the dissertation and the implications of the presented papers for practice and theory.

## **2 Research Objectives**

To recapitulate, the long-term aim of the present dissertation is to contribute to knowledge on how a gender perspective on municipal spatial planning can contribute to efficient and well-informed climate change response, as well as on how a gender perspective, as an analytical framework, can be developed to analyze, on the one hand, spatial planning related to climate change and, on the other, spatial planning more generally.

To concretize that aim, the following three objectives are addressed in one or more of my four papers, as well as in latter sections of this cover essay.

The objectives of my dissertation are as follows:

1. To investigate what main challenges Swedish municipalities will face in integrating climate change into their panoply of concerns and how these challenges can be understood from a gender perspective (Papers 1 and 2 and the cover essay)
2. To investigate how a gender perspective can contribute to efficient and well-informed climate change response in Swedish municipalities' spatial planning practice, in light of the main challenges identified (Papers 2 and 3 and the cover essay)
3. To investigate how a gender perspective, as an analytical framework, can be developed to analyze, on the one hand, spatial planning related to climate change and, on the other, spatial planning more generally. To contribute to the development of this framework, experiences from spatial planning practice and theory related to safety, where a gender perspective has been considered for several decades, are investigated (Papers 3 and 4 and the cover essay).

### 3 Gender and Climate Change

In this section, I present a literature review, which is crucial for framing my understanding of a gender perspective. The review is situated at the intersection of gender and municipal spatial planning related to climate change response. This literature review aims to identify areas in which my research can contribute a gender perspective and to locate useful theoretical concepts for the discussion of my papers.

A particular series of studies motivated me to investigate how adopting a gender perspective in municipal spatial planning can contribute to efficient and well-informed climate change response. This body of literature is particularly concerned with empirical studies on behaviors, concerns, and values related to the environment and how the environment is exploited.

With respect to behavior, a large body of literature suggests that everyday life patterns in, for example, transportation and energy use differ between women and men (see, e.g., Polk, 1998, 2003, Carlsson-Kanyama, Lindén and Thelander, 1999, Krantz 2000, Transek 2006ab, Johnson-Latham 2007, Sandow 2008). In addition to actual daily life patterns, research on, for example, environmental sociology and social psychology suggests that gender differences exist regarding concerns, values, and perceptions related to the environment (Norgaard and York, 2005, Bord and O'Connor, 1997, Davidsson and Freudenberg, 1996, and Zelezny, Chua and Aldrich, 2000). In general, women are more concerned about the environment and adopt behavior that is more environmentally friendly than men.

Other studies focus on investigating gender differences in concern for the environment, in both private and public life. Norgaard and York (2005) and Villagrasa (2002) argue that women were imperative to the development of Local Agenda 21 programs and UN negotiations regarding the Kyoto protocol. Other studies argue that gender differences primarily occur in private, not public, life, such as expressions of public environmental concern and attendance of public meetings (see, e.g., Tindall, Davies and Mauboule 2003 and Hunter, Hatch and Johnson, 2004).

While reviewing the literature, I become concerned that focusing on differences between women and men would solely contribute to a quantification of the ways in which women and men use the environment. However, I find it useful to argue, similarly to Henwood, Parkhill and Pidgeon (2008), that future research must move beyond focusing on gender differences and study the effects created by gender and power aspects related to gender. Based on this knowledge, my dissertation attempts to go beyond the patterns of everyday life and to instead focus on how being aware of and responsive to gendered aspects/gendered dimensions can help to shape the agenda of municipal climate change response.

Before pursuing that task, however, the next section investigates recent research on gender and municipal climate change response in a Swedish context. Reviewing this research is necessary to specify how my empirical research on Sweden can contribute to achieving the aims of my dissertation.

### 3.1 Gender and Climate Change in the Swedish Context

The systematic investigation of research published on gender and climate change response in the Swedish context is primarily based on a search using Google Scholar. As a criterion, I required that the hits from Google Scholar be manageable and simultaneously provide a good indication of the available literature. To do so, a trial and error phase included several tests of keywords in Google Scholar's advanced search options. The first search included the following keywords: gender, climate change, Sweden, municipal, and local. This search yielded nearly 8000 hits. The final, manageable search yielded 234 hits and only included articles published between 2011 and 2012. Table 1 presents the keywords that were used. The search included a number of terms that were excluded because I am not particularly interested in climate change issues related to the Global South or women's vulnerability in developing countries.

*Table 1: Keywords in Google Scholar's advanced scholar search*

Searched only 2011-2012	
with <b>all</b> of the words	Women OR Gender Swedish
with the exact phrase	Climate Change
with <b>at least one</b> of the words	Municipal Local Municipality Municipalities "Local Environment"
<b>without</b> the words	Africa African Asia Asian Pacific "Global South" "South America" "South American" South "Third World" "Developing Country" "Developing Countries"

From the list of 234 publications, I selected those publications for which the title or abstract indicates that the topic of the paper concerns gender, climate change/global warming, and Sweden. By Sweden, I mean papers that in any way concern Sweden or for which the author(s) has a Swedish affiliation, such as an affiliation with a Swedish university or institution. A total of 23 publications were then selected. The reference lists of these publications were then scrutinized with regard to gender, climate



change/global warming, and Sweden, and articles published before 2000 were excluded. This procedure was reiterated until no further publications were found or until the publications began referring to one another. However, a challenge in the literature review was determining when the subject of the article was overly broad or off topic, for example, studies that consider gender and the environment but do not specifically address climate change or global warming. This restriction was applied in every case.

After reviewing the literature, I intuitively categorized the articles into ten categories (see the subsections below and Table 2). In general, most of the publications do not focus on climate change and global warming but rather focus on environment and ecology generally and regard climate change and global warming as one of many environmental aspects. The following subsections present the literature review, with each category representing one subheading.

*Table 2: Main themes and number of articles and authors in the literature on gender and climate change in Sweden*

THEME	NUMBER	AUTHORS
Consumption and use of resources	3	Carlsson-Kanyama, Eriksson et al. (2001), Carlsson-Kanyama & Lindén (2001), Isenhour et al. (2009)
Ecological citizenship	7	Jagers (2009), Lindén (2004), Lindén (2001), Martinsson et al. (2010), Nordlund et al. (2010), Svensson (2012), Wester et al. (2011)
Education, knowledge, and interest related to climate change	1	Dijkstra (2011)
Justice and sustainability	2	Bradley (2009), Gunnarsson-Östling, (2011)
Risk awareness	1	Sundblad et al. (2007)
Support and concern for the environment and climate change	11	Dahl (2011), Eisler et al. (2003), Marquart-Pyatt (2012), Marquart-Pyatt (2008), Scruggs et al. (2012), Swedish Environmental Protection Agency (2007, 2008, 2009), ARS Research AB (2007, 2009), Torgler et al. (2008)
Transportation and mobility	5	Christensen et al. (2007), Frändberg et al. (2011), Frändberg et al. (2003), Polk (2003, 2009)

Energy use	8	Carlsson-Kanyama et al. (2010), Carlsson-Kanyama et al. (2008), Carlsson-Kanyama et al. (2005), Carlsson-Kanyama et al. (2003), Carlsson-Kanyama et al. (2002), Martinsson et al. (2011), Roehr (2001), Rätty et al. (2010)
Vulnerability to climate change	6	Björnberg et al. (2013), Björnberg et al. (2012), Carlsson-Kanyama et al. (2009), Hansson (2007), Lowe et al. (2011), Rocklöv et al. (2008)
Broad scope including governance and policy	9	Björnberg et al. (2009), Carlsson-Kanyama et al. (2012), Dahl et al. (2010), Dymén, Andersson et al. (2013), Dymén, Langlais et al. (2013), Johnsson-Latham (2007), Nordic Council of Ministers (2009), Oldrup et al. (2009), Skill, (2008)

### Consumption and use of resources

Three publications, namely, Carlsson-Kanyama, Eriksson and Henriksson (2001); Carlsson-Kanyama and Lindén (2001); and Isenhour and Ardenfors (2009), are related to this theme. All three articles investigate gender differences with respect to the consumption and use of resources. The methods used in these articles include literature reviews, quantitative surveys, and mixed methods approaches.

Carlsson-Kanyama et al. (2001) and Carlsson-Kanyama and Lindén (2001) argue that women generally have a higher degree of concern for the environment than men and, particularly regarding food consumption, find that women eat less meat than men. Women also have a greater interest in environmental information and information on food origins. Isenhour and Ardenfors (2009) discuss the role of gender in sustainable consumption. One of their main conclusions is that “while Swedish gender equity policies have supported the development of greener lifestyles, sustainable development may not be realised if policies emphasise the role of consumers rather than producers while relying disproportionately on women” (p.135).

### **Ecological citizenship**

Jagers (2009), Lindén (2001, 2004), Martinsson and Lundqvist (2010), Nordlund, Eriksson and Garvill (2010), Svensson (2012), and Wester and Eklund (2011) focus on citizens' ecological or environmental lifestyles. These publications focus on attitudes and behaviors in everyday life and lifestyles that contribute to ecological and environmental sustainability. The methods used in these articles include quantitative surveys and case studies. Gender differences are observed with respect to the forces driving the adoption of *green* lifestyles. Women are generally found to be more willing to take action on behalf of the environment than men. However, Nordlund et al. (2010), for example, emphasize that not only women but also youths, more informed individuals, and more highly educated individuals show stronger proenvironmental attitudes and behaviors than other individuals.

Furthermore, Lindén (2001, 2004) focuses on connecting the behaviors of households and citizens with their social contexts, including policy and government regulation, the energy sector, and the food supply sector. These papers argue that individual factors such as gender are important for understanding how policy should be oriented to encourage environmentally supportive behavior.

### **Education, knowledge, and interest related to climate change**

Only one publication related to this theme. This publication focuses on evaluating secondary school students' opinions regarding participating in science projects related to climate change (Dijkstra and Goedhart, 2011). The results show that these science projects had greater effects on females with respect to both the development of new ideas on climate change and lessons learned. The data are primarily drawn from surveys.

### **Justice and sustainability**

This category contains two doctoral dissertations (Bradley, 2009 and Gunnarsson-Östling, 2011) that focus on justice issues in sustainable urban development and spatial planning. These dissertations do not explicitly focus on climate change, although it is an important aspect of the sustainability debate. The authors discuss gender as one of several aspects, such as ethnicity and other social dimensions, that influence discourses and issues of justice related to urban sustainable development.

Bradley (2009) is based on case studies in Stockholm and Sheffield. "The case study in Stockholm illustrated the prevalence of a dominant discourse among residents in which Swedishness is connected with environmental responsibility in the form of tidiness, recycling and familiarity with nature. In Sheffield there are more competing and parallel environmental discourses. The mainstream British environmental discourse and sustainability strategies are being criticised from Muslim as well as

green radical perspectives. The mainstream discourse is criticised for being tokenistic in its focus on gardening, tidiness, recycling and eco-consumption, and hence ignoring deeper unsustainable societal structures” (p.5).

Gunnarsson-Östling (2011) contributes to knowledge on “long-term planning for sustainable development through exploring environmental justice and gender discourses in planning and futures studies” (p.3). The research is conducted through “discussions with planners in Stockholm, Sweden, and through looking at images of future Stockholm and the environmental justice implications of these” (p. 3). As one of its central contributions, the dissertation identifies the need to address procedural and outcome values in both planning and futures studies.

### **Risk awareness**

Only one publication, Sundblad, Biel, and Gärling (2007), is related to this theme, even though risk awareness may be a fundamental aspect of gender differences in, for example, concern for climate change and support for remedies to it. Sundblad et al. (2007) conduct their investigation with a questionnaire sent to Swedish residents. Factors such as gender, parenthood, education, urbanization level, and climate change knowledge are studied. “Regression analyses showed that both cognitive risk judgments (of probability) of serious negative consequences and affective risk judgments (worry) were predicted by knowledge of causes and consequences of climate change, in particular health consequences” (p.97). A central conclusion related to gender is that “women were more worried than men but did not differ from men with respect to cognitive risk judgments” (p.97).

### **Support and concern for the environment and climate change**

Studies related to this theme attempt to identify factors that influence citizens’ attitudes, support, and concern regarding the environment. Gender is identified as one of many factors, such as culture, demography, social forces, education, age, and economic considerations, that influence concern for the environment. Many of the studies are cross-national, empirical assessments that use quantitative survey data in their analyses.

A series of publications from the Swedish Environmental Protection Agency (2007, 2008, 2009) is particularly interesting for assessing how patterns in Swedish citizen’s attitudes and knowledge related to climate change evolve over time. In general, the results indicate that individuals’ willingness to reduce their emissions has increased over time. However, these studies do not focus on particular factors, such as gender, that influence attitudes and knowledge regarding climate change. Nevertheless, the Swedish Environmental Protection Agency commissioned ARS Research AB (2007, 2009) to investigate how attitudes and knowledge related to climate change have

evolved over time from a gender perspective. The results indicate that women are generally more engaged in climate change issues and are more willing to act than men. Furthermore, women are generally more likely to mitigate their impact on the climate and have higher levels of environmental awareness than men.

Similar research, but with a broader geographical focus that includes Sweden as well as countries in Asia, Europe, and the Americas, investigates how gender, age, education, and so forth influence attitudes, support, and concern regarding the environment (A.D. Eisler, Eisler and Yoshida, 2003, Marquart-Pyatt, 2012, Marquart-Pyatt, 2008, Scruggs and Benegal, 2012, and Torgler, García-Valiñas and Macintyre, 2008). In general, the results support the findings of the Swedish Environmental Protection Agency (2007, 2008, 2009) and ARS Research AB (2007, 2009). Some of these studies consider both individual characteristics, such as age, gender, and education, and country-level factors, such as economic and political systems, to explain environmental attitudes, concern, and support (Marquart-Pyatt, 2008, 2012).

Dahl (2011) goes beyond a simply investigation of differences between women and men. The author investigates explanations for environmental choices with respect to climate change and environmentally friendly travel. Through focus group discussions, the author finds interesting patterns concerning masculinity, femininity, and transportation choices. For example, the study does not find any feminization of environmental engagement or environmentally friendly behavior. However, the interviews that were conducted in the study clearly identify a discourse emphasizing men's resistance to environmental concerns and men's lifestyles that place an excessive burden on the environment. In other words, the women and men participating in the interviews positioned themselves in contrast to "environmental thieves," which are often characterized as men.

### **Transportation and mobility**

Most of the publications related to this theme exclusively focus on mobility and transportation patterns in Sweden. Gender and other socio-economic factors are studied, and gender is generally found to be important for understanding differences in mobility and travel patterns.

Frändberg and Vilhelmsson (2003, 2011) and Polk (2003) are empirical studies that use data from the Swedish National Travel Survey. Frändberg and Vilhelmsson (2011) conclude that "distances travelled both daily and abroad have increased more rapidly among women than among men in recent decades, and women as a group have also increased their car driving and aeromobility more rapidly than men have" (p. 1242). However, in all age groups, "men still travel longer in their everyday lives than women.... To the extent that gender relations have been renegotiated in the recent past, this has clearly not resulted in lower mobility levels for men in general

(p.1243). Frändberg and Vilhelmsson (2003) conclude that “an important finding is that women travel less than men, even when factors such as income, age, region, etc. are controlled for” (p. 1764). Polk (2003) emphasizes not only behavior in relation to transportation and mobility but also individual willingness to change behaviors.

Women are more environmentally concerned and express more criticism of automobility than men...; women are more positive towards proposals that reduce or eliminate the environmental impact of car use to than men...; women express more willingness to reduce their use of the car than men. In general, while there are not large differences between men and women and their attitudes towards auto mobility, women consistently show more support of ecological issues and are more positive towards measures which entail reductions in car use, such as improving and expanding public transportation. Women were furthermore more prepared to participate in ecologically benign activities to a greater extent than men, which included reducing car use.” (p. 75)

Christenssen et al. (2007) and Polk (2009) provide literature reviews focusing on the relationship between gender and transportation. The authors argue that there is a strong case for including a gender perspective in policy development. Christenssen et al. (2007) assert that “transport is a traditionally male-dominated sector, both from the employment point of view and for the values that are there embedded” (p.5). Polk (2009) strengthens this statement by arguing that because men and masculine norms dominate the transport sector, differences between women and men have affected the development of the transport sector very little. One consequence of this masculinization is that paradigms, skills, and knowledge bases that are capable of reducing emissions are ignored.

### **Energy use**

Two streams of the literature are related to this theme. The first stream of the literature focuses on measuring socio-economic factors that influence energy consumption. Gender is found to be an important factor. These studies are primarily quantitative and use survey data. The second stream of the literature is more focused on policy, gender equality, and power issues related to women’s and men’s influence on energy consumption and production, for instance, by being members of corporate boards.

In the first stream of the literature, Carlsson-Kanyama and Lindén (2002); Carlsson-Kanyama, Ekström, and Shanahan (2003); Carlsson-Kanyama, Lindén, and Wulff (2005); Carlsson-Kanyama and Rätty (2008); and Rätty and Carlsson-Kanyama (2010) all find that women generally use less energy than men. Rätty and Carlsson-Kanyama (2010), for example, argue that “significant differences in total energy use were found in two countries, Greece and Sweden. The largest differences found between men

and women were for travel and eating out, alcohol and tobacco, where men used much more energy than women” (p.646). However, Martinsson and Lundqvist (2011) emphasize that the most important socio-economic factors related to energy savings are age, housing type, and household income (not gender). The authors also contend that socio-economic factors are more important than environmental attitudes for assessing the potential for reducing energy use.

In the stream of literature related to policy, gender equality, and power issues, Carlsson-Kanyama and Rätty (2008); Carlsson-Kanyama, Julia, and Röhr (2010); and Roehr (2001) are particularly interesting. Carlsson-Kanyama et al. (2010) conclude that gender representation on the boards and management teams of large energy companies in Germany, Spain, and Sweden is far from equal. The unequal representation of women in energy companies is discussed “against the background of differences in risk perceptions among women and men, evidence of women’s impact on boards and companies’ performance and the substantial risks related to unabated climate change” (p. 4737). Furthermore, Roehr (2001) raises the issue that women’s underrepresentation in the energy sector leads to gender-specific demands that do not appear in relevant documents.

### **Vulnerability to climate change**

Publications related to this theme focus on the consequences of climate change in relation to the vulnerability of different groups. The literature clearly indicates that women are more affected by climate change than men in both developed and developing countries. This research is highly focused on policy and addresses spatial planning, especially at the municipal level. These studies use literature reviews, policy documents, and best practices as methodological approaches. Furthermore, most of these publications are written under the framework of the Climatools research program, which adopts an interdisciplinary approach to provide municipal spatial planners with tools to adapt to climate change.

These papers include Björnberg and Hansson (2012, 2013), Carlsson-Kanyama et al. (2009), Hansson (2007), and Rocklöv, Hurtig, and Forsberg (2008). Björnberg and Hansson (2013), for example, emphasize that climate change will have disproportionately adverse effects on women and that the “lack of political power, small economic resources, gender-bound patterns in the division of labour, entrenched cultural patterns and possibly biological differences in heat sensitivity combine to make women and girls particularly vulnerable to extreme weather and other climate-related events” (p. 217). Carlsson-Kanyama et al. (2009) review how “geographic information (GI) and geographical information systems (GIS) are used and how they could be employed in helping vulnerable groups during the extreme weather events predicted to become more common due to global warming” (p.4).

The only publication not published within Climatools is Lowe, Ebi, and Forsberg (2011). This article is the only publication that is included in this review that exclusively focuses on Heat Wave Early Warning Systems (HEWS). The article aims “to identify the key characteristics of HEWS in European countries to help inform modification of current and development of, new systems and plans” (p. 4623). The main finding is that “twelve European countries have HEWS. Although there are many similarities among the HEWS, there also are differences in key characteristics that could inform improvements in heatwave early warning plans” (p.4623). Gender is not central to the article, although elderly women are mentioned as a vulnerable group.

### **Broad scope including governance and power**

Publications in this category are generally broad in scope and include numerous dimensions of climate change and gender. These publications contribute a new dimension to the literature reviewed above, namely, aspects related to policy and municipal climate change response. These studies primarily use literature reviews and desktop research.

Several of the publications are published as part of the Climatools research program, such as Björnberg and Svenfelt (2009), Carlsson-Kanyama and Friberg-Hörnsten (2012), and Dahl and Henriksson (2010). Carlsson-Kanyama and Friberg-Hörnsten (2012) provide a good overview of the relationship between politicians’, directors’, and leaders’ attitudes toward and doubts concerning climate change and the way in which a municipality responds to climate change. The report may be useful not only for the scientific community but also for policy makers at the regional and national levels, as they provide municipalities with accurate tools and information to cope with climate change. The report does not specifically focus on gender, but gender appears to be an important indicator for identifying climate deniers: a “climate denier can be characterized as a man in a rather small municipality with a conservative stance (for politicians), while a climate believer can best be described as a woman in a larger municipality who supports the Green Party or the Social Democrats (for politicians)” (p. 6).

Dahl and Henriksson (2010) and Björnberg and Svenfelt (2009) adopt a broader approach, placing gender and climate change in a wider spatial planning context. They provide an overview of both gender and climate change specifically and gender issues in spatial planning processes more generally. As research on gender and planning has a longer tradition than research on gender and climate change, much can be learned from the planning field in this respect.

The issue of climate change and gender has also received attention at the political level. Oldrup and Hvidt Breengaard (2009), Nordic Council of Ministers (2009), and



Johnsson-Latham (2007) systematically argue why gender must be included in environmental and climate change–related decision making.

Johnsson-Latham (2007) presents an advisory paper commissioned by the Swedish Environment Advisory Council, as an input to the 15th meeting of the UN Commission for Sustainable Development in May 2007. “The purpose of the study is to bring out often-neglected facts concerning dissimilarities in the lifestyles and consumption patterns of women and men, and thus in their environmental impact, by describing how men, primarily through their greater mobility and more extensive travel, account for more carbon dioxide (CO<sub>2</sub>) emissions than women, in both rich and poor countries” (p. 5). The report has been widely cited in the academic literature and in policy documents, and its value lies in illustrating women’s and men’s carbon footprints and, more importantly, how decision makers can incorporate gender equality into policy work.

Oldrup and Hvidt Breengaard (2009) aim to provide input for the Nordic Summit Conference on Gender and Climate Change. The report “seeks to increase visibility in the following areas: Women and men affect the environment differently; women and men are affected differently by climate change; the gender distribution in climate-related decision-making processes is out of balance. Further, the report illustrates that there are major differences in the environmental impact of developed and developing countries” (p. 10). Oldrup and Hvidt Breengaard (2009), as summarized in Nordic Council of Ministers (2009), present an overview of gender and climate change from a global perspective, which includes examples from developed (such as Sweden) and developing countries. Furthermore, the authors argue that to ensure that women’s and men’s views, needs, and interests are represented in decision making, women and men should be equally represented in decision making.

Moreover, a PhD dissertation by Skill (2008), adopts a broad approach to studying the relationship between households and activities for sustainable development, including political participation. Gender roles are considered fundamental in this relationship. The aim of this doctoral dissertation is to “investigate how Swedish householders perceive their role in creating and solving environmental problems, and what actions these householders take in light of this” (p. 28). The study investigated how “the householders themselves define their role in relation to that of others, and how ecological action space is (re)created through interaction between structures and actors” (p. 29).

This category also includes Dymén, Andersson, and Langlais (2013) and Dymén, Langlais and Cars (2013), which are part of my PhD dissertation. The objective of Dymén, Andersson, and Langlais (2013) is to investigate whether and how gendered aspects of climate change response are integrated into Swedish municipal planning

on the topic. Dymén, Langlais, and Cars (2013) contribute knowledge on how to integrate a gender perspective into climate change response. The methodological approaches and results of these papers are presented in Sections 5 and 6 of this cover essay.

### ***3.2 Implications of the Literature Review***

In conducting the literature review presented above, I observed a general pattern that much of the literature is quantitatively driven in providing evidence that women and men have different approaches to climate change in particular and the environment more generally. The literature seems to be decisive about gender differences related to climate change. Some studies examine how gender differences can be integrated and understood in spatial planning processes and provide clear evidence that including both women and men in spatial planning processes concerning climate change is important. However, my concern is that quantitative analysis cannot completely address these issues. Even the publications related to governance and power are highly focused on investigating differences between women and men and emphasizing the need for representation of both women and men in political decision making. Johnsson-Latham (2007) and Oldrup and Hvidt Breengard (2009), for example, emphasize that women should be better represented in decision making.

On the basis of the information presented above, I assume that including women in spatial planning processes related to the environment or, in my case, climate change would help make spatial planning responsive to climate change issues. Until I began the empirical work for my PhD dissertation, this assumption seemed intuitive. Little of the existing literature problematizes the differences between women and men, on the one hand, and the relation between these differences and feminine and masculine values and perspectives, on the other, in a society that is supposed to treat genders equally. Having numerous women employed in spatial planning offices addressing climate change and environmental issues does not guarantee that traditionally feminine values and perspectives will be considered. Moreover, the interviews conducted by Dahl (2011) indicate that feminine and masculine discourses are separate from the attitudes and behaviors of men and women, a perspective that is further developed in Dymén, Langlais, and Cars (2013). Thus, the feminine and masculine values and perspectives prevailing in spatial planning offices are not necessarily related to the values and perspectives of men and women. In other words, women do not necessarily adopt traditional feminine values and perspectives.

The conclusion of the desktop research conducted by Dahl and Henriksson (2010) is also interesting. The authors emphasize that much of the gender research conducted in the field of spatial planning is equivalent to a women's perspective. In other words, women are regarded as the central subject in this stream of literature. Dahl and Henriksson (2010) highlight the lack of a gender perspective in the literature that

considers how the construction of gender influences various societal fields and levels. My research attempts to address this shortcoming by focusing on the construction of gender in municipal spatial planning related to climate change (and spatial planning more generally) and by distinguishing between the attitudes and behaviors of women and men, on the one hand, and feminine and masculine values and perspectives, on the other.

Furthermore, a challenge for my research concerns presenting evidence regarding the importance of including a gender perspective in municipal climate change response without reinforcing a dualistic conception, for instance, the argument that women, as opposed to men, are natural caretakers of the environment. I am not explicitly interested in analyzing differences between women and men, as these differences are likely related to the level of gender equality in a specific country and other factors, such as ethnicity, class, and socio-economic status. One might argue that differences between women and men are rather small in a country such as Sweden that is characterized by a high level of equality. However, analyzing contemporary gender differences, especially from a historical perspective, is useful for identifying characteristics that society associates with femininity and masculinity. Analyzing feminine and masculine values and perspectives in a specific context (in this case, a middle-class Western society) contributes to a planner's ability to be attentive to issues of power in practice.

In this respect, two publications presented above, Roehr (2001) and Polk (2009), confirm my understanding that much of the research related to gender and climate change response has been conducted by adopting a Global South perspective or by comparing the Global North and South. This focus on previous research provides an opportunity for my research, which is conducted from a Global North perspective (specifically in Sweden), to make a contribution to the literature.

On the basis of this knowledge, and in an attempt to go beyond simply investigating differences between women and men, I present my theoretical framework—within which my papers and the discussion in Section 7 of this cover essay should be understood—in the next section.

## 4 Theoretical Framework

Each of the objectives presented above are addressed in one or more of the papers and this cover essay. To facilitate the analysis and to ensure that the objectives contribute to the long-term aim of my dissertation, the following subsections introduce the core concepts that are used and discussed in this cover essay. Some of the concepts are also used in my papers. These concepts are useful in the analysis that considers all the papers in Section 7, in which I scrutinize, at length, the results of the papers in relation to the core concepts.

Before addressing the concepts below, I wish to emphasize that considering the aspects presented below in spatial planning facilitates efficient and well-informed climate change response. My papers investigate this subject further, particularly by including a gender perspective, but the terms *efficient* and *well informed* should be understood in this context.

### 4.1 On a Gender Perspective

A definition of gender as an analytical framework, on the one hand, and gender equality, on the other, is called for here. These definitions are crucial to understand the presented papers, especially Papers 2 and 3, and how they relate to spatial planning and *environmental planning* (a term that is explained in Subsection 4.3), as discussed in Section 7 of this cover essay.

By a *gender perspective*, I mean being aware of and responsive to *gendered aspects/gendered dimensions* of climate change response. By *gendered aspects/gendered dimensions*, I refer to something produced and/or influenced by women's and men's different experiences of everyday life, as they arise owing to power structures that generally subordinate women. By indicating certain values and perspectives to sex, they become gendered. Arora-Jonsson (2013) contends that,

. . . the allocation of distinctive attributes on the basis of sex/sexuality is a doing of gender. Gender differences between the sexes may thus be understood not as the natural order of things, but historically, culturally and socially created. Sexual differences play an important role in organizing social relationships and differences in power. (p. 31)

Municipal spatial planning related to climate change response—and thus policy making and power structures related to climate change response—is central to my dissertation. Analyzing how gender influences these power structures can help to provide a better understanding of municipal climate change response. In other words, adopting a gender perspective should be regarded as an analytical framework, which I, as a researcher, or practitioners at the municipal level can adopt to work

toward efficient and well-informed climate change response. Note, however, that my understanding of a gender perspective, as an analytical framework, is not necessarily identical to my interviewees' understanding of gender. Specifically, Papers 2, 3, and 4 enable interview and questionnaire respondents to have their own interpretation of a gender perspective. Their responses are then analyzed through the gender perspective that I use as an analytical framework.

However, adopting a gender perspective is only one of several analytical perspectives that influence policy making and power structures. As Kurian (2000) argues, "...attitudes and perceptions of people differ on issues dealing with environment, development, and cultural values. These differences, while mediated by the realities of class, race or community, are further delineated according to gender. Gender values and world-views that are privileged get institutionalized in ways that have implications for decision making and policy analysis generally" (p. 26). On the basis of this knowledge, Kurian (2000) introduces, an analytical framework consisting of masculine and feminine values and perspectives—or attributes. These values and perspectives are further elaborated on in Paper 3 and discussed in Section 7 of this cover essay.

In my dissertation, adopting a gender perspective and the notion of feminine and masculine attributes as an analytical framework should be understood in the context of a middle-class, Western society, as gender is created in a cultural context and is therefore not a universal framework that can be adopted independent of a specific context.

Furthermore, within the framework of my dissertation, I do not emphasize distinctions between what could be considered biological within ecofeminism (see, e.g., Shiva 1988) or what could be considered socially constructed within psychoanalysis, sociology, anthropology, and other social sciences (see, e.g., Kurian, 2000, Duerst-Lahti and Kelly, 1995, and Gilligan 1982). An analysis of how being aware of and responsive to gendered aspects/gendered dimensions, whether they be socially constructed or biological, can contribute to efficient and well-informed climate change response.

### **Gender equality**

Gender equality differs from gender as an analytical framework. The relationship between gender equality and a gender perspective is addressed in Paper 4, which emphasizes that a gender perspective in spatial planning practice must consider the general level of gender equality in a locality. My research, which is situated in Sweden, should therefore be understood in light of the level of gender equality in Sweden. The objective of the Swedish gender equality policy is that "women and men are to have the same power to shape society and their own lives" (Swedish Government,

2013). Indicators for monitoring the achievement of these goals are generally quantitative and are related to women and men, not necessarily to underlying masculine and feminine values and perspectives.

Adopting a gender perspective as an analytical framework is useful to transcend such quantitative distinctions between women and men. However, the way in which a gender perspective should be implemented depends on the level of gender equality in a given context. For example, in a country such as Sweden, where the level of women in municipal councils increased from 10 percent in 1958 to 42.3 percent in 2006 (Alnevall, 2009), a gender perspective should be attentive to instances in which women in leading positions might be educated and trained with masculine norms.

Subsection 7.2 of this cover essay discusses the implications of gender equality for the adoption of a gender perspective in municipal spatial planning related to climate change response.

## **4.2 On Spatial Planning and Municipal Climate Change Response**

To help to achieve the research objectives, this subsection presents core concepts that are useful in investigating the challenges that Swedish municipalities face in attempting to incorporate climate change into their panoply of concerns. Such an account will show the difference that adopting a gender perspective can make in municipal climate change response.

### **Municipal spatial planning for climate change response**

The role of spatial planning in climate change response has been and continues to be debated by scholars, such as Montin (2009); Wilson (2006); Biesbroek, Swart, and Van Der Knaap (2009); Björnberg and Svenfelt (2009); Larsen and Gunnarsson-Östling (2009); Gustavsson (2009); Langlais (2009); and Campbell (2006). Important challenges concern how municipalities can contribute to climate change response and how climate change issues can be prioritized over other social and economic interests. Another important challenge concerns how and whether to include the increasing number of stakeholders in municipal spatial planning related to climate change response.

Montin (2009) argues that the participation of nongovernmental actors is imperative to address a number of insecurities in climate change policy: first, *cognitive insecurity*, which implies that knowledge regarding the causes and effects of climate change is lacking; second, *strategic insecurity*, which implies that stakeholders with different interests are involved and that no single individual or organization can be held

responsible for societal problems; third, *institutional insecurity*, which implies that decisions made to cope with climate change are made at different levels, in different sectors, and in different arenas; and fourth, *value insecurity*, which implies that developing a common understanding of what risks are acceptable, unacceptable, and dangerous is difficult (p. 20).

The question is, how can the insecurities described by Montin (2009) be addressed? As one approach, the responsible government, such as a municipality, could cooperate with other societal actors to minimize insecurities. This approach entails coordinating expertise and creating knowledge dynamics between societal actors. Expertise in this case also refers to the everyday life experiences of citizens, businesses, and NGOs. In Sweden, calls for citizen participation in policy making are increasing (Bang, 2005, as cited in Montin, 2009). Björnberg and Hansson (2011), Montin (2009), Larsen and Gunnarsson-Östling (2009), and Mannberg and Wihlborg (2008) explicitly suggest that participatory decision making may have the potential to produce better results. However, in what way would the results be better? Is participatory decision making more a matter of efficient policy delivery or democracy?

Mannberg and Wihlborg (2008) address these issues by emphasizing four threats that must be considered when a participatory approach becomes central to planning practice: (1) *planning for the process rather than the plan*, (2) *challenging the balance of power – decreasing democracy*, (3) *false legitimization*, and (4) *the ambiguity of consensus*. The latter threat implies that, sustainability becomes secondary to enhancing the social capital in a community (pp. 38-42).

Moreover, Rydin and Pennington (2000) emphasize that public participation entails the risk that only certain groups will actually be influential, thereby creating false legitimization. The authors furthermore distinguish between two very different rationales for public participation. The first rationale concerns democracy and the democratic right to participate in policy development. The second rationale concerns the effectiveness of policy development and how public participation can contribute to more efficient policy delivery. The authors caution that adopting the former rationale might be more challenging, as the legitimization problem will occasionally be severe—potentially frequently. The latter rationale is more consistent with my dissertation, in which the inclusion of a gender perspective is assumed to contribute to better-informed and more efficient policy. Nevertheless, the role of democracy and gender equality is addressed in Paper 4 and Section 7 of this cover essay, under the argument that democracy and gender equality cannot be separated from the goal of obtaining efficient and well-informed policy.

### **Spatial planning approaches**

The section above emphasizes and problematizes public participation as a contribution to municipal spatial planning related to climate change response. An understanding of participatory spatial planning is therefore called for here. The following paragraphs describe my interpretation of two main spatial planning approaches that I consider important for understanding municipal climate change response and its relation to a gender perspective, namely, the *rational planning approach* and the *communicative planning approach* (including a participatory approach).

Since the 1900s, cities have been the product of rational planning practices, which situate the planner as an expert who knows what is best for the city. Until the 1980s, public authorities, especially local authorities—municipalities—were assigned powerful roles in developing, managing, and planning cities (Healey, Cars, Madanipour and De Magalhaes, 2002). Planners were regarded as experts who were tasked with planning in the best interests of the public and developing an effective balance between public and private interests. This approach is generally termed the rational planning approach.

More recently, regarding planning as a rational process has been criticized for being founded on the false assumption that science can produce the best possible plan. This critical discourse therefore presents indications that planning can be a communicative process that acknowledges stakeholders, citizens, and other aspects of civil society as experts. The planner is then instead regarded as a mediator (Strömgren, 2007).

The communicative approach follows a trend among local authorities in which planners increasingly delegate power to civil society. One of the pioneers of communicative planning and political decision making is John Forester. He follows Friedmann (1969) by arguing that to achieve progress in preparing and implementing a plan, the planner should have the capacity to learn from others, to communicate in an empathic way, and to negotiate and make compromises in a contested environment.

Healey (1997) notes that the communicative turn resulted from the realization in planning that social processes underpin spatial organizations and urban forms as well as the complex demands confronting local environmental planning that are generated by social, economic, and biospheric processes. She also asserts that the relationship between knowledge and action has been contested, in the sense that knowledge not only has an objective existence in the external world but also is shaped by social and interactive processes (see, e.g., Latour, 1987, as cited in Healey, 1997). This intellectual trend has been increasing since the 1970s and is now labeled argumentative, communicative, or interpretative planning theory (Healey, 1997, p. 29). Healey (1997) develops approaches for what she terms collaborative planning.



Her starting point is the question of how to address collective concerns when communities have different priorities and different perceptions of things (p. 310).

Nevertheless, Strömgren (2007) argues that citizen participation and consultation are rarely part of contemporary planning processes; the planner dominates and controls the entire process of planning the city. I would nonetheless modify Strömgren's argument that citizen participation and consultation are not aspects of a rational planning process. According to Swedish planning and building law, regular consultations must be made within spatial planning activities. Moreover, engaging in consultation can be placed within the rational planning paradigm, as many spatial planning processes use consultations as tokenism to varying degrees (see, e.g., Arnstein, 1969). Adopting a communicative approach requires the delegation of some power to civil society.

The concepts presented in this section are useful in framing the specific challenges that Swedish municipalities face in spatial planning practice in integrating climate change issues into their panoply of concerns. These issues are elaborated in Paper 1 and are further discussed in Subsection 7.1 of this cover essay. On the basis of this knowledge, Papers 2 and 3 and Subsection 7.2 of this cover essay attempt to understand how a gender perspective can help to address the challenges that municipalities face and how a gender perspective, as an analytical framework, can be developed and usefully applied in spatial planning. Before pursuing that task, the relevance of the term environmental planning (see the next section) is demonstrated with respect to the integration of a gender perspective into municipal spatial planning related to climate change response.

### **4.3 On Environmental Planning and Participation**

The term environmental planning is introduced to emphasize spatial planning that focuses on environmental issues, including climate change. The concept is further discussed in Section 7 of this cover essay to contribute to the discussion of integrating a gender perspective into municipal spatial planning related to climate change response. In the following paragraphs, the term is briefly explained.

Rydin and Pennington (2000) suggest that environmental planning can be understood as a combination of three different approaches when public participation is involved, namely, *environmental management*, *environmental governance*, and *collaborative environmental planning*. Deciding which of these approaches to adopt depends on the collective action problem. This problem is related to individual incentives to participate or adopt non-co-operative behavior such as free riding and rent seeking. "According to public choice, the exceptions to this logic of non-public-participation tend to occur in small-group situations, where the potential participants know each

other and there is the prospect of strategic bargaining in an iterative social context” (p.257).

A brief explanation of the three approaches is called for here. Collaborative environmental planning is rather different from the two other approaches. In collaborative environmental planning, participation is an end, not a means to an end. The aim is to allow for new modes of democratic governance (Ryding and Pennington, 2000). Conversely, in environmental management, public participation is regarded as a means to an end. Participatory exercises are applied to avoid conflicts that would otherwise jeopardize policy delivery. Participation for the purpose of gathering information would also be considered legitimate (Ryding and Pennington, 2000). Environmental governance occupies an intermediate position between these two forms of environmental planning. Policy delivery is the goal, but in contrast to environmental management, the state acts as a facilitator rather than a controller (Ryding and Pennington, 2000).

In general terms, environmental management and environmental governance inform the two spatial planning approaches presented above. Specifically, environmental governance must consider challenges related to the communicative planning approach (including a participatory approach), as articulated by Mannberg and Wihlborg (2008) and Ryding and Pennington (2000). The ways in which municipal climate change response, through spatial planning, as well as a gender perspective, can help to alleviate these challenges are further elaborated in Section 7 of this cover essay. Regarding environmental collaborative planning, the question of democracy, and thus gender equality, is relevant.

As emphasized by Rydin and Pennington (2000), collaborative environmental planning is an option when the collective action problem is not an issue and where a democratic right is at stake rather than policy as such. My understanding is that this approach should not precede the two other approaches. Rather, the opposite is the case: first, effective municipal policy institutions should be developed; thereafter, a space for broader political agenda can emerge.

My fourth paper is situated within the frameworks of democracy and issues of gender equality. In learning from experiences from other areas of municipal spatial planning that have considered and applied a gender perspective for many years, I develop an understanding that municipalities, not only in Sweden but also elsewhere, are dependent on more general patterns of gender equality, welfare regimes, and other socio-economic patterns within which municipalities are situated. Such general patterns must be considered when a gender perspective is integrated into spatial planning related to climate change response.

Research on gendered aspects and spatial planning, particularly that related to urban safety and fear of crime, has considered various socio-economic contexts much longer than research on gender and climate change. I therefore use knowledge from that field to better understand how the adoption of a gender perspective in climate change response is dependent on the context in which municipalities are situated, such as the general level of gender equality in a country. Knowledge from that field also contributes to the development of a gender perspective, as an analytical framework, in spatial planning more generally. These issues are elaborated in Paper 4 and Subsection 7.2 of this cover essay.

## 5 Methodology

This section presents the methodological approach that I used in my dissertation, as well as the methods that were adopted in each of the four papers.

During the five years that I have been working on my dissertation, I have been involved in several projects related to gender, spatial planning, and climate change. One project in particular, Another Climate – Gendered Structures of Climate Change Response in Selected Swedish Municipalities (Another Climate), funded by the Swedish Research Council (Vetenskapsrådet), The Swedish National Space Board (Rymdstyrelsen), and the Swedish Research Council (FORMAS) as a grant to my supervisor, Richard Langlais, provided me with the opportunity to collect and analyze empirical material on gender, climate change, and spatial planning. Findings from this project are primarily presented in Papers 1 and 2. The third paper builds on the Swedish implementation of a global citizen consultation, a project for which I was the project manager. The fourth paper is primarily based on two research projects that were commissioned by the Swedish National Board of Housing, Building, and Planning (Boverket), which I was project manager for, and empirically examines how a gender perspective is and can be incorporated into spatial planning, when safety is the primary objective.

Being involved in commissioned work implies that I, as a researcher, am somewhat required to adapt to others' preferences with respect to the methodological approach. As an advantage, however, commissioned research is generally highly policy relevant and aims to contribute to both academic knowledge and practice. Furthermore, as the research grant for Another Climate was originally made by the research institute Nordregio, which has the primary goal of developing policy-relevant research, the Another Climate project also aimed to be relevant to practitioners and the scientific community. The research team is highly interdisciplinary and involves individuals in fields including geography, planning studies, gender studies, engineering, biology, and human ecology.

From a methodological perspective, the interdisciplinary approach implied that both quantitative and qualitative methods were used in the research presented in the four papers. I believe that the research methods that were used in Another Climate were selected in the manner that was most appropriate to answer a specific research question. Moreover, the selection of the methods was also based on the researchers' specific scientific traditions, as well as expertise in using the methods. Thus, during the research for my dissertation, I had to adopt an attitude that allowed me to derive the greatest possible benefits from traditions that use qualitative and quantitative methods. In the spirit of interdisciplinarity, qualitative and quantitative methods do not *merely add up*; rather, they contribute to a *synergy* or something *new*.

The choice of methods can be based on either a pragmatic/technical perspective, in which the research team seeks the most appropriate methods to answer the research questions. Alternatively, the methods can be selected from a more epistemological perspective, which applies a certain worldview related to how knowledge is created (see, e.g., Bryman, 1984). In this chapter, I elaborate on both dimensions to make my research as transparent as possible for the reader.

The choice between qualitative or quantitative methods has long been debated in social science, both in scientific journals and textbooks (see, e.g., Bryman, 1984, Hoepfl, 1997, Johansson, 2011, Kvale and Brinkmann, 2009 and Stake, 1995).

Bryman (1984) argues that the scientific debate between the use of qualitative and quantitative methods does not generally distinguish between technical and epistemological issues. Occasionally, they are even conflated. In much of the recent methodological literature, a particular epistemological base leads to a preference for particular methods. In general, the use of quantitative methods in the social sciences is associated with a natural science or, more specifically, a positivist approach to social phenomena. Qualitative research generally aims to perceive the world from the actor's perspective (*ibid.*). This constructivist approach is well described by Creswell and Plano Clark (2011). "When participants provide their understandings, they speak from meanings shaped by social interaction with others and from their own personal histories. In this form of inquiry, research is shaped 'from the bottom up' - from individual perspectives to broad patterns, and ultimately, to broad understandings" (p. 40).

In other words, one could argue that qualitative and quantitative methods are incompatible, as they are associated with opposing understandings of knowledge. Adopting a mixed methods approach is therefore problematic, as the use of different methods is often supported from a technical perspective that is not associated with epistemological issues. However, Bryman (1984) is skeptical of such conclusions.

Feilzer (2009), for example, calls for pragmatism as an alternative worldview to those of positivism, on the one hand, and constructivism, on the other. She draws on knowledge from several scientists who discussed pragmatism as a means of focusing on the problem, the research questions, and the consequences of research (see Brewer and Hunter, 1989, Creswell and Plano Clark, 2011, Miller, 2006, Tashakkori and Teddlie, 1998, as cited in Feilzer, 2009, p. 7). This approach is relevant to me because I use both qualitative and quantitative methods and do not find them to be incompatible.

## 5.1 On the Need for a Pragmatic Approach

As the members of my research team come from different scientific traditions, a pragmatic approach is useful for the research underlying my dissertation. At least two different research traditions involved in the Another Climate project have been used collaboratively to seek synergies. The first is Actor Network Theory, which places a substantial emphasis on the actors' interpretations and roles in municipal spatial planning related to climate change response. The actors are followed in detail, and the aim is not to generalize the findings or to find *the* big picture. Methods such as participant observations, case studies, and interviews are used. I find the following paragraph very instructive with respect to the essence of Actor Network Theory:

If we want to understand the mechanics of power and organization it is important not to start out assuming whatever we wish to explain. For instance, it is a good idea not to take it for granted that there is a macrosocial system on the one hand, and bits and pieces of derivative microsocial detail on the other. If we do this we close off most of the interesting questions about the origins of power and organization. Instead, we should start with a clean slate. For instance, we might start with interaction and assume that interaction is all that there is. Then we might ask how some kinds of interactions more or less succeed in stabilizing and reproducing themselves: how it is that they overcome resistance and seem to become "macrosocial"; how is it that they seem to generate the effects such as power, fame, size, scope, or organization with which we are all familiar. This, then, is one of the core assumptions of actor-network theory: that Napoleons are no different in kind to small-time hustlers, and IBMs to wheel-stalls. And if they are larger, then we should be studying how this comes about-- how, in other words, size, power, or organization are generated. (Law, 1992, p. 380)

However, the project also seeks to determine the causal relationships between the adoption of a gender perspective in municipal spatial planning related to climate change response and the level of climate change response, at an aggregate Swedish level. Quantitative methods and statistical methods are used in this respect. On a technical level, the integration of quantitative and qualitative methods appears to be reasonable, but as stated above, these methods derive from different research traditions and may therefore be incompatible from an epistemological perspective. Thus, a pragmatic approach is interesting from my research perspective.

The primary aims of a pragmatic approach are to interrogate a particular question, theory, or phenomenon without being bound to specific methods and instead using those methods that are most appropriate (Feilzer, 2009, p. 13). The pragmatist does not create dichotomies between qualitative and quantitative methods but rather is interested in knowing whether the researcher has found what he or she is seeking (Hanson, 2008, p. 109). Pragmatism ultimately acknowledges mixed methods

research because it values “...both quantitative and qualitative research methods and the knowledge produced by such research in furthering our understanding of society and social life” (Feilzer, 2009, p. 14).

Furthermore, Hanson (2008) argues that criteria that are used to assess the quality of quantitative research and qualitative research in practice are not particularly different. Hansson implies that the separation between quantitative research and qualitative research is political rather than theoretical or philosophical (p. 97). Objectivity versus subjectivity is thus a political distinction that is not actually valid. Qualitative researchers criticize quantitative scientists for neglecting subjectivity. The quest for objectivity has been, in practice, to develop a common language. In other words, objectivity is an ideal that recognizes that human subjectivity exists and does not intend to create a dichotomy between subjectivity and objectivity. “In this sense subjectivity is the objectivity of the social sciences and objectivity is the subjectivity of the physical and natural sciences” (p.99). Hansson concludes by arguing that the subjectivity/objectivity dimension does not distinguish quantitative from qualitative methods.

According to Hanson (2008), at least four issues, namely, *science*, *validity*, *causality*, and *multiverse*, should be discussed to advance sociological methods beyond the dichotomy of qualitative versus quantitative methods (p. 107). I primarily focus on the issue of causality, as it is central to my research and has puzzled me during the use of both quantitative and qualitative methods. Teddlie and Cashakorra (2009) argue that pragmatism is a commitment to uncertainty and that all produced knowledge is relative. Even if causal relationships are observed, they are dynamic and difficult to discover (as cited in Feilzer, 2009, p. 14). However, this argument should not be understood to reflect philosophical skepticism but rather is merely the acknowledgement that patterns and structures change and shift (Mounce, 1997, as cited in Feilzer, 2009, p. 14).

I specifically acknowledge my attitude toward causality, as presented above, in Paper 2. A discussion on the subject follows in Subsection 5.3 of this cover essay.

## **5.2 Methods Used in the Papers**

In this section, I present the various methods that were used to gather and analyze the empirical evidence and the challenges related to them. Some of my papers present research using a mixed methods approach, whereas others only involve qualitative or quantitative research.

### **Qualitative data collection and analysis**

Most of my research involves data that were collected through qualitative surveys. In 2007 and 2008, my colleagues in the Another Climate project and I conducted semistructured telephone interviews with Sweden's 290 municipalities. Over 2000 conversations were took place, and by virtue of sheer persistence, the response rate in both years was 100 percent. The primary objective of the surveys was to discover which of the Swedish municipalities are engaging in *concrete actions* regarding climate change issues. The aim was to gather data on *what the municipalities themselves considered to be their concrete actions* and *how well climate change work is mainstreamed in the municipal organization*. In 2008, a question concerning gender was added to the survey to better understand whether and how a gender perspective is integrated into the municipalities' spatial planning practices related to climate change.

To obtain a more in-depth understanding of how challenging including climate change concerns in Swedish municipalities' spatial planning activities has been, we used the results of the 2007 and 2008 surveys as a basis for a third survey, conducted in 2009. The 2009 edition considered a substantially reduced sample, as we decided to exclusively focus on the most active group of municipalities (this survey is analyzed in Paper 1). Planners were contacted from the municipalities of Borlänge, Boxholm, Grästorps, Helsingborg, Jönköping, Kiruna, Kristianstad, Lerum, Lidköping, Lund, Mölndal, Nacka, Olofström, Stockholm, Saffle, Söderhamn, Uddevalla, Växjö, and Älvdalen (a total of nineteen municipalities). The following question was asked: What challenges, problems, and obstacles do planners in your municipality face in incorporating climate change response into spatial planning (please relate your answers to both climate change adaptation and climate change mitigation)? To complement the answers from these Swedish municipalities, an e-mail including the research question was sent to all county administrative boards (twenty-one in total) in Sweden.

Paper 1 analyzes these data with a focus on meaning. Thus, the researchers, who also collected the data, interpreted and sorted the material received from the respondents into different subject areas or topics. When analyzing the material, the researcher clustered the responses into a number of categories with different meanings (cf. Kvale and Brinkmann, 2009).

### **Mixed methods approach to data collection and analysis**

Paper 2 adopts a mixed methods approach. The analysis is based on the same two telephone surveys, performed in 2007 and 2008, presented above. The objective of the analysis was to increase our knowledge of Swedish municipalities' climate change efforts and to better understand whether and how a gender perspective is integrated into climate change response in Sweden. In addition, the analysis aimed to identify potential causal relationships between a high level of awareness of the gendered



aspects of climate change and the level of climate change response included in spatial planning.

The quantitative component of the analysis included translating qualitative data into quantitative scores. All 290 municipalities were categorized with respect to their level of climate change response, as assessed by a six-aspect compound *climate change response score*, based on an aggregated analysis of the questions and a structured interpretation of the essentially qualitative material from the interviews. On the basis of responses to the question concerning gender (is there anything in your work that relates climate change to any kind of gender dimension?), each municipality was assigned a *gender awareness score*.

The collected data underwent statistical analysis to identify trends and correlations between the *climate change response score* and the *gender awareness score*. All statistical analyses were performed on a 1989 Macintosh Classic with the Statview SE Graphics software released in 1985. Control calculations using the latest edition of SAS performed on an i7 PC from 2011 revealed no miscalculations.

Paper 2 performs a qualitative analysis of meaning regarding, first, how municipalities respond to climate change and, second, whether and how a gender perspective is integrated into their climate change efforts. While the qualitative analysis is related to the *how*, the quantitative analysis is related to the *how much*—or to the extent of climate change response and the degree to which a gender perspective is considered. The mixed methods approach allowed the qualitative and the quantitative approaches to complement one another. The quantitative analysis reveals correlations, whereas the qualitative data indicate causality.

### **Participant observations and interviews**

Paper 3 is substantially based on participant observations of the Swedish version of the global citizen consultation project World Wide Views on Global Warming (WWViews), as well as interviews with participants of that event. Our researchers (Nordregio) and Borlänge Municipality were responsible for implementing the WWViews in Sweden. The objective of the observations and the interviews was to provide information on how a gender perspective can be integrated into climate change response. The research also aimed to develop a gender perspective, as an analytical framework, for spatial planning related to climate change.

The participant observations implied that during the course of one year, and particularly during the planning for WWViews, we interacted with and observed Borlänge (our partner in preparing and implementing WWViews), and to the greatest extent possible, we recorded all communications and interactions with them (for

additional information on the meaning of participatory observations, see Stake, 1995).

Moreover, the results of the semistructured interviews that were conducted with all eleven group facilitators at the WWViews event represented one of the primary sources of our empirical data. Most of these individuals are employed as officers in Borlänge's Division for Sustainable Spatial Development. The interviews concerned the respondents' overall impressions of and reflections on the event and group discussions. In addition to the interviews, our observations and written material are important aspects of our empirical data, as we were the primary organizers of the event. A meaning analysis was conducted to allow us to interpret the interview responses, our observations, and the written material. Specifically, we attempted to identify sentences and words in the interviews and written material that correspond to the gender categorization framework that we use (for additional information on meaning analysis, see Kvale and Brinkmann, 2009).

#### **Case study research including qualitative interviews**

Paper 4 adopts a case study approach. The paper defines a case study as a concrete urban planning project or effort that is undertaken by specific organizations. The objective of the case study research was to better understand how urban projects and organizations focused on urban development in various countries and cultural settings include and apply a gender perspective. The empirical material from the case studies was gathered through interviews conducted by a team of three researchers comprising urban planners and geographers in 2010. Semistructured interviews were held with urban planners, policy makers, civil servants, architects, and citizens who were involved in urban planning activities in the areas under study. The participants were identified by using snowball sampling involving key actors in each area. These conversations generally provided access to written material, presentations, photographs, and maps. The questionnaire template covered the case setting; tools, methods, and processes that were used in the cases; and the impact of the cases. We also identified four relevant themes for structuring and presenting the empirical evidence obtained from the case studies.

### ***5.3 Methodological Reflections***

In this section, I focus on the challenges involved in the development and preparation for the research presented in Paper 2, as these challenges provide the context in which tensions and synergies between the quantitative and qualitative research traditions are most apparent. Combining quantitative and qualitative methods might initially seem difficult because, as described above, the traditions are different and potentially incompatible. However, a pragmatic approach acknowledges the usefulness of combining qualitative and quantitative methods, from both a

methodological and an epistemological perspective. Paper 2 used both qualitative and quantitative analyses, based on the same survey. Is using both qualitative and quantitative analyses feasible, and what are the challenges involved in such an approach?

Telephone interviews were conducted with representatives of all Swedish municipalities. Through sheer persistence, we were able to achieve a 100 percent response rate. The interviews are based on semistructured questions. From a qualitative perspective, the interviews are clustered into different themes to structure the material. As researchers, we interpret the meaning of what our respondents report. The purpose of this process is not to generalize or quantify the responses. The perspective adopted here is completely that of the respondents.

One of our questions asks the respondents whether the relationship between gendered aspects and climate change response is discussed or assessed in their work. By asking this question, we obtain an indication of the type of relationships that our respondents identify, as well as of how many municipalities actually consider a gender perspective in their climate change efforts. This approach is qualitative but involves some quantitative dimensions. The objectivity of this research lies in identifying the municipalities' subjectivities. How do municipalities relate gendered aspects and climate change, and how aware are they of these relationships? Objectivity and subjectivity are therefore not incompatible. However, we must be cautious in interpreting the responses. Being objective implies that our interpretation is systematic. One of the main challenges is to code our qualitative answers into a quantitative scale. For this purpose, we used ordinal scales. Being objective entails being clear about our subjectivity by carefully reporting the scoring methodology.

The statistical analysis shows a strong correlation between municipalities that have a strong climate change response and those that report a relationship between gendered aspects and climate change response. However, this correlation does not indicate that a causal relationship exists between these two factors. A pragmatic approach becomes interesting, as it allows for the quantitative analysis to be reinforced with qualitative information. The interviews with our respondents revealed several relationships between gendered aspects and climate change response. The respondents, with their expertise and substantial experience, identified what can be considered causal relationships. We cannot test this causality statistically, but we can argue that the correlation between an awareness of gendered aspects and climate change response indicates the potential for a causal relationship. Our qualitative analysis therefore reinforced the statistical analysis.

## 6 Summary of Papers

### 6.1 Paper 1

**Title: Adapting to climate change in Swedish planning practice**

Richard Langlais and I collaborated on this paper. Richard Langlais and I jointly developed the theoretical and methodological approach underlying the data collection and analysis. An important aspect of the data collection process included a survey sent to 19 municipalities and 21 county administrative boards. I collected the data and performed the analysis.

The objective of Paper 1 is to observe how Swedish municipalities address the synergies and conflicts in climate change adaptation, climate change mitigation, and other social and economic dimensions of spatial planning. Paper 1 is based on an understanding that mitigation measures, particularly efforts to adapt municipal energy infrastructure, have been the focus of Sweden's climate change response. Recently, adaptation measures have become a higher priority, and planners are tasked with integrating mitigation and adaptation. While the key results reveal that the integration of mitigation and adaptation is a challenge at the municipal level, as the two approaches may conflict, other, more general, and even more important, issues have arisen. These issues relate more generally to conflicts of interest between, on the one hand, a focus on climate change response and, on the other, the imperatives of more short-term economic and social aspects of municipal spatial development. These conflicts are accentuated by the lack of regional and national assistance for municipal government. Clearly, municipalities cannot coordinate complex interactions among stakeholders, the administration, and time constraints in isolation. Swedish municipalities' overall responsibility for spatial planning further accentuates their need for increased resources and support.

### 6.2 Paper 2

**Title: Gendered dimensions of climate change response in Swedish municipalities**

Although Måns Andersson and Richard Langlais contributed to the text, I was the primary author. I developed the theoretical framework and methodological approach that were used in the analysis, with contributions from Richard Langlais and Måns Andersson. I collected the data with the assistance of research assistants at Nordregio. Specifically, I conducted interviews with representatives of approximately 100 municipalities. I also performed most of the qualitative analysis. Katarina Pettersson (a researcher who is involved in the Another Climate project) also contributed to the qualitative analysis. Måns Andersson performed the quantitative analysis and drafted sections of the text that present the statistical analysis. Richard

Langlais edited the text and made several minor contributions. Richard Langlais developed the methodological approach underlying the data collection process that was then further developed by Måns Andersson and myself.

The objective of Paper 2 is to investigate whether and how gendered aspects of climate change response are integrated into Swedish municipal planning related to climate change response. The potential causal relationships between a high level of awareness of the gendered aspects of climate change and the level of climate change response were investigated.

The data show indications that attitudes and behaviors related to the environment and climate change are gendered. The results indicate that gender awareness likely has important effects on how municipalities respond to climate change. Moreover, the empirical evidence shows that municipalities that adopt a gender perspective in their climate change efforts do so to have an efficient and well-informed climate change response rather than to emphasize a gender equality perspective. As a concrete example, several municipalities ensure that women and men are represented equally in different working groups related to climate change, the argument being that women and men generally have different approaches to climate change. One interviewee argued that men tend to focus on technical solutions and that women are more interested in beginning by defining the problem. The risk of this type of argument, however, is that stereotypes of women and men are easily reproduced.

Indications of a relationship between a high level of awareness of the gendered aspects of climate change and the level of climate change response prompt a change in research priorities and in subsequent policy developments to devote greater attention to gender. Encouraging equal representation in planning and decision-making processes is only one of many ways in which a gender perspective on everyday life, including attitudes and behaviors concerning the environment and climate change, can be incorporated into municipal administration. Nevertheless, ensuring such an equal distribution does not guarantee that a gender perspective is integrated into spatial planning related to climate change response, as both male and female spatial planners are often educated within a masculine tradition.

### **6.3 Paper 3**

**Title: Engendering climate change: the Swedish experience of a global citizen consultation**

Although Richard Langlais and Göran Cars contributed to the text, I was the primary author. The data collection and analysis are based on the Swedish edition of a global citizen consultation, for which I was project manager. I performed all the data collection and analysis. Richard Langlais edited the text and improved its quality prior to publication. Göran Cars provided crucial and valuable input to the text. Richard

Langlais and I jointly developed the theoretical framework and methodological approach underlying the data collection and analysis.

Paper 3 provides information on how a gender perspective can be integrated into climate change response and on how a gender perspective, as an analytical framework, can be developed in spatial planning related to climate change response. For this purpose, the study analyzed how the application of a system of gender categorization, originally developed to evaluate the World Bank's performance on environmental impact assessments, can be used to assess climate change response processes. The application is performed within the framework of the Swedish component of a global citizen consultation, WWViews.

Paper 3 advances the understanding of applying a gender perspective discussed in Paper 2. Paper 3 problematizes and investigates the relationships and distinctions between a gender perspective and the values, perspectives, attitudes, and behaviors of women and men, on the one hand, and masculine and feminine values and perspectives (or attributes in the terminology of Kurian, 2000), on the other. These are not necessarily related and they are dependent on the context in which they are situated. Masculine and feminine values and perspectives, which are used as an analytical framework in Paper 3, not only are delineated by gender but also reflect the realities of class, race, or community (Kurian, 2000). Therefore, the feminine and masculine attributes should be understood from the perspective of a middle-class, Western society, in which masculine values and perspectives are generally ascribed more power than feminine values and perspectives. As argued by Sandercock (1998), the history of planning is "a narrative about the ideas and actions of white middle class men, since women and people of color were, at least until recently, systematically excluded from the profession" (p. 7).

The results of Paper 3 show that an approach that incorporates not only masculine attributes but also feminine attributes is likely to generate strong and concrete climate change response. Paper 3 also concludes that the system of gender categorization developed by Kurian (2000), consisting of masculine and feminine attributes, is a useful analytical framework to evaluate and discuss how Swedish municipalities (in concrete terms) adopt, or could adopt, a gender perspective in their spatial planning related to climate change response.

## **6.4 Paper 4**

**Title: An international perspective of the gender dimension in planning for urban safety**

I was the primary author. The data collection and analysis were based on two research projects commissioned by the Swedish Board of Housing, Building, and Planning. I was the project manager for these projects and was responsible for the

methodological approach underlying the data collection and analysis. Three research assistants at Nordregio, under my supervision, were primarily responsible for the data collection. I was primarily responsible for the analysis, with contributions from Vania Ceccato. The theoretical framework was jointly developed by Vania Ceccato and myself.

The objective of Paper 4 is to illustrate how gender is incorporated into spatial planning practices that aim to ensure urban safety. The empirical material is collected from case studies in Austria, Finland, Sweden, and the UK. The case studies primarily focus on perceived levels of safety in public spaces. Although the cases differ in nature and are embedded in different contexts, safety is often promoted by interventions concerning the characteristics of the urban environment, either by making changes at the planning stage of new housing developments or by changing existing neighborhood features. The cases often involve participatory schemes and safety audits, even in contexts dominated by rational planning. The paper concludes by proposing an agenda that may be relevant to planners and practitioners who are responsible for safety and gender issues at the municipal level. The agenda consists of the following actions that may be relevant to planners and practitioners: defining gender and safety for whom; dealing with private and public space dichotomies; being aware of the nature of the target; being critical about measures and indicators of safety; being aware of the context; choosing appropriate planning practices and methods; and being aware of the role of urban planning.

Paper 4 contributes to my PhD dissertation by challenging the relationships among a gender perspective, gender equality, and other ethnic-cultural and socio-economic factors. Research on spatial planning, gender, and safety has matured over several decades, in contrast to research on gender, spatial planning, and climate change, which is relatively new. Paper 4 also contributes to the development of a gender perspective as an analytical framework for spatial planning more generally.

## **7 Discussion of Findings**

In this section, I discuss the findings of the four papers in relation to the core concepts that are presented in the theoretical section of this cover essay. Subsection 7.1 contributes to my first research objective, primarily based on the results from Paper 1, whereas Subsection 7.2 contributes to my second and third research objectives (and, in part, the first objective), primarily based on the results of Papers 2, 3, and 4. In Subsection 7.3, I attempt to concretize my main findings with a view toward future research needs.

### ***7.1 Challenges in Municipal Climate Change Response***

In addressing the first part of my first research objective (what main challenges will Swedish municipalities face in integrating climate change into their panoply of concerns), the empirical aspects of my PhD dissertation contribute new dimensions to the challenges developed by Montin (2009). I now elaborate on these matters.

Empirical evidence from Swedish municipalities (presented in Paper 1) shows that the challenges that Swedish municipalities face in integrating climate change into spatial planning are closely related to those presented by Montin (2009) and reported in Section 4 of this cover essay. Specifically, the challenges faced by Swedish municipalities are related to the following aspects:

- Decisions made on a detailed level at which conflicts of interest become very concrete and economic aspects tend to dominate
- Conflicts of interest among the social, economic, and environmental dimensions of spatial development
- Unclear effects of climate change
- Isolation among planners in municipalities in their efforts to adapt to and mitigate the effects of climate change and to require additional regional cooperation and national assistance (Paper 1).

After reintroducing the approaches to environmental planning developed by Rydin and Pennington (2000), I argue that environmental governance, which is driven by policy delivery and delineates the role of the state as a facilitator, is a suitable environmental planning approach for Swedish municipalities. Specifically, here, I emphasize policy delivery as the main goal. I take this position because the types of challenges reported by Swedish municipalities in Paper 1 may be addressed with participatory decision making, which is a fundamental aspect of environmental governance. Recall from Section 4 of this cover essay Bang's (2005) argument that the demand for citizen participation in policy making is increasing in Sweden (as



cited in Montin, 2009). However, the participation of not only citizens but also a multitude of other stakeholders is being called for in this context. Mannberg and Wihlborg (2008), for example, suggest that participatory decision making may have the potential to produce better results but that challenges associated with participation can be observed at the intersection between policy delivery and democracy (see Section 4).

In situations in which collective action problems might be a challenge, adopting an environmental management approach may be necessary. In these circumstances, the state must adopt a more controlling role, but the main goal remains policy delivery. Increased guidance and assistance may be what Swedish municipalities desire from the regional and national governments (see Paper 1); they seek guidelines, assistance, and structure in their climate change efforts when conflicts of interest are too large and complex to address through public participation in an environmental governance approach.

In my and my colleagues' research, we found that municipalities cannot achieve these goals in isolation. Increased responsibility on the part of regional and national governments is needed (Paper 1). Could greater involvement at the regional and national levels and public/stakeholder participation minimize the challenges highlighted by Montin (2009)?

Could establishing long-term goals and guiding principles at the regional and national levels legitimize municipal actions, thereby making the rules of the game clearer? Introducing long-term goals and guidelines at the regional and national levels might minimize goal conflicts and insecurities in municipalities—challenges that were addressed by Montin (2009). As stated in Paper 1, a goal conflict can be observed between mitigation measures, on the one hand, and adaptation issues, on the other. A concrete example is the use of air conditioning to cope with excessive heat resulting from climate change. Air conditioning could be argued to be an adaptation measure, but if it were powered by fossil fuels, air conditioning would produce greenhouse gas emissions. According to Howard (2009), synergies in effort can differ in extent, ranging from adaptation and mitigation measures being *synonymous* to adaptation measures being *mitigation neutral* (p. 28). Returning the adaptation measure of installing air conditioning, this measure might be considered to be mitigation neutral if renewable energy is used to power it. However, implementing LEED-certified building standards could be simultaneously considered a mitigation and an adaptation measure, according to Howard (2009).

As argued above, establishing regional/national guidelines and standards can mitigate conflicts of interest and insecurities at the municipal level, in relation not only to adaptation/mitigation but also to other dimensions of municipal spatial development. An illustrative example from Norway is useful here.

In 2008, the Norwegian government adopted a regulation that the construction of shopping malls only can be considered in areas that have been identified for such use in regional development plans. The purpose of this regulation is to ensure coordination of shopping malls in a region and to avoid urban sprawl, which leads to increased automobile use (Dymén, Brocket and Damsgaard, 2009). This regulation could also minimize unsustainable competition among municipalities, in which one municipality with aggressive sustainability goals might reject offers from developers to establish shopping malls, while a neighboring municipality might accept such offers.

Nonetheless, guidelines and principles developed at the national level, such as the example from Norway above, do not guarantee that effective climate change policies will be implemented. Municipalities might have more aggressive climate change agendas than the national government, and thus, municipalities may feel that their efforts are being undermined. The regional level can play a role in this respect, as regional governments are much closer to the municipalities.

Determining the optimal level of coordination is outside the scope of this dissertation. I therefore leave this discussion for further research. Instead, in the next subsection, I discuss how a gender perspective can contribute to environmental management and environmental governance.

## ***7.2 Engendering Environmental Planning***

This section primarily discusses findings from Papers 2, 3, and 4 in relation to the second and third research objectives (and, to some extent, the first objective). In this section, I attempt to integrate a gender perspective into environmental planning and to develop an understanding of a gender perspective as an analytical framework for environmental planning specifically and spatial planning more generally.

### **Integrating a gender perspective into environmental planning**

In Paper 2, my co-authors and I found evidence that including a gender perspective in municipal climate change response is important for developing an efficient and well-informed response. The paper particularly emphasizes that differences exist between women and men regarding concerns, attitudes, and behaviors related to the environment. The paper does not reflect on the origins of these differences but adopts a pragmatic approach and argues that the perspectives of both women and men should be included in spatial planning. Paper 2 shows that gender differences are observed among planners in municipal administrations and in civil society. Some empirical evidence indicates that planners have tendencies to perceive differences between female planners and male planners with respect to attitudes and perceptions

regarding climate change. In a relatively gender-equal society, such as Sweden, one would expect feminine and masculine attributes to be relatively dissociated from women and men. This issue remains a topic for further research. However, above all, one should be aware that aspects associated with feminine attributes have historically had less power than their masculine counterparts, including in planning departments. The mere awareness of this divergence in power shows the substantial progress that society has made.

Furthermore, based on Paper 2, I conclude that while feminine and masculine attributes should not per se be associated with the behaviors and attitudes of women and men, attitudes, behaviors, and perspectives do differ between women and men, even in a relatively gender equal contemporary society. Moreover, these differences must be represented in spatial planning practice, in some way, for efficient and well-informed climate change response. This conclusion confirms many of the findings from the literature review presented in Section 3 of this cover essay. However, in the following discussion, I go beyond merely identifying differences between women and men by discussing feminine and masculine attributes in relation to environmental planning.

Returning to Rydin and Pennington (2000), I propose that a gender perspective would be compatible with environmental management and environmental governance, but in different ways. Allow me to elaborate on this proposition.

In the case of environmental management, planning power resides with planners and decision makers. Environmental management therefore corresponds well with the rational planning approach described in Subsection 4.2. To achieve efficient and well-informed (from the planners' perspective) policy outcomes, both women's and men's experiences should be taken into account. For instance, municipalities could ensure that women and men are equally represented among planners; alternatively, planners could gather gender-sensitive empirical evidence from citizens, NGOs, and so forth. However, as emphasized by for example The Swedish National Board of Housing, Building and Planning (2007), merely achieving gender equity among planners does not guarantee that a more feminine approach will be pursued in the ensuing years. If the training that even professional female planners receive is within a masculine tradition, feminine attributes may not be represented. Friberg and Larsson (2002), say much the same thing, by emphasizing that just because women planners are employed in a planning organization, there is no certainty that they will actually be interested in gender equality issues. I will return to this point when I discuss Paper 3.

In conclusion, I argue that this approach to environmental management is consistent with a rational planning approach, in which a gender perspective can assist planners in achieving efficient and well-informed policy outcomes. Adopting a gender perspective to achieve efficient and well-informed policy does not necessarily mean

that power is delegated. The planner, as the expert, must include women and men and/or feminine and masculine attributes in working groups to make sound decisions (see Paper 2).

Regarding environmental governance, the issue of climate change is considered a collective concern, while communities have different priorities and perspectives, particularly relative to other social and economic priorities of urban and regional spatial planning. As Healey (1997) argues, “collaborative planning efforts...seek to reframe how people think about winning and losing. It looks for an approach which asks: can we all get on better if we change how we think to accommodate what other people think?” (p. 312). This approach (environmental governance) is closely related to a communicative approach (see Subsection 4.2 for my understanding of a communicative approach), as some power is delegated to civil society and the municipal government acts as a mediator. Note that regional and national governments are not prohibited from intervening by establishing boundaries, guidelines, and rules in this approach. On the contrary, our interviews with Swedish municipalities argue that such intervention is necessary (see Paper 1).

Furthermore, I believe that a gender perspective can strengthen the communicative approach to environmental governance. Paper 3 develops an analytical framework that is suitable for that task. One of Paper 3’s primary conclusions is that evaluating spatial planning processes from a gender perspective, based on Kurian’s (2000) work, has the potential to identify issues, perspectives, values, and actions that have not been the norm in spatial planning practice. These are what Kurian terms feminine attributes. The purpose is not to essentialize women or men but rather to identify what gains power in spatial planning processes to the detriment of another aspect. This argument has been expressed by Sandercock (1998), among others.

Spatial planning practice and history have been and largely remain the story of a modernist and rational planning project developed by white, middle-class men. Sandercock (1998) voices the concern that practice is dominated by the modernist and rational approach and that academia has contributed to this situation. One of Sandercock’s (1998) main points is that planning history is “...a narrative about the ideas and actions of white middle-class men, since women and people of color were, at least until recently, systematically excluded from the profession” (p. 7). Sandercock (1998) also emphasizes that “in revisiting planning history we discover an ‘official story’, which keeps being repeated – the story of the modernist planning project, the representation of planning as the voice of reason in modern society, the carrier of the enlightenment mission of material progress through scientific rationality” (pp. 1-2). As spatial planning has traditionally been a male-dominated profession and as it remains so to a large extent, projecting masculine values, perspectives, and beliefs onto society (see, e.g., Greed, 1994, 2006, Sandercock, 1998, Listerborn, 2007),

introducing a communicative approach and a gender perspective into spatial planning practice and theory may be a challenge.

Nevertheless, Paper 3 also concludes that the so-called feminine attributes are well in line with what, for example, Forester (1987) would propose as a communicative or argumentative approach to planning. As a logical conclusion, I argue that because a communicative and argumentative dimension may be useful in environmental governance at the municipal level, adopting Kurian's (2000) more feminine attributes may also be helpful to achieve efficient and well-informed climate change response. I now show how the feminine attributes are well aligned with communicative or argumentative attributes.

### **Feminine/communicative attributes versus masculine/rational attributes**

Forester (1987) argues that several problems must be addressed once we recognize planning practice as being communicative and argumentative. A central issue in this respect is power. Whether power is considered or ignored, will affect whether a process is more or less democratic and more or less technocratic (p. 28). One of Forester's main conclusions is that by ignoring political organization and debate, the outcome might be technically correct to solve a certain issue, but the question remains as to whether the correct questions and problems are considered and potential alternative solutions are ignored. Furthermore, by ignoring politics, an action may not be achievable, and public mistrust could result: "...the overly narrow focus of technically oriented planning will, in effect, simplify practice in the short run, but will lead to inefficiency and waste. It can separate planners from the political constituencies they serve, weakening them both as they face the designs and agendas of powerful economic forces in their neighborhoods and cities. Such planning can also undercut the public accountability of planners, neglect political friends, and keep affected citizens uninformed rather than politically educated about events and local decisions" (p. 154). I developed Table 3 based on Forester's attributes of communicative and argumentative planning.

If I now extract some of the attributes presented by Kurian (2000)<sup>1</sup>, one can clearly observe that the feminine attributes are aligned with a communicative and argumentative approach. In Paper 3, we categorize Kurian's attributes into two main themes: *gendered relations to environment and climate change* and *gendered approaches to climate change response in planning processes*. The former theme is related to individual attitudes, concerns, and behaviors. This relation is explored in Paper 2 and is primarily relevant for environmental management. Regarding environmental governance and a communicative approach, many of the attributes presented in Paper 3 under

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<sup>1</sup> For a more detailed understanding of the origins of Kurian's attributes, see Paper 3, which elaborates on this topic at length.

gendered approaches to climate change response in planning processes clearly are related to Forester's (1987) attributes. Table 3 presents how they are related to Forester's attributes. Adding the feminine attributes to the communicative and argumentative attributes reveals an important dimension, namely, that the communicative/feminine attributes are not the norm in spatial planning and thus require special attention and effort. When a municipal organization acknowledges the special attention and effort required for communicative/feminine attributes, it becomes more likely to succeed at strengthening climate change response. Here, I would like to emphasize that the attributes presented in Table 3 are primarily discussed in relation to environmental planning and, more specifically, climate change. However, I argue that their usefulness as an analytical framework should be considered in spatial planning more generally.

*Table 3: The left two columns represent Forester's (1987) rational planning approach and Kurian's (2000) masculine attributes. The right two columns represent Forester's communicative/argumentative approach and Kurian's feminine attributes. New attributes developed in Paper 3 are included in brackets*

<b>Rational attributes</b>	<b>Masculine attributes</b>	<b>Communicative/argumentative attributes</b>	<b>Feminine attributes</b>
Technical expertise	Technical and economic rationality  Process controlled by experts	Nonprofessional contribution	Political and social rationality  Process stresses participation by citizens
Formal procedure	Top down sources of knowledge only are considered  (Focuses planning as a rational process)	Informal consultation and involvement	Bottom up sources of knowledge are given legitimacy  (Focuses planning as communication)
Strict reliance on databases	Scientific sources of knowledge only are considered	Careful use of trusted resources, contacts, and friends	Nonscientific sources of knowledge also are considered

Formally rational management procedures	Top down sources of knowledge only are considered  (Focuses planning as a rational process)	Internal and external politics and the development of a working consensus	Bottom up sources of knowledge are given legitimacy  (Focuses planning as communication)
Solving an engineering equation	Stresses hard sciences, quantitative techniques	Complementing technical performance with political sophistication	Stresses the social sciences, unquantifiable values

Source: Based on Forester (1987), p. 152, Kurian (2000) and Paper 3

In conclusion, a spatial planning process requires both environmental management (especially at the regional and national levels) and environmental governance (preferably at the municipal level). Environmental management adopts a more rational approach that corresponds to more masculine attributes, meaning that the process is controlled by experts and is primarily top down. However, the adoption of a more rational approach does not imply that *gendered relations to the environment and climate change*, developed in Paper 3 (such as focusing on a sustainable way of life, regarding humans as part of nature, and stressing cultural norms and values), are not relevant. On the contrary, they are relevant. What I wish to stress, however, is that attributes that are related to the spatial planning process (see Table 3 above) are more consistent with the masculine/rational nomenclature. Environmental governance, however, adopts a more communicative approach, implementing the feminine attributes.

Thus, one potential solution, while being aware that what has historically been associated with masculinity tends to gain power at the expense of femininity, is to reflect on how categorizing spatial planning processes by using communicative/feminine and/or rational/masculine attributes can contribute to the development of efficient and well-informed policy and gender equality without dichotomizing differences between women and men. This risk was noted in prior sections of this cover essay.

Allow me to explain what I mean by drawing from experiences in Paper 4. In that paper, we elaborate on gender in relation to crime and fear of crime. From a masculine perspective, being afraid of crime is not rational, as in quantitative terms, being fearful is not related to actual crimes. However, why can being fearful not be considered rational? Ultimately, fear of crime is a particular hindrance to women's ability to freely use public spaces. One lesson learned in this context is that matters associated with rationality and masculinity are regarded as precise, scientific, and quantifiable. In conclusion, Table 3 above is useful in understanding and analyzing

the relationship between planning and gender theory, on the one hand, and masculine and feminine attributes, on the other. As a next step, one might consider what the attributes in Table 3 signify and whether new terminology should be adopted to avoid dichotomizing women and men. In this respect, I am particularly referring to the so-called *rational attributes* in Table 3 above. I would argue that the communicative/feminine attributes are also rational. For example, consider the attribute *social and political rationality*. The environmental management approach, developed by Rydin and Pennington (2000), should therefore be associated not with rationality/rational planning but rather with something similar to *central and formal management of planning*. By avoiding the term rational planning, we avoid the dichotomy between men being rational and scientific, on the one hand, and women being communicative and nonscientific, on the other.

### **The development of efficient and well-informed policy and/or gender equality?**

Thus far, I have not reflected on Rydin and Pennington's (2000) third approach to environmental planning, namely, collaborative environmental planning. Above, I argued that this third approach is rather focused on justice and equality and not primarily on developing efficient and well-informed policy. While this dissertation aims to contribute to efficient and well-informed climate change policy, equality is an important aspect of sustainability. Furthermore, although the primary objective is to develop efficient and well-informed policy, the types of challenges described by, for example, Mannberg and Wihlborg (2008) must be considered whenever a communicative or participatory approach is adopted. Recall from Subsection 4.2 of this cover essay that Mannberg and Wihlborg (2008) emphasize four threats that must be considered when a participatory approach becomes central to planning practice—(1) planning for the process rather than the plan; (2) challenging the balance of power – decreasing democracy; (3) false legitimatization, and (4) the ambiguity of consensus. Paper 4 offers insight into these threats.

Much research and practice on gender and safety (see Paper 4) is preoccupied with equality issues, one of the arguments being that no one should be fearful in urban environments. The case of urban safety is easier to relate to democracy and gender equality than climate change response, as gains from urban safety measures can be directly related to citizens and their equal rights to use the urban environment. A gender perspective on spatial planning for urban safety is therefore inextricably related to gender equality. In the case of climate change, initial prospects would suggest that aspects of gender equality—or the benefits for individuals—are more difficult to detect. However, based on the findings of Paper 4 and the democratic threats emphasized by Mannberg and Wihlborg (2008) and Rydin and Pennington (2000), the balance between democracy and gender equality, on the one hand, and efficient and well-informed policy delivery, on the other, should be addressed in the



spatial planning *process*. Furthermore, balancing efforts in this regard depends on the context, such as the general level of equality in a country. Allow me to elaborate on this point by discussing some findings from Paper 4.

In Paper 4, we present case study analyses for four different countries with different traditions of gender equality. An important conclusion is that incorporating gender equality in spatial planning requires special attention to the laws, policies, and institutional actions in specific countries. A successful approach in the UK is strong women's grass roots movements, which act as facilitators between local women's groups and decision makers. In Sweden, where the role of local governments is very strong, municipalities have adopted some of the roles that NGOs would play in the UK.

Regarding climate change response and my contribution to efficient and well-informed climate change response in Swedish municipalities, an equality approach, while it might not be the main focus of climate change response, requires that municipalities carefully select appropriate planning practice and methods. The environmental governance approach discussed above includes both an equality aspect and a policy delivery aspect. To reach groups that are difficult to reach, hands-on methods that enable individuals to generate information and share knowledge must be used. For instance, the Women's Design Service, one of the case studies in Paper 4, adopts emancipatory methods in which women, particularly those from marginalized communities, are trained in self-confidence and communicating with planners. Paper 4 also discusses and analyzes other participatory techniques that might be useful for planners addressing climate change response at the municipal level.

Furthermore, these case studies show that, particularly in a context in which local governments are strong (such as Sweden) and municipal authorities have a strong spatial planning monopoly and hence an obligation (and privilege) to include different groups, ensuring that citizen's opinions are not merely alibis for those in power to proceed with their own agendas is crucial. Arnstein (1969) would argue that citizen participation either would have to be emancipatory by delegating power to civil society or would represent varying degrees of tokenism and manipulation. I argue that emancipation and manipulation present a risk, but in environmental management, in the context of a more rational approach, citizen participation can be used without being either purely emancipation or manipulation/tokenism. Citizen participation can simply serve as a means for planners to collect expertise and knowledge to deliver efficient and well-informed policy solutions.

Issues of gender equality and democracy are more generally relevant for spatial planning rather than simply related to the themes emphasized here (i.e., urban safety and climate change). This assumption is supported by Arnstein (1969). Therefore, a

gender perspective, as an analytical framework in spatial planning, should consider whether bottom-up sources of knowledge (see Table 3) are truly given legitimacy or whether bottom-up sources of knowledge instead represent varying degrees of tokenism.

The cases presented in Paper 4 also show that gender issues are related to factors such as ethnic-cultural and educational background, socio-economic status, and the general equality level in a country. These relationships are particularly clear in the Austrian and British case studies. Compared with the Nordic cases, the case studies in Vienna and London are embedded in contexts with much lower levels of gender equality, as demonstrated by indicators such as female employment rates, education, and salaries. In such a context, a gender perspective becomes focused on emancipating women. In London, for instance, the abovementioned Women's Design Service focuses on the emancipation of women from ethnic-cultural minorities with generally low socio-economic status.

In conclusion, the degree to which including a gender perspective, as an analytical framework, in spatial planning is related to factors such as ethnic-cultural and educational background and socio-economic status depends on the level of equality in a country. The research conducted in this dissertation should therefore be considered in the context of a middle-class, Western society with a relatively high level of gender equality in which specific socio-economic and ethnic-cultural issues have not been a focus. However, considering the general level of gender equality in a country might not be sufficient. In a city such as Stockholm, for example, a gender perspective should be sensitive to the ethnic, cultural, and socio-economic circumstances of different areas. However, such a discussion goes beyond the scope of my dissertation.

### **7.3 Concluding Reflections**

In Subsections 7.1 through 7.2, I comparatively discussed the four papers by scrutinizing their findings under my theoretical framework. In the first part of this cover essay, I stated that a discussion of the findings of my four papers in light of the theoretical framework helps to achieve the aim of this dissertation, namely, to contribute to knowledge on how a gender perspective on municipal spatial planning can contribute to efficient and well-informed climate change response, as well as on how a gender perspective, as an analytical framework, can be developed to analyze on the one hand, spatial planning related to climate change and, on the other, spatial planning more generally.

My final task in this cover essay is to assess how the analysis in my four papers and the comparative analysis of those papers in Subsections 7.1 and 7.2 of this cover essay contributed to the aim of my dissertation.

One of the main contributions of my dissertation is to demonstrate that including a gender perspective in municipal spatial planning, aspects that are not typically prioritized but that may be important for achieving efficient and well-informed climate change response can become priorities. My dissertation refers to these aspects as feminine attributes. I also contribute to the development of a framework that can be used by policy makers and the research community to assess whether and how a gender perspective can be integrated into environmental planning. This framework contributes to the development of a gender perspective, as an analytical framework, in environmental planning. However, I argue that aspects of such an analytical framework, such as those pertaining to the planning process (see Table 3), can be tested and potentially useful in spatial planning more generally. The usefulness of this framework is further concretized through the experiences presented in Paper 4.

Furthermore, in addition to achieving efficient and well-informed responses, the framework also includes a gender equality dimension. While this aspect is not the focus of my dissertation, it is nevertheless important.

Subsection 7.2 concludes that the ways in which a gender perspective, as an analytical framework in spatial planning more generally, can be adopted in climate change response depend on the general level of gender equality in a society and the general economic and social conditions in that society. As emphasized previously in this cover essay, several researchers have argued that participatory approaches are crucial for municipal efforts related to climate change. Nonetheless, participatory approaches require that spatial planners attempt to ensure that democracy and equality, on the one hand, and efficient and well-informed policy delivery, on the other, do not counteract one another.

In future research, I intend to further study how an assessment of whether a gender perspective should be adopted in spatial planning processes can and should consider the general level of gender equality in a country, as well as factors such as ethnicity, socio-economics, culture, and institutional conditions.

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