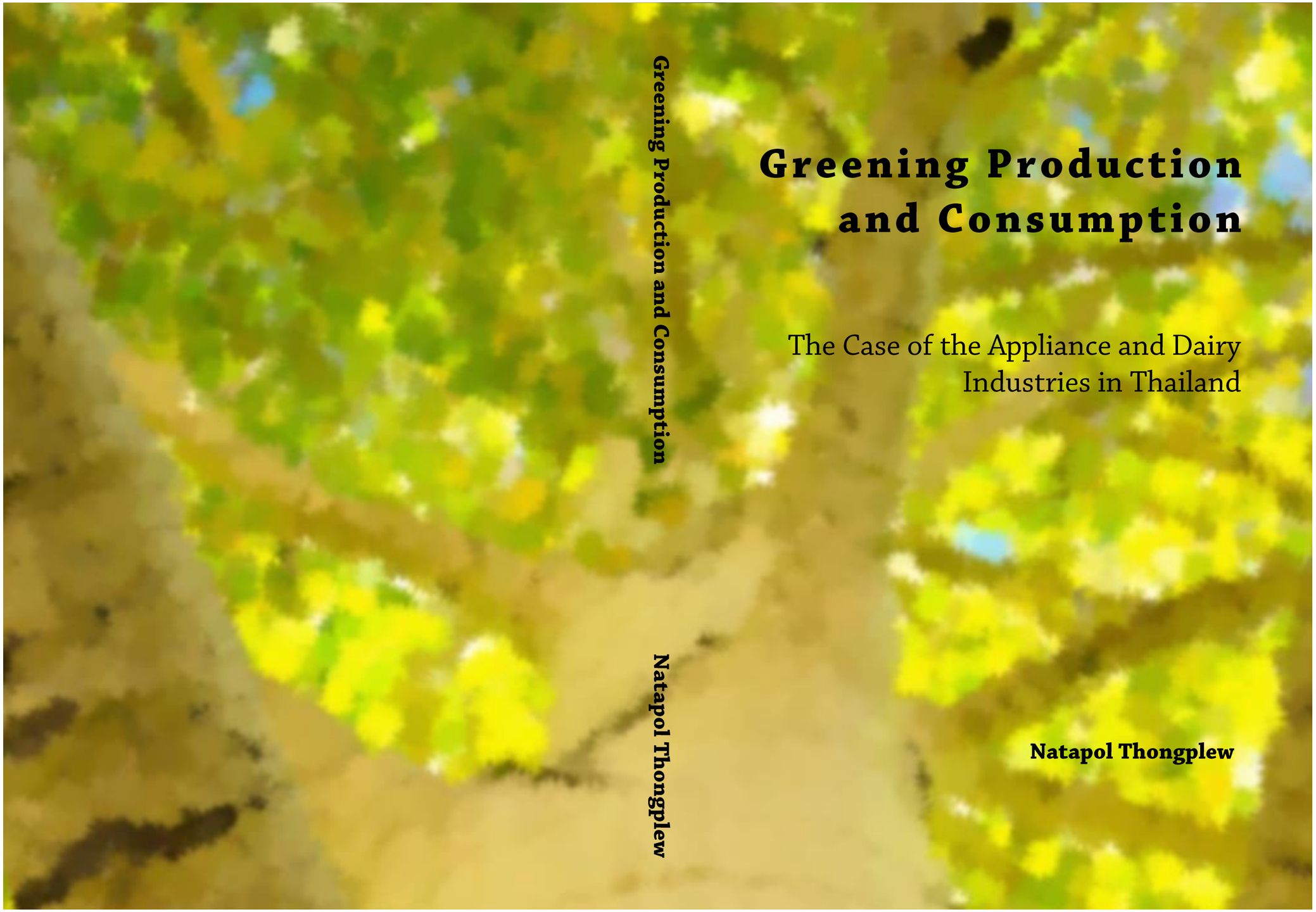
Greening Production and Consumption
Natapol Thongplew
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and Consumption
The Case of the Appliance and Dairy
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Greening production and consumption:
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Greening production and consumption:
The case of the appliance and dairy industries in Thailand

Natapol Thongplew

Thesis

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To Dad and Mom

Preface

This book is a result of five-year research on greening production and consumption of the appliance and dairy industries in Thailand. This research journey began on my 28th birthday and has finally come to an end. I would like to take this opportunity to thank people who contributed to the completion of this thesis and who made this journey more enjoyable.

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Natapol

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Abbreviations

ACT	Organic Agriculture Certification Thailand
ASEAN	Association of Southeast Asian Nations
BMA	Bangkok Metropolitan Area
CAP	Common Agricultural Policy
CBL	Dutch Food Retail Association
CFP	Carbon Footprint of Product
CFC	Chlorofluorocarbon
CFR	Carbon Footprint Reduction
CO_2eq	Carbon Dioxide Equivalent
CTU	Cleaner Technology Unit
CSR	Corporate Social Responsibility
DLD	Department of Livestock Development
DPO	Dairy Promotion Organization of Thailand
EC	Energy Consumption
EEI	Electrical and Electronics Institute
EER	Energy Efficiency Ratio
EGAT	Electricity Generating Authority of Thailand
EMS	Environmental Management System
EMT	Ecological Modernization Theory
EU	European Union
FSC	Forest Stewardship Council
FOE	Friends of the Earth International
FTI	Federation of Thai of Industries
GAP	Good Agricultural Practice
GHG	Greenhouse Gas
GMP	Good Manufacturing Practices

HACCP	Hazard Analysis and Critical Control Points
ICM	Integrated Chain Management
IEI	Industrial Environment Institute
IGES	Institute for Global Environmental Strategies
ISO	International Organization for Standardization
LCA	Life Cycle Analysis
LEI	Agricultural Economics Research Institute
LNV	Ministry of Agriculture, Nature and Food Quality
LTO	Dutch Federation of Agriculture and Horticulture
MASCI	Management System Certification Institute
MSC	Marine Stewardship Council
NGO	Non-Governmental Organization
NZO	Dutch Dairy Association
OAE	Office of Agricultural Economics
ODS	Ozone-Depleting Substances
OECD	Organization for Economic Co-operation and Development
OIE	Office of Industrial Economics
PCD	Pollution Control Department
RoHS	Restriction of Hazardous Substances
SCP	Sustainable Consumption and Production
SMEs	Small and Medium-sized Enterprises
TEI	Thailand Environment Institute
TGO	Thailand Greenhouse Gas Management Organization (Public Organization)
TNC	Transnational Corporation
UHT	Ultra-High Temperature
UK	United Kingdom
VeNeCa	Association of Dutch Catering Organization

WEEE	Waste of Electrical and Electronic Equipment
WBCSD	World Business Council for Sustainable Development
WUR	Wageningen University and Research Centre
WWF	World Wide Fund for Nature
ZLTO	Southern Agriculture and Horticulture Organization

Chapter 1
General introduction

Toshiba Thailand is a large appliance company in Thailand that has strived to make its production-consumption chain become more sustainable. For more than two decades, the company has continuously upgraded its strategies of improving production processes and working with suppliers in order to manufacture more sustainable, energy efficient appliances. Over the last few years, Toshiba Thailand has also put more emphasis on informing Thai consumers about its environmental performance and green products. The example of Toshiba Thailand illustrates how many active companies in Thailand are not only intensifying their strategies to green their production process and the upstream part of the chain, but also exploring strategies to engage consumers into buying sustainable products. This development—often documented for highly industrialized countries but much less researched in newly industrializing countries—is the topic this thesis aims to investigate. The thesis takes the appliance and dairy industries in Thailand as cases to explore the greening of production and consumption from a production-consumption chain perspective. Special interest is paid to greening strategies of companies, green provisions made available to consumers, and efforts to engage citizen-consumers in green consumption.

This chapter provides a general background to the research. It does so by giving an overview of industrializing Thailand and the two selected industries, introducing the theoretical framework, and presenting the overall research questions and methods. The chapter ends with an outline of the rest of this thesis.

1.1 Thai industry and sustainable consumption and production in a globalizing world

Thailand is an emerging economy in Southeast Asia. The country has transitioned from an agriculture-based economy to an industrial-driven economy. The industrial sector has significantly contributed to the Thai economy over the last five decades. Gross domestic product of the industrial sector increased from 22.6 percent during the 1960s to 43.9 percent in 2007 (NESDB cited in Akrasanee, 2006). The rapid growth of industrial activities has resulted in serious environmental pressures (e.g., Global Environmental Forum, 1999). Currently, many industries in Thailand are connected to global (production-consumption) networks as many multinational corporations operate in Thailand and numerous domestically produced products are exported to different countries around the world.

Sustainable consumption and production (SCP) has entered the picture as a policy and framework for minimizing environmental impacts and achieving sustainability since more than two decades. After years of implementation, considerable achievements in sustainable production have been

obtained through technological innovations and efficiency improvements in the industry, but little progress has been made on sustainable consumption (IGES, 2010; TEI, 2003). Nevertheless, the subject of sustainable consumption has recently begun to be recognized by the Thai government and some industries in Thailand (e.g., Zhao & Schroeder, 2010). More recent environmental strategies of companies have also been directed toward consumers. An example is that companies have increasingly made a range of environmentally friendly products available in the markets.

Next to the efforts of companies, intermediary organizations in Thailand have played a crucial role in assisting companies to achieve SCP. Intermediaries, particularly in the form of NGOs, are generally regarded to have special features, e.g., special expertise, representation of public interests, consumer trust, and legitimacy with civil societies and governments (e.g., Dahan, Doh, Oetzel, & Yaziji, 2010; Doubleday, 2004; Vogel, 2005), which are beneficial to companies for enhancing societal and economic value (Dahan et al., 2010). Intermediaries in Thailand have assisted companies in not only greening the production processes, but also promoting sustainable products and services to general consumers. Assistance programs on cleaner production and eco-labeling schemes offered to companies by both governmental and non-governmental intermediaries in Thailand serve as examples of the strategic roles of intermediaries in enhancing the levels of SCP.

Globalization has transformed Thailand in several respects, including changing patterns of production and consumption. As a result of globalization and significant economic growth in Thailand, a new middle class of consumers has emerged, particularly in urban areas. This emerging middle class raises serious concerns about increasing consumption levels (Kharas, 2010; Lange & Meier, 2009; Myers & Kent, 2004). Lange and Meier (2009) contend that the emerging middle class features changing lifestyles and consumption patterns resembling many industrialized and high-income countries. Zhao and Schroeder (2010) project that the Asia-Pacific region, including Thailand, will face serious environmental impacts originating from emerging consumer classes, most strongly in the consumption domains of housing, mobility, and food.

Another aspect of globalizing Thailand in regard to changing consumption patterns is retail. With globalized networks of production and consumption, the expansion of urbanization, and the emergence of modern lifestyles, physical and social distances between producers and consumers have started to widen (e.g., see Raynolds, 2002). Numerous scholars have noted that retailers hold a strong position in production-consumption chains in a globalizing world (Gereffi, 1994; Ogbonna & Wilkinson, 1998; Oosterveer, Guivant, & Spaargaren, 2007). In this sense, retailers can help shorten the distance between producers and consumers and facilitate the greening of consumption. Similar to industrialized countries, where retailers particularly supermarkets have become increasingly involved in facilitating SCP (e.g., Jones, Hillier, Comfort, & Eastwood, 2005; Oosterveer et al., 2007; Oosterveer, Rossing, Hendriksen, & Voerman, 2014; Van Der Grijp, Marsden, & Cavalcanti,

2005), local and multinational retailers in Thailand realize that Thai consumers have sustainability concerns and have begun to offer and promote more sustainable products (e.g., Kantamaturapoj, 2012).

Against the backdrop of these developments, tied up with processes of globalization, this thesis explores how SCP has developed in Thailand and what the roles and strategies of industries, together with intermediaries and retailers, are in enhancing levels of SCP, particularly with regard to greening consumption.

1.2 Greening production and consumption: a theoretical framework

To study the greening of production and consumption of industries from a chain perspective, a theoretical framework was drawn from key theoretical concepts related to ecological modernization, environmental corporate strategies, and citizen-consumers' roles in greening consumption.

1.2.1 Ecological modernization: companies and the triad-network for greening production and consumption

"Ecological modernization theory" (EMT) is a social theory for explaining environmental transformations in modern societies. The concept of ecological modernization was first elaborated in the early 1980s by the German sociologist Joseph Huber (Huber, 1982, 1985) and has been further developed since then by many scholars, with substantial contributions from Arthur Mol, Gert Spaargaren, and David Sonnenfeld (e.g., Mol, 1995, 2001; Mol & Sonnenfeld, 2000; A.P.J. Mol, D. A. Sonnenfeld, & G Spaargaren, 2009). A core principle of EMT is that the centripetal movement of environmental interests, ideas, and considerations has become increasingly integrated into social practices and institutional developments, resulting in environmental transformations in modern societies (Mol, 2002). EMT has five core characteristics to explain environmental transformations: 1) the increasing roles of science and technology in mobilizing environmental transformations; 2) the increasing roles of economic and market actors and dynamics to steer environmental transformations; 3) the changing roles of the nation-state (government) in environmental transformations; 4) the shifting roles of NGOs in environmental transformations; and 5) the changing discursive practices and emerging new ideologies in political and societal discourses (Mol, 1995, 2001; Spaargaren, 1997).

As a social theory, EMT is subjected to considerable debate. As illustrated by Mol and Spaargaren (2000) and Mol, Spaargaren, and Sonnenfeld (2013), some criticisms on EMT have been addressed, while some remain as ongoing debates. The major criticisms, settled and ongoing, will be briefly presented here. EMT has been criticized by several scholars for having limitations because of its

technological outlook, the absence of consumption as a key theme, the lack of attention to social inequity and power, and its Eurocentric view. These criticisms have been addressed through the refinement of theoretical approaches and by conducting further research. Recognizing new perspectives on risk (Beck, 1992), abstract systems (Giddens, 1991), and actor-network theory (Latour, 2012), and taking in insights from science and technology studies (Geels, 2005; Schot, 1992), recent EMT studies have adopted more reflexive stances on the roles of technologies (e.g., A.P.J. Mol et al., 2009). In regard to the criticism on the absence of consumption, recent EMT studies have addressed consumption and consumers in depth by using new concepts and tools, such as practice theory and the social practices model, as well as the concept of citizen-consumers (e.g., Martens & Spaargaren, 2005; Spaargaren, 2011). EMT scholars have increasingly included new themes related to the issues of social inequity (e.g., Mol, 2008; Oosterveer, 2007; T. Smith, Sonnenfeld, & Pellow, 2006). In response to the criticism on Eurocentric view, EMT has been tested in non-European contexts, including North America, Latin America, and Asia.

Some arguments on EMT still remain controversial. These arguments have primarily been put forward by three schools of thought. First, neo-Marxism scholars have emphasized on the "treadmill of production" and the continuation of global "capitalism" (e.g., Gould, Pellow, & Schnaiberg, 2008; O'Connor, 1998; Schnaiberg, Pellow, & Weinberg, 2002). Contradicting the attempt of EMT to support environmental reforms in contemporary societies, a fundamental argument used by neo-Marxism scholars is that environmental crises occurring at both local and global levels cannot be effectively solved in capitalist societies. Second, radical ecological scholars criticize EMT as a "light green" form of environmental improvements (e.g., Barry, 1998; Hobson, 2002). Radical ecologists contend that environmental degradation has to be addressed in more fundamental, radical ways. In contradiction to the more practical, reflexive approach of EMT for addressing environmental degradation in within the context of modernity, radical ecologists call for institutional and political changes that entail a fundamental shift away from key institutions of modern, contemporary societies. Third, structural human ecologists (e.g., York & Rosa, 2003; York, Rosa, & Dietz, 2003) hold the idea that increased wealth and growing populations are the causes of increasing environmental impacts (ecological footprint) and these increasing impacts cannot be countered by the pace of eco-technological developments. Structural human ecologists therefore challenge EMT scholars on the effectiveness of environmental reforms.

In sum, Mol et al. (2013) conclude that these three branches of social theories have criticized that EMT is 1) solely focusing on environmental reforms, 2) not using representative cases to analyze environmental changes, 3) not addressing fundamental causes of environmental problems, and 4) too positive and naïve about environmental reforms. Mol et al. (2013) also point out that these criticisms are connected to fundamental differences on positions, assumptions, and worldviews between EMT

and the other three schools of thought; therefore, the debate on these arguments seems to be persisting.

Although EMT has been criticized by some scholars, EMT scholars have been able to show that significant environmental reforms have occurred worldwide and that EMT has explanatory power to describe transformation processes towards more sustainable patterns of production and consumption. Recognizing the usefulness of EMT, this research employs EMT as an overarching theory to explore the transformation towards SCP of industries in globalizing Thailand.

- Triad-network approach for greening production and consumption

The "triad-network model" is an analytical tool of EMT to analyze environmental transformations of industries and companies (Mol, 1995). The model is based on the ideas of network theories (e.g., Axelsson & Easton, 1992; Grabher, 1993; Rhodes, 1986); therefore, it encapsulates relationships between industries (and companies) and other actors in society for analyzing environmental transformations. The triad-network model distinguishes relationships between industries and interrelated networks into three categories: economic, policy, and societal networks (Figure 1.1). The model therefore can be used to systematically analyze transformations of industries and companies toward SCP, which can be influenced by the economic, policy, and societal networks.

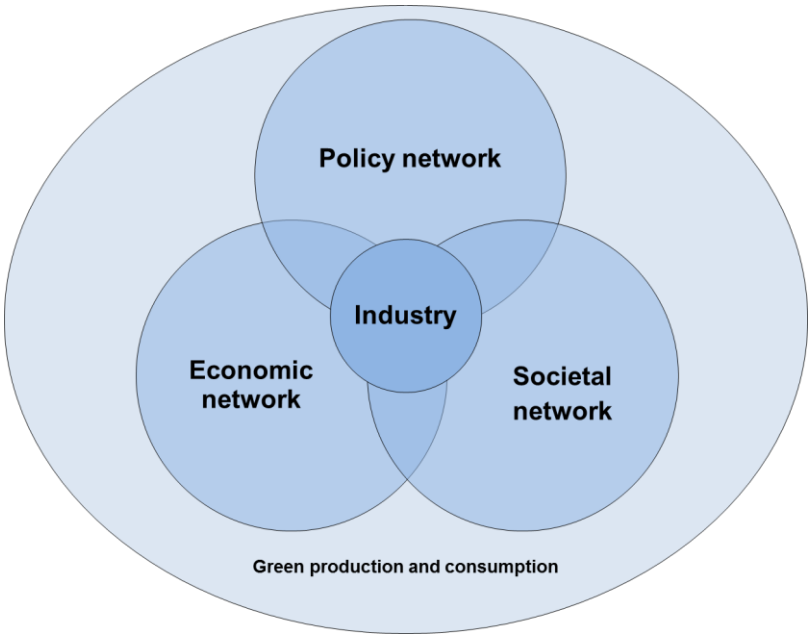

Figure 1.1 Triad-network model for analyzing green production and consumption

Each network represents a different perspective of analyzing transformations of industries and companies (Mol, 1995; Van Koppen & Mol, 2002). The economic network underlines interactions between economic actors governed by economic rules and resources for analyzing power and resource dependencies, and continuity and transformations in economic processes. The policy network emphasizes interactions between governmental agencies and industrial actors governed by rules and resources for analyzing interdependences, resource dependencies, and influential actors. The societal network centers on interactions between the industry and societal organizations for analyzing engagements of societal actors in influencing transformations. A key assumption when applying the triad-network model to analyze transformations of industries and companies is that transformations toward SCP are influenced by economic, policy, and societal actors connected to the industries and companies.

- Ecological modernization of industries in a global setting and in Thailand

EMT has been applied to study the processes and dynamics of environmental transformations of industries worldwide. Initially, the application of the theory was limited to industrialized countries, particularly European countries (e.g., Archambault, 2004; Mol, 1995; Smink, Van Koppen, & Spaargaren, 2003; Søndergård, Hansen, & Holm, 2004). Most of these studies confirm that the theory can explain environmental transformations in the socio-political, economic, and cultural contexts of industrialized countries. Later, the application of EMT for analyzing environmental transformations proliferated in other regions of the world. The theory was also tested in the political, economic, and cultural contexts of emerging Asian economies, including China (e.g., Mol, 2006; Zhang, 2002), Malaysia (e.g., Choy, 2007), Vietnam (e.g., Dieu, 2003; Frijns, Phuong, & Mol, 2000; Khoa, 2006), and Thailand (e.g., Chavalparit, 2006; Sriwichailamphan, 2007; Wattanapinyo, 2006; Wattanapinyo & Mol, 2013). Studies of emerging Asian economies show that EMT has certain levels of applicability, but there are also characteristics of environmental transformation which differ from those of European countries, where the theory was originally founded (e.g., Mol & Sonnenfeld, 2000; Mol et al., 2009).

For globalizing Thailand, studies on the environmental change in industries noted that societal actors still have limited roles in influencing environmental transformation (Chavalparit, 2006; Sriwichailamphan, 2007; Wattanapinyo, 2006). Thai consumers have little influence on the improvement of production process as yet (Chavalparit, 2006; Wattanapinyo, 2006). While revealing that Thai consumers remain a challenging target for sustainable consumption, these findings do not take away the significance of consumers in enhancing sustainable consumption. Therefore, this research explores ways for industries and companies in Thailand to activate and support consumers in minimizing the environmental impact of consumption in their everyday lives.

When focusing on the roles of companies in reaching out to consumers for enhancing the levels of sustainable consumption, the concept of corporate social responsibility (CSR) serves as a suitable framework to explore how companies involve consumers in green consumption because of two main reasons. Theoretically, a stakeholder approach of CSR shares similarities with the triad-network model of EMT, in which economic, policy, and societal actors (stakeholders) influence a company to become more sustainable. Practically, CSR is often referred to when discussing about contributions of companies on SCP.

1.2.2 Corporate social responsibility for sustainable consumption and production

- Background and debate on CSR

"Corporate social responsibility" (CSR) is a core principle and a management framework for businesses and companies to reach sustainability. CSR has been become a prevalent concept embraced by many companies worldwide. The concept of CSR first appeared in the literature in the 1950s (see Bowen, 2013) and has been further developed since then. Many scholars and practitioners have defined CSR differently, and there is no commonly accepted definition (Dahlsrud, 2006). One of the most cited definitions, however, was given by the World Business Council for Sustainable Development (WBCSD) as follows:

> *the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large* (WBCSD, 1999, p. 3).

CSR activities may range from philanthropic activities disconnected from business operations (e.g., financial donations and community services of employees) to strategic activities integrated with business strategies and operations. It is generally accepted that CSR policies and implementations go beyond legal requirements to fulfill the needs and expectations of stakeholders and society (e.g., Bartle & Vass, 2007; Steurer, 2010).

CSR has been the subject of debates. Arguments against and in favor of CSR have been articulated in literature. An early argument against CSR relates to the role of business in societal and environmental improvements. Friedman (1962) has famously contended that business has just one social responsibility: to maximize the profits for its shareholders. Tackling social problems is not a responsibility of business but it is a duty of the government (Friedman, 1970; Reich, 2007). In the same vein, Hayek (1969) notes that CSR can divert business from its main aims and activities, which may lead to failure in achieving both economic and social goals. This objection has been

addressed by many CSR scholars, who argue that business can address not only immediate self-interest, but also enlightened self-interest and social responsibility (e.g., Carroll & Shabana, 2010). This implies that business can strategically integrate CSR into its operation without harming its profits. Potential benefits of CSR to business can be largely grouped as legitimacy and productivity (Zadek, Sabapathy, Døssing, & Swift, 2003). In this regard, various scholars assert that CSR leads to competitive advantages (Calabrese, Costa, Menichini, Rosati, & Sanfelice, 2013; Kotler & Lee, 2005; Kurucz, Colbert, & Wheeler, 2008; Melo & Garrido-Morgado, 2012; Porter & Kramer, 2006), improves economic and social performances (e.g., Hart, 1997; Kotler & Lee, 2005; Mackey, Mackey, & Barney, 2007; Porter & Kramer, 2006), and creates opportunities for innovation (Husted & Allen, 2007).

A second argument is about the power of business. Davis (1973) questions why business should get the opportunity to obtain more power through CSR when it is already powerful. Reich (2008) asserts that additional power of business can interrupt democracy and political processes for advancing the common good and that CSR activities can mislead the public by diverting attention from stricter regulations. Many scholars have responded to this argument by emphasizing that business is actually under increasing pressure to implement CSR, and that CSR activities are governed by the government and civil society. In a globalizing context, companies are under increasing pressure from NGOs, media, governments, and citizens to integrate social and environmental components into business activities (Kolk & Van Tulder, 2010; Kotler, 2011; N.C. Smith, 2002). Additionally, it is asserted that the public is now in favor of business pursuing not only economic profits but also social goals, and sacrificing some profits to take actions for the benefit of workers, communities, and other stakeholders (e.g., Aaron, Michael, Wendy, & Peter, 2000; Carroll & Shabana, 2010). Therefore, CSR becomes essential for the corporate agenda (e.g., Kotler & Lee, 2005; N.C. Smith, 2003).

A third argument is about inexperience and lacking resources for implementing CSR. It is asserted that business managers are specialists in many subjects, such as finance, marketing, and operations (e.g., Calabrese, Gastaldi, & Ghiron, 2005; Costa & Evangelista, 2008), but they do not necessarily have the expertise and skills to address environmental and social issues (Davis, 1973). This critique is basically responded by the claim that business actually has resources and skills. These resources can be essential for fulfilling societal needs and addressing societal and environmental problems (Moir, 2001). Business also seeks to cooperate with other organizations that have expertise and skills to help implement CSR activities (Austin, 2007; Nicholls, 2002). Additionally, business deserves chances to solve problems in society that others have failed to solve (Carroll & Shabana, 2010).

The final criticism is that CSR is just "greenwashing". Some scholars demonstrate cases where companies use their CSR activities to manipulate and mislead the public about their environmental and social practices (e.g., Beder & Beder, 2002; Greer & Bruno, 1996). NGOs, as watchdogs, have found many cases of greenwashing and have made an effort to disclose such cases (e.g., Greenpeace created a greenwashing website: www.stopgreenwash.org).

In taking stock of these debates, we hold it plausible that CSR offers a potentially useful framework to look into the role of companies in strategically addressing SCP and consumers; therefore, CSR is utilized as one of the key elements for constructing the theoretical framework of this thesis.

- Dimensions, generations, and approaches of CSR

CSR advocates have categorized CSR into different dimensions. Dahlsrud (2006) analyzed 37 definitions of CSR and characterized CSR into five dimensions: environmental, social, economic, stakeholder, and voluntariness dimensions. For the International Organization for Standardization (ISO), an implementation-oriented organization, CSR has seven dimensions: organizational governance, human rights, labor practices, the environment, fair operating practices, consumer issues, community involvement and development (ISO, 2009). Within this variety of dimensions, it is evident that the environment is a vital aspect (e.g., Dahlsrud, 2006; ISO, 2009; WBCSD, 1999), and the main challenge for business is not to define CSR but to organize CSR that is suitable for specific contexts and strategically relevant for business strategies (Dahlsrud, 2006). This research therefore focuses on environmental CSR that is relevant to business operations.

Zadek et al. (2003) classify the implementation and development of CSR into three generations: 1) non-strategic corporate responsibility; 2) strategic corporate responsibility; and 3) competitive responsibility. The first generation involves philanthropic and industry-standard activities. The second generation is characterized by a more strategic position of corporate responsibility. As the CSR is integrated into business strategies, CSR activities are implemented with consideration of financial spending and gain. The third generation goes beyond companies taking actions unilaterally, and focuses on multi-stakeholders and partnerships for taking collective actions. This emerging generation also recognizes the integration in corporate responsibility of business strategies and that can create markets for responsible companies. Particularly, the second and third generations of CSR are of interest to this research.

With regard to the operationalization of CSR, three main approaches can be distinguished: shareholder, stakeholder, and societal approaches (Van Marrewijk, 2003). Recent studies suggest a dominant use of a stakeholder approach (Jamali, 2008; Lee, 2008). A stakeholder approach prescribes companies to take into account the interests of any individual or group that can affect or

can be affected by their operations (Freeman, 1984). Stakeholders include not only economic and policy actors that are directly associated with the firm (e.g., shareholders, employees, regulators, suppliers, and consumers), but also societal actors that are not directly related to the company (e.g., communities and NGOs) (Branco & Rodriques, 2007; Clarkson, 1995; Werhane & Freeman, 1999). Haigh and Jones (2006) note that stakeholders play significant roles in influencing the CSR of companies. This research employs a stakeholder approach of CSR to investigate roles and strategies of companies in globalizing Thailand for greening production and consumption in the production-consumption chains. We are particularly interested in greening strategies for involving citizen-consumers in reducing the environmental impact of consumption.

- CSR strategies for greening production-consumption chains

To study greening strategies of companies, we focus on companies producing end products to supply consumers and end-users as our focal companies. These manufacturing companies are powerful actors that play important roles in organizing the (sustainable) chains and are capable of implementing greening strategies across the chains, particularly for consumers.

A broad definition of (environmental) CSR entails an extensive range of greening strategies and implementation, ranging from improving the environmental performance of production processes to addressing environmental problems in society. This research explores a specific range of environmental CSR strategies of companies for greening the upstream and downstream parts of production-consumption chains as summarized in Figure 1.2.

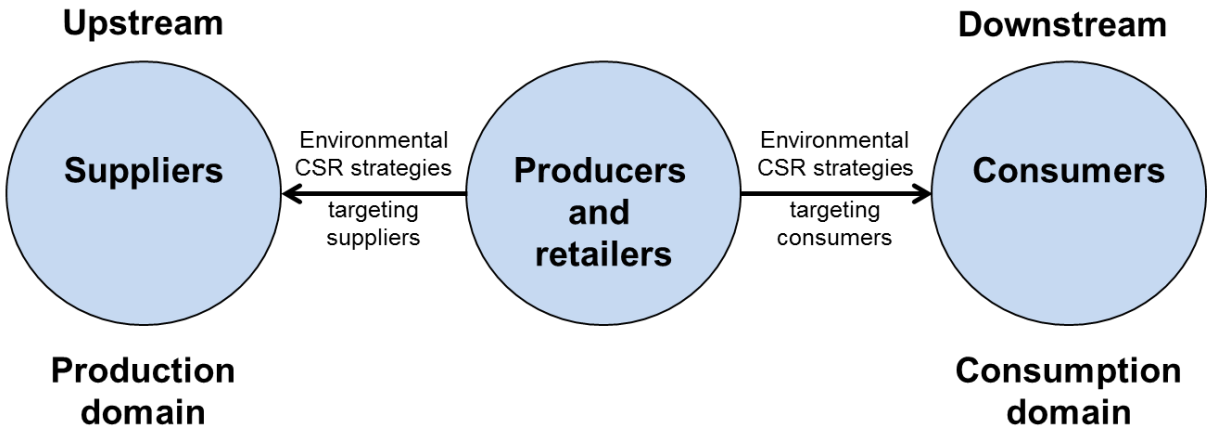

Figure 1.2 CSR for greening production and consumption in the production-consumption chain

- Production- and upstream-oriented CSR strategies

The roles and contributions of companies on SCP are a subject of debate among scholars and practitioners. It is widely regarded that a fundamental contribution is to have cleaner production processes for producing more sustainable products and services. In this regard, several concepts and strategies have been developed and applied, such as eco-efficiency, cleaner production, environmental management systems, life cycle analysis (LCA), and eco-design (e.g., Hagelaar & Van der Vorst, 2001; Lebel & Lorek, 2008; Maxwell & Van der Vorst, 2003).

To produce more sustainable products, CSR strategies for greening the upstream section of the production-consumption chain become crucial for manufacturing companies to obtain greener materials and parts. Therefore, companies started to extend their CSR strategies to engage and assist their suppliers to be more eco-friendly. To do so, many firms adopt the concept of greening the supply chain. Greening the supply chain can be accomplished through different strategies, such as reactive, constructive, and productive (Walton, Handfield, & Melnyk, 1998), and can make use of several tools, such as environmental management system auditing, setting compliance standards, and education and collaboration (Hamner, 2006). The adoption of practices to green production processes as well as the supply chain is not limited to companies in OECD countries; leading firms in middle-income countries also implement such practices (see e.g., Ahsen, 2006; Rao, 2002).

With fast-paced technological advancements for cleaner production processes and manufacturing more sustainable products and services, some scholars and policymakers hold the idea that sustainable patterns of production and consumption can be realized without directly involving consumers: "pursuing sustainable consumption and production behind the back of consumers" (e.g., Huber, 2004). In addition, consumers are viewed as difficult to steer due to their unorganized and heterogeneous characteristics. Many scholars and practitioners, however, stress that providing only green products and services to consumers is insufficient for achieving SCP (e.g., De Leeuw, 2005; Dobers & Strannegård, 2005; Mont & Plepys, 2008; Murphy, 2000; Spaargaren & Van Koppen, 2009; Tukker, Charter, Vezzoli, Stø, & Andersen, 2008). De Leeuw (2005) suggests that a better way to achieve SCP is to bring together the technical world (of material flows and life cycle assessments) and the soft world (of consumers and their lifestyles). This implies that life-world rationalities of consumption (consumers) have to be integrated with technical rationalities of production (suppliers, producers, and retailers) to develop new solutions. In line with this view, the thesis explores the engagement of consumers as "agents of change" in greening consumption.

- Consumer-oriented CSR strategies

Taking on the idea of engaging (citizen) consumers in addressing environmental sustainability, Spaargaren and Van Koppen (2009) proposed an encompassing framework and strategy for analyzing and developing greening strategies for companies called "consumer-oriented provider strategies". Companies deploying consumer-oriented provider strategies promote SCP by engaging (citizen) consumers through their "green provisions". Green provisions comprise three main elements that resonate with both the technical aspects of production and the life-world aspects of consumption: 1) green products and services; 2) environmental information flows; and 3) sustainable images and narratives. The typology of consumer-oriented provider strategies is presented in Table 1.1 and further details and applications are illustrated in Chapter 2.

Table 1.1 Consumer-oriented provider strategies

Level	**Dimension**		
	Improving environmental performance	**Providing information to consumers**	**Presenting images and narratives to consumers**
No environmental product strategies	Improvement of production processes only	No or incidental consumer oriented information	No or incidental presentation of images and narratives
Consumer-silent product strategies	Improvement of direct and indirect product performance	No or incidental consumer oriented information	No or incidental presentation of images and narratives
Green product strategies	Improvement of direct and indirect product performance	Information on product performance and product strategy	Green images and narratives oriented to product groups
Sustainable production and consumption strategies	Improvement of direct and indirect product performance and promotion of sustainable practices	Information on product performance and strategy and on consumer-related sustainable practices	Images and narratives oriented to product groups and to sustainable citizenship

Source: Spaargaren and Van Koppen (2009, p. 92)

Extended environmental or greening strategies of companies for engaging consumers in sustainable consumption have been widely observed in industrialized countries (e.g., Micheletti, 2003; White, 2009). These strategies and engagements are asserted to be vital and relevant for facilitating (emerging) sustainable lifestyles of consumers and advancing sustainable consumption (Spaargaren & Van Koppen, 2009). In Thailand, environmental CSR strategies of companies have been advanced over the last two decades. Companies in Thailand have developed comprehensive environmental strategies for improving production processes, greening suppliers, and producing greener products (see e.g., Bunyagidj, 2006; Foran & Sonnenfeld, 2006; Prayukvong & Olsen, 2009; Virakul, Koonmee, & McLean, 2009). An emphasis of CSR strategies on greening consumption and consumer behaviors has only recently emerged. To explore consumer-oriented CSR strategies of companies in Thailand, it is essential to discuss the roles of consumers in green consumption.

1.2.3 Citizen-consumers: roles of consumers in sustainable consumption

The roles of consumers in sustainable consumption have been studied in different strands of research, including economics, psychology, and sociology. Based on this literature, the sustainable behavior of consumers can be categorized into three main approaches: individualist, systematic, and integrative paradigms (see detailed discussion in Jackson, 2005). First, the individualist paradigm puts emphasis on cognitive factors of individual consumers for enrolling in pro-environmental behaviors. This approach assumes that consumers will behave more sustainably when they have high levels of environmental attitudes and values. Even though this approach is known for its emphasis on agency, it has been criticized for not connecting individual behavior with external contexts and societies. Second, the systemic paradigm focuses on economic and social variables for facilitating environmentally friendly behaviors. This approach implies that consumers will enroll in sustainable behaviors when they are provided with suitable technologies, proper infrastructures, and (sustainable) products. Although this approach holds a strong position with regard to contextual factors, it has been criticized for lacking the emphasis on human agency. Third, the integrated paradigm considers both internal variables of individual consumers and social contexts for mobilizing consumers into environmentally friendly choices. Since the integrated paradigm emphasizes the agency of consumers without neglecting external variables (mediating between agency and structure), we opt for the integrated paradigm to study roles of consumers in sustainable consumption in this research.

"Citizen-consumer" is a prominent concept in the integrated paradigm that articulates overlapping roles of individuals as both citizens and consumers. The concept views individuals as "change-agents" who can exert agency to satisfy individual needs and wants and to exercise rights and responsibilities for the betterment of the public good (Johnston, 2008; Trentmann, 2007). In this regard, Spaargaren and Mol (2008) conceptualize the roles of citizen-consumers into three ideal

roles: ecological citizenship, lifestyle politics, and political consumers. Spaargaren and Van Koppen (2009) suggest that citizen-consumers can exercise their power and influence to reduce environmental impacts in different phases across production-consumption chains. When looking at the interface between manufacturing companies and consumers in market arenas, "political consumers" become relevant. The concept of "political consumers" refers to individuals putting pressure on upstream actors, especially producers in the marketplace via their (ethical and socio-environmental) purchasing decisions (Micheletti, 2003; Micheletti, Follesdal, & Stolle, 2004). The concept has been used to study ways in which (organized) consumers become involved in putting pressure on upstream actors to reduce environmental impacts in the production-consumption chain (e.g., Boström, Føllesdal, Klintman, Micheletti, & Sørensen, 2005; Boström & Klintman, 2008; Micheletti et al., 2004; Stolle, Hooghe, & Micheletti, 2005). Most studies on citizen-consumers have been conducted in industrialized countries, whereas little attention has been paid to emerging economies. This research contributes to the research on citizen-consumers in an emerging economy by studying ways to activate and engage Thai citizen-consumers in adopting more sustainable products in their everyday lives.

1.3 Selected industries: introducing the appliance and dairy industries in Thailand

The appliance and dairy industries are selected to (comparatively) investigate the development of SCP for three main reasons. First, no academic research has been conducted on SCP strategies for these two industries. Second, both industries have significant environmental impacts, and there is a need to improve the environmental performances over their production-consumption chains. Third, appliance and dairy products are in consumption domains (food and housing) pointed out as having high environmental impacts, while the distribution of environmental impacts over the life cycles diverges—it is relatively high in the consumption phase for appliance and in the production phase for dairy (see e.g., Berlin, 2002; Hospido, Moreira, & Feijoo, 2003; Otto, Ruminy, & Mrotzek, 2006).

1.3.1 Appliance industry in Thailand

The establishment of the appliance industry in Thailand began in the mid-twentieth century. When the nationwide introduction of electricity created a demand for electrical appliances, the Thai government responded by introducing an investment promotion policy to attract foreign investors, especially the Japanese, to relocate their production plants to Thailand (EEI, 2007). Over the years, the industry shifted from the assembly of imported components to the production of components (EEI, 2007) and became an export-oriented sector with an export value of US$20.3 billion in 2010 (EEI, 2011). Currently, the Thai appliance industry is the largest appliance production hub in

Southeast Asia and most of manufactured appliances are exported to Japan, the United States of America, the ASEAN countries, and the European Union.

Appliance producers consist of Thai, joint-venture, and foreign entrepreneurs. They operate mainly as assemblers, which may manufacture some components and order other parts and materials from their suppliers. A large number of suppliers are involved in supplying parts for manufacturing appliances and most suppliers are either affiliated or non-affiliated small and medium sized enterprises (SMEs) (EEI, 2010). For domestic sale, the end products are marketed by the distributor (mostly an affiliated or a subsidiary company of the producer) and sold under the brand name of the producer through many channels, including specialty (electronic and appliance) stores, home improvement stores, large discount stores, and dealer shops. In regard to the end-of-life of appliances, end-users are responsible for managing unused appliances because the disposal and management of e-waste are still unregulated.

1.3.2 Dairy industry in Thailand

Dairy farming in Thailand started as family-scale farms run by immigrants in the early 1900s. It was not until two periods of intensification took place that dairy farming and production began to flourish. The first intensification occurred in the early 1960s following on a governmental initiative to promote the adoption of dairy farming (Sakdipitakul, 1991). The second intensification and broadening of dairy production took place in the 1980s as a result of legislation promoting domestic dairy farms and dairy milk production (Chantalakhana & Skunmun, 2001). Currently, the growth of the dairy sector can be gleaned from several facts, including an increase in the number of dairy cows and farms and in the amount of milk produced and consumed. In 2010, more than 21,000 households made a living by dairy farming and these dairy farmers had approximately 525,000 dairy cows producing 840,691 tons of raw milk, with an average yield of 10.96 kilogram/cow/day (OAE, 2012). Despite the intensification and growth, the Thai dairy industry remains largely oriented to the domestic market, with a fair amount of imported dairy products (e.g., skimmed milk powder) and a relatively modest value of exported products (e.g., sweet concentrated milk).

The markets for dairy milk are divided into a commercial milk market and a school milk market, each of which uses about half of the total quantity of raw milk (Bureau of Agricultural Economics Research, 2011). The commercial milk market is run by the dairy companies to sell dairy products to consumers, whereas the school milk market is operated by the Thai government to distribute free milk to students. This research targets the commercial milk market because it associates with general consumers. Commercial milk producers in Thailand comprise Thai, joint-venture, and foreign entrepreneurs. Most producers own milk-processing facilities and acquire raw milk from dairy cooperatives and milk collection centers, whereas few producers possess both dairy farms and

processing facilities. They process raw milk into dairy products, producing ready-to-drink milk (UHT, pasteurized, sterilized, and yogurt milk) as the main products, which are marketed by distributors, milk agencies, and/or by the producers themselves and made available to consumers via retailers, including supermarkets, convenient stores, specialized shops, and producers' retail outlets.

1.4 Research objectives and questions

1.4.1 Research objectives

The main objectives of this research are to investigate greening strategies of the appliance and dairy industries for addressing SCP in Thailand and to identify possible improvements for enhancing the levels of SCP, with an emphasis on the green provisions made available to consumers.

1.4.2 Research questions

To fulfill the objective of this research, three main questions were formulated:

1) What is the existing situation with respect to the greening of production and consumption in the appliance and dairy industries in globalizing Thailand, and how does the existing situation in Thailand compare to the greening of production and consumption on a global level?

2) What are the roles and strategies of companies in the appliance and dairy industries in greening production and consumption, and how are the green provisions from the appliance and dairy companies organized and provided to Thai citizen-consumers?

3) What are the roles of retailers and strategic intermediaries in working with appliance and dairy industries to improve the green provisions and to engage citizen-consumers with more sustainable products in globalizing Thailand?

1.5 Overview of the research methods

This research is qualitative study and aims to identify ways to enhance the levels of SCP of the appliance and dairy industries in Thailand. Special attention is paid to strategies for greening the production and consumption of companies, green provisions provided to consumers, and the engagement of citizen-consumers in SCP. In this regard, greening strategies and the environmental performances of companies and certain characteristics of consumers are analyzed to understand current situations and realize means to enhance the levels of SCP.

This research combines different qualitative methods to study different aspects of appliance and dairy companies and consumers in regard to the greening of production and consumption. Data

collection took place from 2011 to 2014 in Thailand and the Netherlands (as a comparative case). The methods used in this research include 1) desk study; 2) in-depth semi-structured interviews; 3) participatory observation; and 4) focus group discussions. The details of the methods used for the empirical chapters (Chapters 2 to 5) are described in the methods section of each chapter.

1.6 Outline of the thesis

This thesis is a publication-based thesis consisting of 6 chapters. Chapter 2 offers an analysis of the corporate environmental strategies of the dairy and appliance industries in Thailand. It focuses on greening strategies of appliance and dairy producers that have materialized through green provisions, including sustainable products, environmental information flows, and green narratives and images. The chapter shows that green communication strategies targeted at consumers have strategic relevance for the appliance and dairy industries and for enhancing the levels of sustainable consumption in Thailand.

Chapter 3 studies the negotiation process for buying new electrical appliances between producers and consumers in the retail setting. The chapter studies available green appliances, environmental information, and sustainable images and storylines on the one hand, and consumer orientations in regard to green provisions on the other. The result shows that the communication aspects of green provisions in the retail setting are passive and do not fully correspond to Thai consumer orientations. Green communication strategies can be more proactive by adopting environmental labels to distinguish green appliances from general appliances and by improving the environmental contents and communication approaches to connect and (re)establish trust with consumers.

Chapter 4 offers a comparison study on the developments of organic dairy production and consumption in the Netherlands and Thailand by considering CSR strategies of (organic) dairy companies and influences from connected economic, policy, and societal actors. The chapter shows that organic dairy production and consumption in both countries have undergone different development pathways. CSR strategies of (organic) dairy companies are of importance. Economic and policy actors play vital roles in both countries. Only in the Netherlands, however, the societal network is actively involved. The breakthrough of organic dairy in the Netherlands resulted from the collaboration of economic, governmental, and societal actors, whereas such collaboration is not yet well developed in Thailand.

Chapter 5 explores strategies for greening production and consumption and identifies consumer framings used by appliance and dairy companies and intermediaries; it also studies company-intermediary cooperation for enlarging green markets in Thailand. Sustainable initiatives of companies and/or intermediaries, presented as case studies, reveal different greening strategies and

consumer framings used to engage consumers in sustainable appliances and dairy products. The chapter concludes that the company-intermediary collaboration offers tangible potential for engaging consumers in green buying, and that the willingness to engage in company-intermediary collaboration depends on citizen-consumers in greening consumption are framed.

Chapter 6 summarizes all empirical findings of this research. It discusses the implications of this research on the strategies for greening the production and consumption of appliance and dairy companies and the engagement of citizen-consumers in enhancing the levels of SCP through green provisions. In addition, the chapter provides a theoretical reflection and a discussion on future research.

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Chapter 2

Companies contributing to the greening of consumption: Findings from the dairy and appliance industries in Thailand

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Abstract

Over the last decades, the scope of corporate environmental strategies has shifted from improving internal environmental performance to reducing environmental footprint of the product chain in collaboration with actors in the chain. Consumer-oriented corporate social responsibility (CSR) strategies are a vital part of this trend but have received little scholarly attention, particularly in low- and middle-income countries. Focusing on Thailand, this article shows how corporate strategies aimed at greening consumption have become visible because of an increase in sustainable products, environmental information flows, and green narratives and images. We investigated two illustrative cases, dairy and appliance industries, and found that their environmental performances in greening consumption diverge. In the dairy industry, green products and environmental product information are mainly found among small producers for niche markets. Larger producers have only recently started adopting consumer-oriented environmental strategies. Appliance companies offer consumers not only green products, but also environmental information, storylines, and images reflecting general sustainability topics and, to a modest extent, consumer eco-lifestyles. We discuss underlying factors and argue that environmental communication strategies directed at consumers have strategic relevance for both industries

Keywords: CSR strategies, Thai industries, Sustainable consumption, Consumer orientation

2.1 Introduction

Over the years, companies have widely embraced corporate social responsibility (CSR) as a principle and management framework for achieving sustainable consumption and production. One central dimension of CSR is environmental performance (e.g., Dahlsrud, 2008; ISO, 2009; WBCSD, 1999). Environmental CSR means that companies take environmental responsibility beyond legal compliance and reduce the environmental impacts of their own activities and of the activities of other stakeholders under their influence (ISO, 2009). In this respect, Kovács (2008) highlights that upstream and downstream stakeholders can be targeted by CSR strategies.

The contribution of the industrial sector to the Thai economy has significantly grown over the last five decades, resulting in serious environmental pressures (e.g., Global Environmental Forum, 1999; TEI, 2003). In response to this situation, the Thai industrial sector has assumed a role in alleviating environmental problems. Over the years, environmental management in industries has begun to move from an end-of-pipe approach toward an integrated chain-oriented approach (TEI, 2003). Thai companies are beginning to see the benefits of CSR, particularly in building good will and trust, as well as in engaging with consumers (Prayukvong & Olsen, 2009; Virakul, Koonmee, & McLean, 2009). Corporate environmental strategies are no longer restricted to improving direct and indirect

product performances[1]; for some companies, they now extend to perceptions and activities of consumers in the consumption phase. Several producers have begun to develop strategies targeted toward consumers. They communicate, via eco-labels and other tactics, with consumers regarding the increasing range of eco-friendly products and the reasons for buying and using sustainable products.

Although research on consumer-oriented strategies has been growing in high-income countries, the topic has not been extensively studied in middle-income countries, including countries such as China and India in which emerging middle classes are responsible for an acceleration in the consumption levels (Kharas, 2010; Lange & Meier, 2009). As highlighted by Zhao and Schroeder (2010), Thailand fits into this latter category and features rapidly changing consumption patterns, particularly among urban consumers.

Against this background, this article analyzes consumer-oriented CSR strategies and practices of two Thai industries. The dairy and appliance industries were selected as cases for three reasons. First, while the environmental relevance of consumer behaviors in both industries is clear, no academic research has yet been conducted on their consumption-related environmental strategies. Second, the two industries differ in their environmental impacts. Dairy products have greater environmental impact in the upstream segment of the chain (Hospido, Moreira, & Feijoo, 2003) whereas appliances have the greatest impact in the consumption phase (Nakamura & Kondo, 2006). Third, they represent consumption domains with different dynamics: dairy consumption has a shorter consumption cycle and environmental aspects are closely linked to issues of health and taste whereas appliance consumption has a longer cycle and environmental aspects are closely linked to energy (Kaenzig & Jolliet, 2007). Consumer-oriented CSR strategies of dairy and appliance companies are analyzed with the help of a typology developed by Spaargaren and Van Koppen (2009). In doing so, we aim to identify underlying factors and dynamics that drive the development of consumer-oriented CSR strategies of companies in Thailand.

In the next section, we present our theoretical framework and methodology (section 2.2). Then, we analyze consumer-oriented strategies in the Thai dairy and appliance industries (sections 2.3 and 2.4). In the concluding section 2.5, we compare and discuss the results and draw conclusions.

[1] We define direct and indirect product performance from the consumer perspective. Direct product performance refers to the environmental performance of the product during the utilization, whereas indirect product performance refers to the environmental performance during upstream phases of manufacturing.

2.2 Conceptual framework and methodology

Corporate environmental strategies and practices generally target the production processes, management systems, and products and services of a company. Strategies and practices are developed to meet the growing pressures from policy networks, economic networks, and societal networks (Van Koppen & Mol, 2002). Over the years, different concepts and approaches have been developed in this field such as pollution prevention, cleaner production, environmental management systems, eco-efficiency, the 3Rs, eco-design, and life cycle management. Whereas early approaches such as pollution prevention were targeted at processes within the company, current environmental strategies have extended to the full product chain. For example, producers have developed strategies encouraging suppliers to work in more eco- friendly manners. Such strategies for greening the supply chain can be implemented in reactive, constructive, or productive manners (Walton, Handfield, & Melnyk, 1998), using instruments such as auditing (Hamner, 2006). Integrated chain-oriented approaches have been observed in both high-income and middle-income countries (e.g., Ahsen, 2006; Rao, 2002).

In addition to the upstream strategies, companies can contribute to sustainable production and consumption by initiating downstream-oriented approaches to target consumers. The most obvious contribution is providing consumers with sustainable products and services (Maxwell & Van der Vorst, 2003). De Leeuw (2005), however, asserts that providing green products and services will not be sufficient to achieve sustainable consumption and production. He calls for innovative solutions, which bring the technical world (of material flows and life cycle assessments) and the soft world (of consumers and their lifestyles) together. In this context, consumers and their lifestyles and behaviors need to be investigated and taken into account (e.g., Shove, 2004; Spaargaren, 2003). In many countries, consumers and consumer organizations put pressure on industries to green their products and to engage with consumers on environmental issues (e.g., Micheletti, 2003). In response, many companies are initiating innovative programs for enhancing sustainability with the help of consumers and consumption-inclusive strategies (e.g., Michaelis, 2003; Schaller, Kuhndt, & Pratt, 2009).

With these trends in mind, Spaargaren and Van Koppen (2009) have developed a typology to characterize the development of consumer-oriented environmental strategies of companies (Table 2.1). The central idea is that a full-fledged strategy encompasses green products, as well as communication, and communication is not only about adequate information that enables consumers to make green choices, but also about images and narratives that help consumers to identify cultural (emotional, esthetic, moral) connotations of green products and to incorporate them into preferred practices and lifestyles. This idea is elaborated in the three dimensions of Table 2.1. The first

dimension refers to environmental aspects of the product chain that the company includes in its strategy. This dimension ranges from strategies for improving production processes only to strategies covering both direct and indirect product performance and sustainable consumer practices. The second dimension refers to the manners in which different aspects of company and product environmental performances are included in information flows directed at consumers. The third dimension encompasses socio-cultural storylines and "Leitbilder" regarding sustainable production and consumption.

Four levels of consumer-oriented strategies are distinguished in the typology. At the lowest level, no environmental product strategies are developed. At the second level, companies are doing their share but do not or hardly communicate about it with consumers. At the third level, the provision of green products and services is coupled to a strategy of informing consumers. The highest level is realized when producers endeavor to improve production processes, help green their suppliers, offer green products and services, and provide consumers with environmental information, images and narratives to promote sustainable practices and eco-citizenship.

Table 2.1 Typology of consumer-oriented strategies

Level	**Dimension**		
	Improving environmental performance	**Providing information to consumers**	**Presenting images and narratives to consumers**
No environmental product strategies	Improvement of production processes only	No or incidental consumer oriented information	No or incidental presentation of images and narratives
Consumer-silent product strategies	Improvement of direct and indirect product performance	No or incidental consumer oriented information	No or incidental presentation of images and narratives
Green product strategies	Improvement of direct and indirect product performance	Information on product performance and product strategy	Green images and narratives oriented to product groups
Sustainable production and consumption strategies	Improvement of direct and indirect product performance and promotion of sustainable practices	Information on product performance and strategy and on consumer-related sustainable practices	Images and narratives oriented to product groups and to sustainable citizenship

Source: Spaargaren and Van Koppen (2009, p. 92)

In this article, we use the typology to analyze consumer-oriented strategies of selected companies.

2.2.1 Methods

A desk study and a series of in-depth interviews were employed as main methods. The desk study, conducted from 2010 to 2013, looked into corporate environmental CSR strategies, development of environmental performance, and current green provisions in the dairy and appliance industries. In 2011, sixteen semi-structured face-to-face interviews (with an average length of one and half hour) were conducted, eight with companies from the selected industries, and eight with other organizations. A list of open-ended questions was sent to interviewed producers and organizations beforehand, so that they would assign appropriate responders. All interviews were audio-recorded and transcribed.

The selection of companies for the interviews was based on three criteria. The first criterion was the production of frequently used products. This criterion resulted in the selection of companies producing commercial ultra-high temperature (UHT) and pasteurized milk for the dairy industry and companies manufacturing air conditioners and refrigerators for the appliance industry. The second criterion was the companies' environmental performance. The companies should preferably have some level of consumer-oriented environmental strategy (that is, level two of the typology or higher). The third criterion was the producer's share in the domestic market. We aimed to select larger firms with well-known brands and substantial market shares. Six appliance producers that met the three criteria were selected. In selecting six dairy companies, we also included small companies producing for niche markets because there are few large dairy producers with explicit green consumer strategies. Of these pre-selected companies, four dairy producers (CP-Meiji, Dairyhome, Farm Chokchai, and FrieslandCampina Thailand) and four appliance producers (Daikin, Mitsubishi Electric, Panasonic, and Toshiba) agreed to participate and were interviewed (Table 2.2). All company responders worked on the management or executive level. It should be noted that because we selected companies expected to be interested in consumer-oriented strategies, the findings of this research cannot be generalized to all dairy and appliance companies.

Table 2.2 Interviewed companies

Company	Size	Products (related to this study)	Brand recognition and market share
CP-Meiji	Large multinational company (joint-venture)	Pasteurized milk	Well-known brand with high market share
Dairyhome	Small Thai company	Pasteurized milk	Organic milk brand
Farm Chokchai	Small Thai company	Pasteurized milk	Eco-friendly milk brand with its own dairy farm
FrieslandCampina Thailand	Large multinational company	Pasteurized and UHT milk	Well-known brand with high market share
Daikin	Large multinational company	Air conditioners	Well-known brand with high market share
Mitsubishi Electric	Large multinational company	Air conditioners and refrigerators	Well-known brand with high market share
Panasonic	Large multinational company	Air conditioners and refrigerators	Well-known brand with high market share
Toshiba	Large multinational company	Refrigerators	Well-known brand with high market share

In addition to the company interviews, seven interviews were conducted with representatives of organizations involved in improving environmental performance of the industries: three with experts from government agencies (Cooperative Promotion Department, Department of Livestock Development, and Electricity Generating Authority of Thailand), two with representatives of the federation of industry and related institutes (Federation of Thai Industries and Electrical and Electronics Institute), and two with NGOs and certification bodies (Management System Certification Institute and Organic Agriculture Certification Thailand). Also, one large retailer (HomePro) was interviewed.

2.3 The Thai dairy industry and its commitments to sustainable production and consumption

In this section and the next one, we report our findings for the dairy producers and appliances producers respectively, using a similar arrangement for both sections. Before describing environmental initiatives and commitments, we give a short overview of the sector.

2.3.1 Some characteristics of the Thai dairy industry

Dairy farming started as family-scale farms in the early 1900s. The first round of intensification occurred in the early 1960s by governmental initiative (Sakdipitakul, 1991). Dairy production began to flourish in the 1980s because of legislation promoting milk production. Currently, the development of the dairy sector can be gleaned from several indicators, including an increase in the number of dairy cows and farms, the amount of raw milk, and the quantity of milk consumption. Despite its growth, the Thai dairy industry remains oriented toward the domestic market. In 2010, there were more than 21,000 households of dairy farmers with 525,019 dairy cows producing an average raw milk yield of 10.96 kg/cow/day (OAE, 2012). Over 70% of dairy farms are small and medium-sized farms with fewer than 20 cows/farm (Knips, 2006).

Approximately 96% of raw milk is processed into ready-to-drink milk (UHT, pasteurized, sterilized, and yogurt milk) (Cooperative Business Development Office, 2007). UHT and pasteurized milk are provided to two separate markets, the commercial market and the school milk market, each of which uses about half of the total raw milk quantity (Bureau of Agricultural Economics Research, 2011). Figure 2.1 shows the recent development of milk production and consumption.

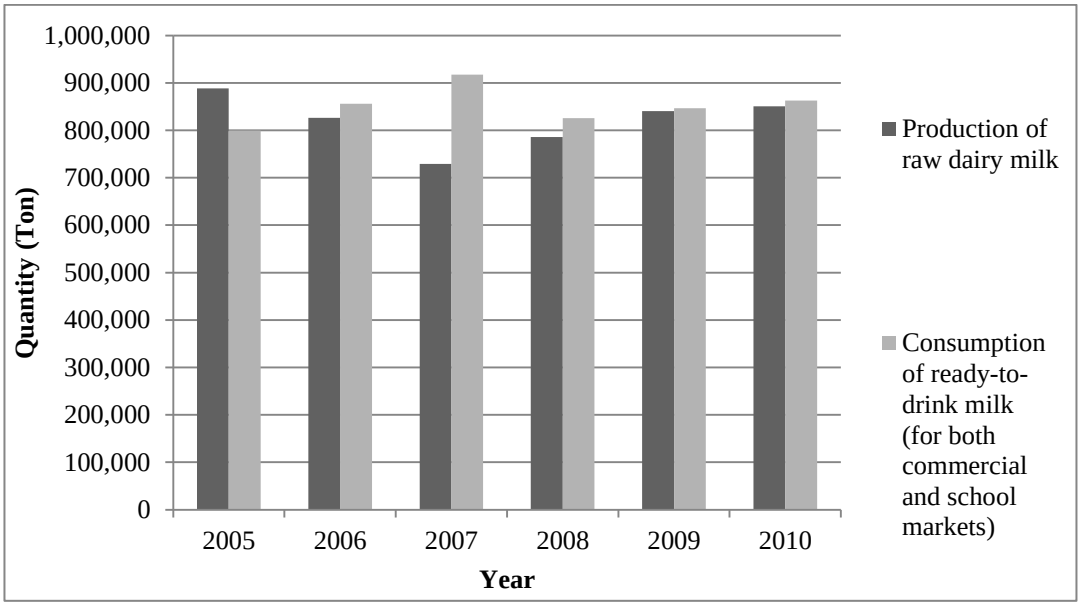

Figure 2.1. Domestic production of raw dairy milk and consumption of ready-to-drink dairy milk (Bureau of Agricultural Economics Research, 2011; OAE, 2011)

Because the study assesses consumer-oriented strategies targeted at general consumers, we will not focus on the school milk, which is operated by the government to distribute free milk to students. The group of commercial milk producers comprises 20-25 local and multinational companies that run UHT and pasteurized milk businesses[2]. Most producers own milk-processing facilities and acquire raw milk from dairy cooperatives and collection centers, whereas few producers possess both dairy farms and milk-processing facilities. Commercial milk is marketed by distributors, milk agencies, and/or by producers themselves and made available for consumers at retailers, including convenience stores, supermarkets, specialty shops, and producers' retail shops.

2.3.2 Improving environmental performance in the Thai dairy industry

A significant step toward the implementation of environmental quality standards was the Enhancement and Conservation of National Environmental Quality Act (B.E. 2535) in 1992, which pushed for the adoption of pollution reduction technologies in the industry. In the 2000s, a shift to the pollution-prevention approach began when the Department of Industrial Works introduced the cleaner production concept to three processing factories to further improve environmental performance, especially for milk loss, water consumption, electricity consumption, and fuel utilization (Bunpaesat, Kongsupapsiri, & Ingsriworrakul, 2003). The implementation effectively reduced environmental impacts and brought financial benefits to producers (Bunpaesat et al., 2003; CTU, 2007). Besides cleaner production, commercial UHT and pasteurized milk producers adopted the eco-efficiency and 3Rs concepts. From interviews with producers, the following picture emerged: FrieslandCampina improves resource efficiency by minimizing water consumption, enhancing energy efficiency, and reducing waste generation. CP-Meiji focuses on improving energy consumption and resource reutilization. Farm Chokchai implements "4R" initiatives[3] to enhance eco-efficiency (Farm Chokchai Group, 2011), and Dairyhome utilizes milk loss for producing organic fertilizers. However, the environmental management standard ISO 14001, which is known to have significant influence on company environmental performance (Brouwer & Van Koppen, 2008), has not been widely adopted. Although quality and safety certifications (e.g., ISO 9001, GMP, and HACCP) are widely embraced, only three commercial UHT and pasteurized milk producers (out of 13 large companies) are ISO 14001-certified[4].

[2] The estimation is based on the Memorandum of Understanding (MoU) of the Cooperative Promotion Department on raw milk purchasing 2009/2010 and an inventory by the first author.
[3] Reduce: reduce resource consumption, Reuse: reutilize waste and wastewater, Recycle: process waste into resources, and Replace: compensate for impacts caused by the company
[4] The number of 13 is extracted from the MoU on raw milk purchasing 2009/2010; certification was checked through the company websites.

Considering the upstream part of the chain, dairy farms are facing problems with farm management and raw milk quality and quantity (Korthong, 2010). Interviews with the Cooperative Promotion Department and the Federation of Thai Industries disclosed that most dairy farmers struggle with low productivity and quality issues and lack capacity to address these problems. To improve the upstream segment, most large producers, including CP-Meiji and FrieslandCampina provide training and consultations to dairy farmers and cooperatives to improve farm management and productivity (CP-Meiji, 2011; FrieslandCampina Thailand, 2013). Few producers extend such activities to environmental issues, mostly focusing on organic conversion to organic production. According to the interviews, Dairyhome provides trainings and instructions on organic farming and auditing, resource arrangements (e.g., organic feed), and a price premium, and FrieslandCampina cooperates with a milk collection center to work on organic farming by providing technical assistance and a price premium for farmers. The role of producers in assisting dairy farmers on the conversion is confirmed by interviews with the Organic Agriculture Certification Thailand and the Department of Livestock Development.

2.3.3 Product-related strategies: the provision of green and organic milk

Environmentally friendly milk is scarcely offered in the market. Since the 2000s, organic milk[5] is provided as a niche product by two small producers - Dairyhome and Buttery Organic. Organic milk comes with choices, e.g., whole, skim, and flavored milk; however, the provisions are limited. Organic milk is available in limited quantity at selected retail shops. Reliable data on organic milk quantities are lacking. Dairyhome, currently the largest producer, estimates that organic milk has a 0.5% share of the commercial market. FrieslandCampina, according to the interview, plans to offer organic milk on a wider scale; by increasing awareness of organic milk among Thai consumers and opening a wider market for organic milk, it hopes to strengthen its leading position in dairy production. At present, only a small number of Thai consumers understand the meaning of organic labels; however, organic food consumers perceive organic products as being healthier and more eco-friendly (Kantamaturapoj, Oosterveer, & Spaargaren, 2012; Roitner-Schobesberger, Darnhofer, Somsook, & Vogl, 2008).

The other green choice in addition to organic milk is milk obtained from eco-friendly farms and processed in environmentally sound facilities. In this respect, Farm Chokchai, a producer who owns dairy farms, processing facilities, and retail shops, offers milk produced and processed under the "4R" strategy.

[5] Like organic certification requirements of other countries, the certification requirements of the Department of Livestock Development and the Organic Agriculture Certification Thailand are developed to protect environment and biodiversity and to concern for animal welfare.

2.3.4 Consumer information flows and green images and narratives in the Thai dairy industry

- Green information flows

Eco-labels are important means of providing green information regarding dairy products. The Thai organic label and the Thai carbon footprint (Figure 2.2) are the major green labels used on milk products. Dairyhome and Buttery Organic are small producers using the organic label. In the last two years, several large and small companies have started to display the carbon footprint, including Dairyhome, Farm Chokchai, and CP-Meiji. Other large dairy producers such as the Dairy Farming Promotion Organization of Thailand and Dutch Milk have not yet embraced this label. Examples of carbon footprint certified milk are shown in Table 2.3.

Figure. 2.2 Thai carbon footprint (GHG emission will be displayed at the tip of the arrow)

Retrieved with permission from http://thaicarbonlabel.tgo.or.th

Table 2.3 Examples of milk with carbon footprint certification

Company	**GHG emissions** (kilogram of CO_2eq)
CP-Meiji	0.533 (for 0.2 liter milk in a plastic bottle)
Dairyhome	0.459 (for 0.2 liter milk in a plastic bottle)
Farm Chokchai	2.58 (for 1.0 liter milk in a plastic bottle)

Data from TGO (2012a, 2012b, 2012c)

In addition to the labels, producers use company websites to provide information on overall environmental responsibility, relevant (eco)certificates, and efforts to assist dairy farmers. For some producers (particularly Dairyhome, CP-Meiji, and Farm Chokchai), environmental performance is a key message in Internet communication. Dairyhome describes the benefits of organic dairy farms on their website (Dairyhome, 2007). CP-Meiji underlines its climate performance (CP-Meiji, 2013). Farm Chokchai uses its website to emphasize its "4R" initiatives and greener products (Farm Chokchai Group, 2011, 2013) and provides environmental information to visitors of the dairy farm.

- Green images and narratives

Environmental images and narratives are presented in different manners. Most large dairy producers, including CP-Meiji and FrieslandCampina present corporate images of sustainability on corporate websites and through other media such as printed materials. They frame the company as providing nutritious products, supporting farmers, and operating with environmental responsibility. In 2013, CP-Meiji has started to present green images and narratives about its climate performance and the use of FSC-certified packaging.

Whereas green images and narratives of large producers revolve around the sustainability of the companies' production processes, the two small producers interviewed focus on the environmental quality of the farming practices and of the milk products. They frame themselves as the producers of green or organic products. Dairyhome's green image and narratives are about healthy aspects of organic milk as a special product having superior qualities and nutrients; however, environmental benefits and animal welfare are not clearly articulated in their narratives. Farm Chokchai confers on its products a green image by associating them, by branding, with the company's green practices. Green production has become the cornerstone of the company's image. On Internet and in advertisements and brochures, images of its dairy farm and processing facilities are used to present the company as a sustainable company. The farm and facilities are promoted as a tourist attraction, allowing visitors to experience how cattle are raised and how dairy products are produced. This reinforces the company's green image and helps create consumer engagement. Approximately, 300,000 visitors visit the farm every year. Table 2.4 summarizes consumer-oriented information and green images and narratives of the interviewed producers.

Table 2.4 Summary of consumer-oriented environmental information and green images and narratives of interviewed dairy producers

Strategy	Company			
	CP-Meiji	**FrieslandCampina**	**Farm Chokchai**	**Dairyhome**
Green information				
General presentation (via company's website, Facebook, and advertisements)	-Information on good processing practices and assistance for dairy farmers -Information on carbon footprint and carbon-certified products	-Information on good processing practices and assistance to dairy farmers	-Information on good farming and processing practices concerning 4R implementation and on green product development -Limited information on carbon footprint and carbon-certified products	-Information on the health benefits of organic milk -Limited information on organic dairy farm
Eco-label and certification	-Carbon footprint certification on some products	-Working toward producing organic milk	-Carbon footprint certification on some products	-Carbon footprint certification on some products -Certified organic milk processor
Others	-	-	-Using a dairy farm tour to provide information on green farm and production	-
Green images and narratives				
General presentation (via company's website, Facebook, and advertisements)	-Images and narratives of a company providing healthy products, operating with social and environmental responsibility -Images and narratives concerning carbon footprint; e.g., 'Help mitigating global warming everyday'	-Images and narratives of a company providing healthy products, operating with social and environmental responsibility	-Images and narratives of a green dairy farm and company doing business with environmental responsibility	-Images and narratives on the health benefits of organic milk and certain levels of environmental aspects of organic farms -Limited images and narratives concerning carbon footprint
Others	-Short narratives on renewable energy use and FSC under the heading 'Eco-Friendly'	-	-Using a dairy farm tour to build a green image -Slogan: 'Live the green trend'	-

2.3.5 Concluding comments for the dairy sector

The four interviewed dairy producers have elaborate strategies for improving their environmental performance at the factory level. They have adopted instruments to improve production processes, including end-of-pipe technologies, cleaner production concept, and eco-efficient strategies. These advancements are primarily driven by factors such as environmental regulations, governmental assistance programs, financial incentives from eco-efficiency, and producers' internal policies. All four communicate about environmental performance to citizens and consumers, but in different manners.

The two large producers, who participated in this study, mainly present information, narratives, and images about the sustainability of their production processes; mostly through their websites and in printed materials. In addition to that, CP-Meiji has recently begun to provide green information about carbon footprint and FSC on their products. FrieslandCampina is working with a milk collection center and farmers to process organic milk, but does not offer organic milk and green information yet. In terms of the model, these companies are moving from consumer-silent strategies toward green product strategies. Other large dairy producers, as far as we know, have similar or less advanced strategies.

The small producers, Dairyhome and Farm Chokchai, employ green activities at the chain level because they focus on providing green, high quality (including organic) milk to consumers. They offer eco-friendly and organic milk as a niche product and provide green information, images, and narratives, even when the majority of their communications regard health benefits of products. In their environmental communication, they emphasize environmental friendliness of dairy farming and production. Similar strategies are found in few other companies in this niche such as Buttery Organic. To our knowledge, none of these companies has an explicit strategy directed at greening consumers, their consumption habits, and their lifestyles. In terms of the model, companies reaching the level of sustainable consumption and production strategies could not be observed.

2.4 The Thai appliance industry and its commitment to sustainable production and consumption

The development of the Thai appliance industry began in the mid-twentieth century. When the nationwide introduction of electricity created a demand for electrical appliances, the government responded by introducing an investment promotion policy to attract foreign investors, especially Japanese, to relocate their production plants to Thailand (EEI, 2007). Over the years, production shifted from the assembly of imported components to the production of components (EEI, 2007).

With government support and foreign investment, the appliance industry became an export-oriented sector and is the largest appliance production hub in Southeast Asia. Most manufactured appliances are exported. Figure 2.3 shows production and consumption of air conditioners and refrigerators.

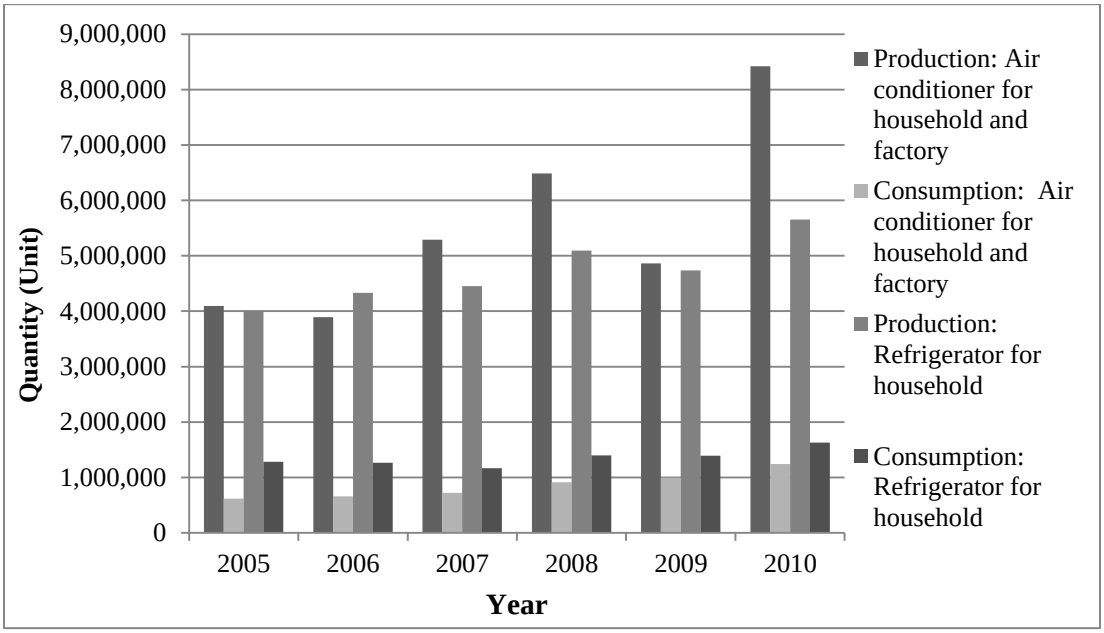

Figure 2.3 Domestic production and consumption of air conditioners and refrigerators (EEI, 2011a, 2011b)

The product chains of air conditioners and refrigerators involve many suppliers, most of which are small and medium-sized enterprises (SMEs). Producers operate mainly as assemblers that manufacture some components and order others from suppliers. End products of each producer are marketed by a distributor (mostly an affiliated or a subsidiary company of the producer) and sold to consumers under the brand name of the producer. After using appliances, end-users are responsible for managing end-of-life appliances.

2.4.1 *Improving environmental performance in the Thai appliance sector*

The appliance industry is subject to the compliance with the Industrial Product Standards Act B.E. 2511 (1968), the Enhancement and Conservation of National Environmental Quality Act B.E. 2535 (1992), and the Hazardous Substances Act B.E. 2535 (1992) for manufacturing safe

products and operating their factories with environmentally sound practices. Because the Thai appliance sector is export-oriented, its measures to reduce the environmental impacts of production processes meet not only Thai legal requirements, but also high-level international standards. Our interviews with four of the major producers - Daikin, Mitsubishi Electric, Panasonic, and Toshiba - confirm the image of proactive companies applying several strategies to minimize environmental impacts and energy consumption such as shifting to new materials, using the latest technology, modifying production processes, and training employees (e.g., Toshiba Thailand, 2011). Reduction of ozone-depleting and greenhouse gases has also become a major concern for appliance producers. The building of a fluorocarbon destruction facility in the production plant of Daikin serves as example. Adoption of ISO 14001-certified management systems is common and has effected significant environmental improvements (OIE and MASCI, 2007).

With regard to the supply chain, the interviewed producers apply greening strategies. Interviews with Toshiba, Daikin, and Panasonic demonstrated that green procurement is an well-established approach for their companies (see also e.g., Daikin Industries, 2007; Toshiba Thailand, 2011). Another instrument is environmental auditing applied to suppliers by Mitsubishi Electric and Panasonic for ensuring compliance with their environmental criteria (see e.g., Mitsubishi Electric Group, 2009).

2.4.2 Product-related strategies: energy-efficiency, CFCs, and e-waste

A significant improvement in the energy efficiency of appliances was the introduction of the Energy Label No. 5 (Figure 2.4) in 1990s. The label is acknowledged as a successful program (Kusaka, Kojima, & Watanabe, 2012; Singh & Mulholland, 2000). Because the label is well-known among the Thai population, appliance producers advertise the label to develop end-users' trust and to increase sales (Na Phuket & Prijyanonda, 2000). A survey of the Japan External Trade Organization reveals that majority of consumers (76.4%) recognize the label and most consumers in this group (90%) use it as a purchasing criterion (cited in Kusaka et al., 2012). The interview with the Electricity Generating Authority of Thailand revealed that most producers are able to keep up with the criteria, which are improved approximately every five years (e.g., the 2011 criteria for the highest rating of air conditioners require an improvement of energy efficiency ratio (EER) of 0.6 BTU/Hour/Watt compared to the 2006 criteria)

Figure 2.4 Energy Label (No. 5) for air conditioners

Retrieved with permission from http://www.dsm.egat.co.th

For producers of refrigerators, the phasing out of Ozone-Depleting Substances (ODS) - CFCs particularly - was a major achievement in the late 1990s. In addition to the governmental cooperation, trade dependency and foreign ownership contributed to the success of the phase-out program (TEI, 2000). For air conditioners, leading producers started using non-ODS refrigerants (hydrofluorocarbon) in some models and promoted the sale of these "green" air conditioners. With regard to the after-sales phase, producers such as Daikin and Mitsubishi Electric train their service technicians to reduce emissions during product installation and maintenance. Daikin uses refrigerant recovery technologies to recover fluorocarbons during after-sale services (Siam Daikin Sales, 2009). Export-oriented producers apply export-country standards, such as the Restriction of Hazardous Substances (RoHS) directive to manufacture products for the domestic market, and appliances producers in general regard sustainable products as being of strategic relevance in creating competitive advantages and sustainability (Ramungul, 2007). To manufacture RoHS-compliant products, producers assist their first-tier suppliers by transferring knowledge, preparing Internet sourcing, and disseminating information (EEI, 2007). Mitsubishi

Electric, Toshiba, Panasonic, and Daikin are also committed to preventing excessive materials use and increasing the use of recycled and recyclable materials.

From the literature and interviews, two major environmental concerns emerge: the environmental performance of small producers and the end-of-life management. Generally, SMEs have limited capacity to cope with environmental pollution (Parker, Redmond, & Simpson, 2009). Interviews with the Electrical and Electronics Institute, the Electricity Generating Authority of Thailand, and the Management System Certification Institute confirmed that domestically oriented small producers lack capacity to "go green." As for end-of-life management, no regulations exist regarding electrical and electronic equipment waste (e-waste). Only few producers voluntarily recollect few types of e-waste (e.g., the fluorescent lamp program of Toshiba). Most e-wastes are managed by the informal sector (Kunacheva, Juanga, & Visvanathan, 2009). The enforcement of WEEE-like regulations is regarded by some as a strategy to confront this issue (Manomaivibool & Vassanadumrongdee, 2011) and is under government consideration (PCD, 2007).

2.4.3 Consumer information flows and green images and narratives in the Thai appliance industry

- Green information flows

Because energy consumption in the use phase is considerable, consumers familiarize themselves with energy features when buying appliances, as highlighted in the interview with HomePro. The Energy Label No. 5 thus has an important function in communicating between producers and end-users. This label for air conditioners and refrigerators provides a rating (with the year of certification criteria) and details on electricity consumption, annual electricity costs, and energy efficiency ratio (air conditioners only). The rating for air conditioners is based on EER and for refrigerators is based on energy consumption (EC). Air conditioners (capacity $\leq$ 27,296 BTU/Hr) should have an EER of at least 11.6 for obtaining the highest rating of 5 (comparing to 10.60 for a rating of 3) (EGAT, 2012a). Refrigerators should have an EC at least 22.5% lower than the Thai minimum energy performance standard (which gets the rating of 3) (EGAT, 2012b). From 1994 to recent years, more than 15 million air conditioners and around 26 million refrigerators were certified with the highest rating, creating significant energy savings and GHGs reduction compared to the minimum standards (EGAT, 2012a, b).

Whereas the Energy Label No. 5 is well-known, according to the interviews with Mitsubishi Electric, Panasonic, Toshiba, and the Management System Certification Institute, other eco-labels regarding improved environmental performance (e.g., the Thai Green Label) are barely used because they have low levels of recognition and additional costs for certification.

In addition to the labels, companies use websites to communicate with consumers regarding green performance. Only few producers do more than simply provide general information. Panasonic and Toshiba describe their company's green profile and the specific measures contributing to improve environmental and climate performances.

- Green images and narratives

Most producers use the energy efficiency of products and the environmental performance of companies (e.g., cleaner manufacturing processes) as a starting point to build green images and narratives at the company and the product levels. Leading producers such as Panasonic, Mitsubishi Electric and Toshiba strategically present green images and narratives at the company level. They present environmental sustainability images and narratives to end-users by creating environmental slogans and symbols such as Eco Ideas (Panasonic), Eco Changes (Mitsubishi Electric), and 5Green (Toshiba). Additionally, they present CSR activities for improving external environmental conditions, e.g., reforestation programs.

At a product level, common messages of most producers to consumers indicate that (buying products with) improved energy efficiency helps to reduce carbon emissions and contributes to a better environment. Only few producers (in our interview sample, only Mitsubishi Electric) make the connection between the use of sustainable products and eco-modern lifestyles. Consumer-oriented information and green images and narratives of interviewed producers are summarized in Table 2.5.

Table 2.5 Summary of consumer-oriented environmental information and green images and narratives of interviewed appliance producers

Strategy	Company			
	Mitsubishi Electric	**Daikin**	**Panasonic**	**Toshiba**
Environmental information				
General presentation (via company's website, Facebook, and advertisements)	-Green information on production processes and products -Highlighting information of green technology in products	-Green information on production processes and products -Highlighting information of green technology in products	-Green information on production processes and products -Highlighting information of green technology in products -Highlighting information production processes and products (related to Eco ideas) on website	-Green information on production processes and products -Highlighting information of green technology in products -Highlighting information on green production processes and products (related to 5Green) on website
Eco-label and certification	-Energy Label No.5 and RoHS mark on most products	-Energy Label No.5 and RoHS mark on most products	-Energy Label No.5 and RoHS mark on most products	-Energy Label No.5 and RoHS mark on most products -Considering carbon footprint certification
Green images and narratives				
General presentation (via company's website, Facebook, and advertisements)	- Images and narratives of a company providing energy efficient and green appliances for sustainable green modern lifestyles; e.g., 'Convenience with environmental friendliness starts here'	-Images and narratives of the company as a green company providing energy efficient and green appliances for users; e.g., 'Comfort functions of the product are friendly to the environment and the user'	-Images and narratives of a company providing green, innovative, and energy efficient appliances for consumers; e.g., 'More advanced with innovations for cleaner and more environmentally friendly lives'	- Images and narratives of a company having good environmental performance, and providing energy efficient and green appliances; e.g., 'The green innovation for the cleaner world'
Eco-slogan and -logo	-'Eco changes'	-	-'Eco ideas'	-'5Green'
Others	-Images on the website to connect sustainable products with eco-modern lifestyles	-	-	-

2.4.4 Concluding comments for the appliance sector

The Thai appliance sector has elaborate sustainable production strategies. The interviews and available documents give evidence of continuous efforts to improve environmental performance at the factory level, with support of instruments such as eco-efficiency, the 3Rs, and ISO 14001. All companies interviewed are engaged in greening the supply chain. Product performance has considerably improved since the 1990s, as is testified by the tightening standards of the Energy Label No. 5, and the efforts to reduce ozone-depleting emissions. Active government policies, an orientation toward international markets, and cooperation on environmental improvements among actors in the provisioning system have contributed to a comprehensive environmental profile.

In their environmental communications, both greening of production and greening of products are highlighted. The Energy Label No. 5 is a dominant communication format. Regarding the provision of images and narratives, most companies use conventional approaches, emphasizing benefits of using sustainable products for a better environment. Beyond such general messages, however, there is little differentiation in the environmental information communicated to consumers, and a diversified approach toward different green lifestyle groups among Thai consumers is not clearly visible. In comparing the current performance with our model, our findings show that most large producers have incorporated green product strategies and have made progress toward sustainable consumption and production strategies. In another study, we show that consumers are increasingly interested in active and trustworthy environmental communications, and appliance companies become aware of the need to respond to this interest (Thongplew, Spaargaren, & Van Koppen, 2014).

2.5 Conclusions and discussion

2.5.1 Comparing the industries

Our findings indicate that in the appliance industry consumer-oriented strategies reach a higher level than in the dairy industry. All large appliance producers investigated have green product strategies and at least one (Mitsubishi Electric) makes a modest step toward a sustainable production and consumption strategy by communicating to consumers about eco-friendly lifestyles. In the dairy industry, as already became apparent in the selection of companies, most large producers have at best a consumer-silent product strategy. Full green product strategies are only found with small producers for niche markets, as in the cases of Dairyhome and Farm Chokchai. However, the two large companies investigated are clearly moving toward green product strategies as well. FrieslandCampina makes efforts to enter and expand the organic milk market, whereas CP-Meiji has started with carbon footprint certification on milk products.

Three factors help explain the similarities and differences found. One factor is the different environmental characteristics of products. Appliance utilization is fundamentally connected to energy and electricity costs, an issue with obvious relevance to consumers, which can easily be incorporated in consumer-oriented CSR strategies. It is different for the dairy industry, which communicates through the organic label and carbon footprint, both of which have less appeal to consumers as yet. A second factor is regulation. Whereas energy and environmental regulations are enforced for appliances in domestic and international markets (stringent international regulations, e.g., the RoHS Directive), most regulations of dairy products concern quality and safety. Green provisions in the dairy industry have a much more voluntary character and green claims are harder to substantiate with consumers. Third, different configurations of companies affect greening strategies and green provisions. The appliance chain consists of fewer and larger companies than the dairy chain, which consists of many small under-equipped farmers. This makes easier for appliance producers to develop green products and consumer-oriented strategies for a larger, mainstream market.

2.5.2 Next steps for the industries

Our findings show that the consumer-oriented strategies of the two industries, although still emphasizing direct benefits of energy saving (appliances) and health (dairy), are moving toward including broader environmental aspects. The dairy industry has increasingly adopted climate performance into their communications; the appliance industry has begun to incorporate general sustainability topics and, to some extent, consumer eco-lifestyles. This indicates that producers expect environmental sustainability to be of interest to Thai consumers and expect to achieve sustainability with certain levels of consumer engagement. In this regard, consumers and their behaviors become more integral part of corporate environmental strategies and these strategies target to empower citizen-consumers (cf. Spaargaren & Mol, 2008). Such a development accords with studies on the new middle class in Thailand (Kantamaturapoj et al., 2012; Thongplew et al., 2014). Several authors have argued that CSR strategies of companies can support citizen-consumers in moving toward sustainable consumption (Frame & Newton, 2007; Jacobsen & Dulsrud, 2007; Johnston, 2008). Our findings show that this argument is highly relevant for the dairy and appliance industries in Thailand. Further investigation of this development is of importance given dramatic shifts in buying power following the emergence of new middle class.

Of special interest, in this respect, is the entering of multinational companies into the markets of middle-income economies. As we demonstrated, the presence of large, internationally oriented companies can positively influence the availability of green provisions. In the case of Thailand, the entering of FrieslandCampina into the organic dairy market may cause significant shifts in the dairy

production consumption structure. These developments and similar ones in other emerging markets are recommended for further research.

2.5.3 Research on consumer-oriented strategies

Our study also demonstrates that the consumer-oriented strategy model of Spaargaren and Van Koppen (2009) is helpful in characterizing the development of consumer-oriented CSR strategies and green provisions of companies in middle-income countries such as Thailand. Our study also suggests that in applying this model to lower- and middle-income countries, greening of products and product communication should be analyzed not only in a domestic context, but also in a context of globalization. Consumer-oriented strategies and green provisions of companies in Thailand are influenced by several characteristics of globalized product chains (e.g., stringent environmental regulations of importing countries and CSR strategies of multinational corporations) and plausibly, by globalizing eco-lifestyles of consumers as well.

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Chapter 3

Greening consumption at the retail outlet: The case of the Thai appliance industry

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Abstract

Over the decades, the Thai appliance industry has developed into a strong and export-oriented industry with rigorous strategies to improve the environmental performance of products and production. Leading producers have recently begun to develop greening strategies targeting the consumption behavior of consumers, materialized through the provision of green appliances, environmental information, and sustainable images and storylines. However, communication regarding green provision in the retail setting has been found to be passive and to not correspond with the orientation of Thai consumers. Consequently, it has been found to be difficult to empower and activate citizen-consumers to buy more sustainable appliances. For this situation to change, green communication strategies of providers must become more proactive by adopting environmental labels to discern green appliances from general appliances and by improving the environmental content of communications in a way that (re)establishes stagnant or even absent consumer trust in green providers.

Keywords: Sustainable consumption, CSR strategy, Consumer-oriented strategy, Thai consumer, Thai appliance industry, Appliance retail outlet

3.1 Introduction

In 2009, the vice president of Toshiba Thailand, a leading appliance company, issued a message stating that the company had adopted a green product concept to manufacture high-quality and eco-friendly products for consumers, allowing consumers to participate in preserving the planet (Toshiba Thailand Company Limited, 2009). From this message, we recognize the incorporation of environmental responsibility into the company's operational strategy. More importantly, the message exemplifies the inclusion of consumers and their behaviors in the company's environmental strategy. Consumers are called upon to help reduce environmental impacts derived from using products produced by Toshiba.

The Thai appliance industry is an intriguing industry for exploring the role of providers in the development of sustainable consumption. Since its establishment in the mid-twentieth century, the industry has developed into a strong and export-oriented industry (Electrical and Electronics Institute, 2007). As a result of cooperation with the Thai government, growing demand from local end-users, environmental regulations from importing countries, and policies of parent companies, the major Thai appliance producers have developed rigorous strategies to improve the environmental performance of their products and productions. Some leading producers have also begun to develop an orientation on the consumption behaviors of the consumers as the end-users of their products. Such a consumer orientation builds upon the internal strategies for improving environmental

performance of the industry. The nature and content of such consumer-oriented strategies, however, are not yet well-defined, as communicating with consumers about sustainable consumption is rather a recent phenomenon that only few Thai companies know from experience. As previous research has shown, one of the defining characteristics of a successful strategy is the fit of the green products and services into the lifestyles and (shopping) routines of end-users (Kantamaturapoj, 2012).

This article seeks to contribute to the development of consumer-oriented strategies of the Thai appliance industry. It does so by exploring in some details of the habits, routines, preferences, and lifestyles of the appliance buyers. By getting to know consumers' routines, motives, and preferences, appliance providers of sustainable products will be better able to connect their corporate strategies to shopping habits and the dynamics of the lifeworld of customers. Because the retail outlet is an important setting for exchanging information between providers and consumers, the so-called "consumption junction" (Cowan, 1987) is assigned an important role in our methodology. Three research questions will be addressed in this respect. First, we seek to determine the present levels of green product provision in the Thai appliance industry and the quality of the information and communication strategies targeted at consumers. Second, we examine the preferences of Thai consumers concerning the provision of green appliances, environmental information, and sustainable images and storylines. Third, we explore the ways in which company and retail strategies for provisioning clients with green appliances may become better adapted and fine-tuned to the preferences, routines, and lifestyles of Thai citizen-consumers.

We start by presenting the theoretical framework and the methodology used to approach these questions (section 3.2). Subsequently, key actors and factors influencing the interaction and negotiation between providers and consumers (referred to as the mediation process) on green provision are presented (section 3.3). Next, empirical findings on the mediation of green provisions are elaborated (section 3.4). Finally, a concluding discussion is presented (section 3.5).

3.2 Theoretical framework and methodology

3.2.1 Corporate environmental strategies for sustainable consumption

Corporate social responsibility (CSR) is a strategic framework of companies to address sustainable development and environmental suitability. Environmental CSR implies that companies take environmental responsibility beyond legal compliance and reduce the environmental impacts of their own activities and of the activities of stakeholders under their influence (ISO 2009). In this regard, Valentinov (2013) highlights that companies should remain sensitive to society and the environment and internalize interests of stakeholders. For environmental CSR implementation, it is evident that learning processes, relevant social factors, and organizational capabilities influence the specific

ways in which companies organize their environmental CSR activities (Chung et al. 2012). Also firm characteristics, ownership structures, and membership of sustainable business networks affect environmental CSR implementation (Amran et al. 2012).

In a context where companies formulate specific environmental CSR strategies to improve their environmental performance, strategies emphasizing only the improvement of production processes and products become insufficient for achieving sustainable consumption and production (Christensen, 1997; De Leeuw, 2005; Mont & Plepys, 2008; Tukker et al. 2008). To improve company's performance in this respect, addressing the roles of consumers in reducing environmental impacts of consumption becomes an indispensable element. To help companies reflect upon and frame consumer-oriented activities, Spaargaren and Van Koppen (2009) proposed a framework and typology for assessing "consumer-oriented strategies" as developed by providers. The authors suggest that products and services be provided to consumers along with information flows detailing the nature of green products and their related production processes. Next to information, cultural images and narratives should be made available to help consumers integrate green products and services into their budgets, preferences, and lifestyles. Provisions of green products and services, information flows, and images and storylines are all brought under the concept of "green provision" (Spaargaren & Van Koppen, 2009). The three dimensions of green provisions have to be operationalized and measured separately to assess the nature and quality of consumer-oriented strategies. First, the actual number of more sustainable products and services made available to consumers has to be determined. Sustainable products and services refer to products that are designed and manufactured to minimize the environmental impacts throughout the lifecycle of products (Maxwell & Van der Vorst, 2003). However, solely offering green products will not automatically result in the sustainable consumption behavior of consumers. For this reason, second, specific environmental information must be made available to consumers in a visible, accessible, and reliable way. Environmental labels are the exemplar cases for environmental information, helping consumers specify what sustainable products and services are about (Grankvist & Biel, 2007). Environmental labels have been introduced worldwide in many sectors, playing different roles in communicating with consumers, e.g., as shopping aids and quality assurance signals (De Boer, 2003). Environmental information is crucial for empowering citizen-consumers (Spaargaren & Mol, 2008; Van den Burg, 2006; Wallenborn, 2007) and a necessary instrument to actively involve consumers in environmental decisions being made in different phases of the production-consumption chain (Spaargaren & Van Koppen, 2009). However, Van den Berg (2006) notes that simply increasing the amount of environmental information is not enough to empower consumers. Consumer empowerment requires information to be organized in a consumer-oriented manner by connecting to the dynamics of the information search processes of consumers and by outlining reasons for consumers to become involved in sustainable behaviors and practices (Nijhuis &

Spaargaren, 2006).

3.2.2 Conceptualizing the role of citizen-consumers in changing production–consumption systems

In the last decades, consumption levels and related environmental impacts are escalating in emerging economies such as China and India (e.g., Kharas, 2010; Lange & Meier, 2009; Liu et al. 2009; Myers & Kent, 2004). Zhao and Schroeder (2010) view Thailand as one of the emerging economies facing rapid changes in consumption patterns, particularly among urban consumers. Members of the fast-expanding middle classes are called upon to help reduce the steep increasing climate impacts of consumption. How to organize consumer involvement in the management and control of environmental impacts however is a matter of debate in the social sciences. The roles of consumers in bringing about sustainable consumption have been defined from different disciplinary perspectives such as psychology, economics, and sociology. Existing studies can be grouped into three approaches (Jackson, 2005). The first approach views pro-environmental behaviors of consumers as being primarily driven by cognitive factors of individual consumers, e.g., attitudes and values (Aini et al. 2002; Jansson, 2011; Stern et al. 1986). The second approach argues that pro-environmental behaviors are facilitated by external factors, e.g., fiscal, incentives, and institutional constraints (e.g., Jacobs & Bailey, 1982/3; Witmer & Geller, 1976). The third approach is an integrated approach (Jackson, 2005), considering internal variables related to individual consumers and social contexts when studying pro-environmental behaviors (e.g., Nijhuis & Spaargaren, 2006; Spaargaren & Van Vliet, 2000). Because the integrated approach emphasizes the agency of consumers without neglecting external influences and includes factors that mediate between individual human actors and social contexts, we choose to use this approach in our study.

The (context bounded) agency of individuals however can take different forms, depending on the articulation of their roles as consumers or as citizens. Because in practice, both roles tend to overlap, some authors use the concept of "citizen-consumers". This concept expresses that individuals exert agency both for satisfying individual needs and wants and for exercising rights and responsibilities for the betterment of the public good (Johnston, 2008; Trentmann, 2007). In our study, we highlight particularly the role of individuals as change-agents making use of their consumer powers for effecting political change in the ways we organize production-consumption systems in modern societies. Micheletti introduced the concept of "political consumers" to refer to individuals putting pressure on upstream actors via buycotts and boycotts regarding green products (Micheletti, 2003; Micheletti et al. 2004). The concept of the political consumer is important for studying the ways in which consumers become actively involved in (organized) efforts to pressure producers to reduce environmental impacts and to enhance the levels of green provisions in both qualitative and

quantitative respects. Political consumerism defined in this way can be said to refer to the power relations between consumers and producers in ways as illustrated in Figure 3.1.

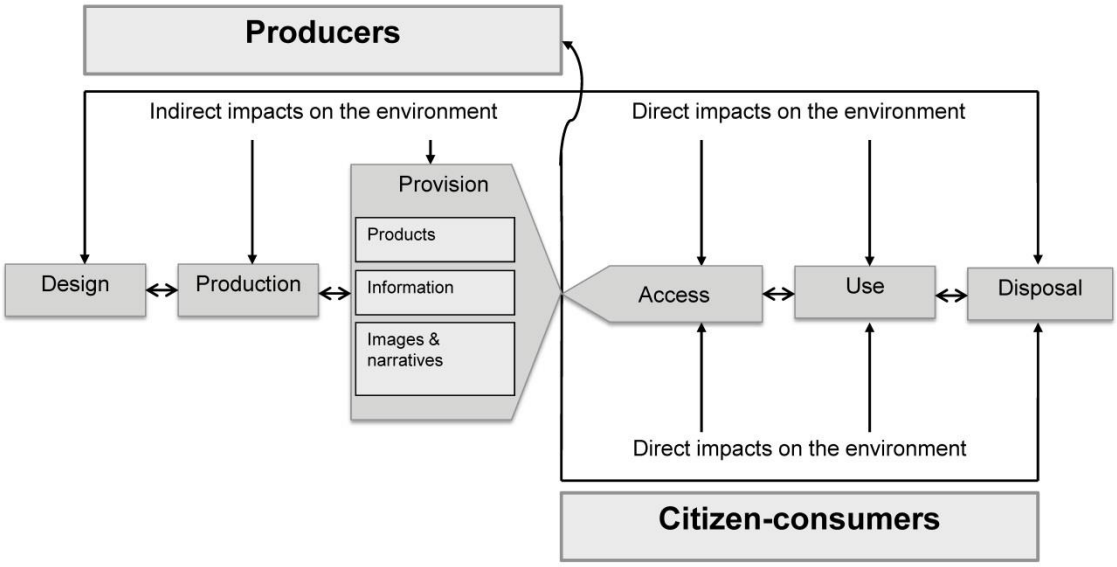

Figure 3.1 Power relation between consumers and producers in the production-consumption chain (adapted from Spaargaren & Van Koppen, 2009)

For example, citizen-consumers may seek to minimize climate impacts of consumption by purchasing efficient products manufactured with clean production processes, using products efficiently, and discarding them properly. In this way, citizen-consumers can influence both indirect and direct climate impacts of certain consumption practices[6]. Although behavioral changes for reducing direct climate impacts are recognized by most policy-makers, the role of citizen-consumers in mitigating indirect impacts are less well-known and have only recently been taken up in climate governance. Buycotting (green products and producers) and boycotting (high impact products, services, and producers) are relevant strategies when trying to pressure upstream actors, especially producers, to change product designs and production practices into more environmentally sound practices.

[6] We defined direct and indirect environmental impacts of products from the consumer perspective, meaning that the direct impact refers to impacts caused by consumers in using the product and that the indirect impact refers to impacts caused by others in manufacturing the product.

3.2.3 The consumption junction: mediating between producer and consumer interests and strategies

Producers and distributors make sustainable products and services available to consumers at different places and via many channels. For example, green products, information, and images can be presented at Internet retail websites, in retail outlets, in specialized shops, etc. These places and channels bring along specific patterns of behaviors for both providers and consumers, showing particular forms of interaction and negotiation between producers and consumers. To study these interaction and negotiation processes in detail, "consumption junctions" (Cowan, 1987) are brought into the analysis. Consumption junctions refer to the specific places and moments where and when consumers meet producers or vice versa for exchanging (more sustainable) products, information, and images. At the consumption junction, producers and consumers play different roles in the mediation processes for sustainable consumption. Providers follow system rationalities, whereas citizen-consumers bring life-world rationalities into the process (Heiskanen et al. 2005; Ossterveer et al. 2007; Schot, 2001; Spaargaren & Van Vliet, 2000). In the mediation processes, trust of consumers is crucially affecting basic orientations and purchasing decisions. Trust is important in the context of new and non-familiar settings such as those referring to purchasing sustainable products from green providers (Belz, 2006). Thøgersen (2000, 2002) shows that trust in the given information is a key factor in the decision to take part in the mediation process and to buy eco-labeled products. Trust can be analytically specified and categorized into three types: trust in product reliability, trust in the presented information, and trust in the source of information (Nijhuis, 2013).

3.2.4 A conceptual model for studying the process of buying and selling at retail outlets for appliances in Thailand

Appliance retail outlets are places where many urban consumers buy appliances. In the Bangkok Metropolitan Area (BMA), appliances are mainly sold through three categories of retail outlets: (1) large specialty stores, (2) large discount stores and home improvement stores, and (3) small specialty stores and dealers. These stores are significant sites for studying the process of buying and selling green appliances for two reasons. First, they are the places where consumers familiarize themselves with green provisions. Having entered the shop, consumers display a more active or passive strategy of exposing themselves to green products and the information and storylines attached to them. When active, consumers prepare themselves well; e.g., they empower themselves with relevant information and enter into active communication with product consultants. When passive, consumers avoid confrontations with green information and do not interact with product constants about green provisions. Second, retail outlets are the places where green provisions strategies are materialized, e.g., where sustainable products, information flows, and storylines are displayed and brought to the attention of consumers. Again, we can distinguish between active,

passive, or silent strategies in this respect. With active strategies, green products are given special treatments in the socio-spatial structure of retail outlets, and product consultants are trained to interact with consumers about green products and purchasing. Within passive strategies, consumers are expected to discover green products without much assistance and support from providers. In Figure 3.2, the retail outlet as a consumption junction is at the center and is the playground for both providers/producers with their general characteristics and situational specific factors (top halve of the figure) and for consumers and their general and situational specific factors (bottom half of the figure). They meet at the consumption junction, where mediation processes can be shown to take either a more active or a more passive shape.

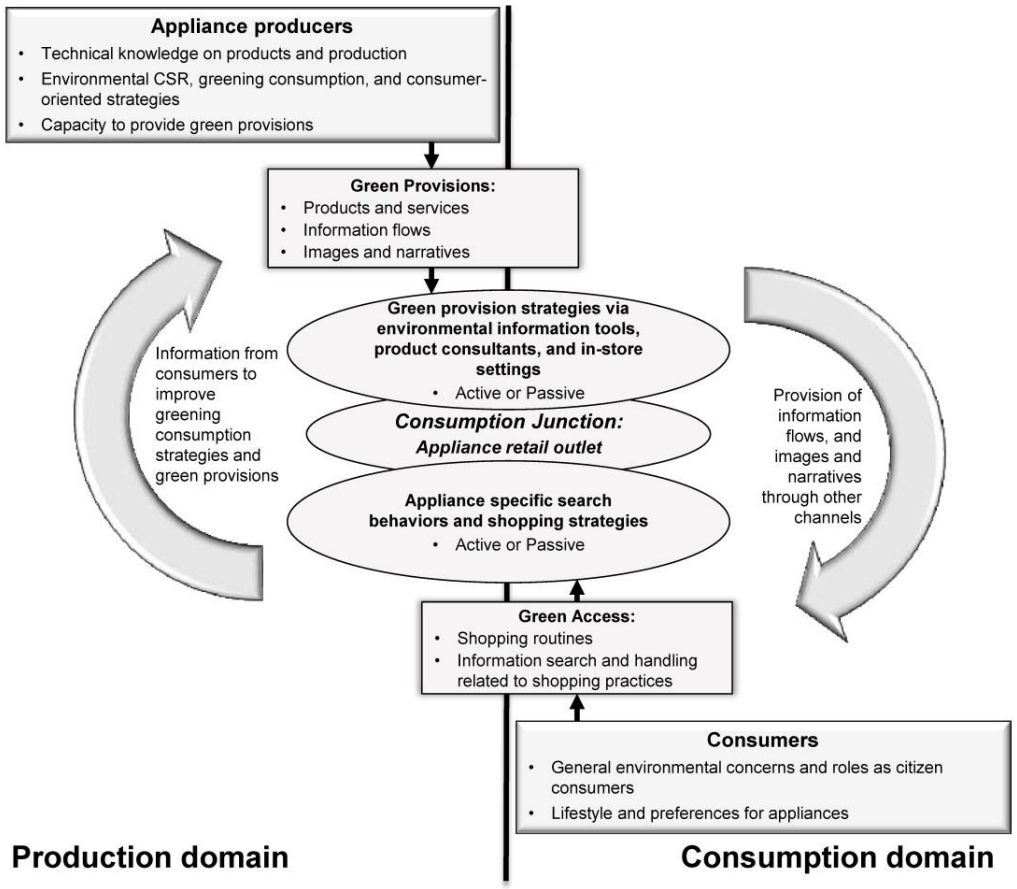

Figure 3.2 Framework for investigating the mediation processes between providers and consumers at appliance retail outlets in Thailand

Before entering the consumption junction, consumers expose themselves to different information and images about (sustainable) products. Depending on their lifestyles, consumers spend more or less time on pre-purchase orientation and seek more or less detailed (green) information. Surfing websites and studying brochures are examples of such pre-purchase orientations, as is talking to friends and family about the product to be purchased.

3.2.5 Method

With the objective of exploring interactions happening at appliance retail outlets, a combination of desk study, in-depth interview, participation observation, and focus group methodologies were applied. A desk study was conducted to study CSR and consumer-oriented strategies of appliance producers. Nine semi-structured interviews were conducted face-to-face with four appliance producers and four experts to gather information of the Thai appliance industry on consumer-oriented strategies, green provisions, and strategies to promote sustainable products.

Participant observation was used to obtain first-hand information on the mediation processes and the available green provisions at retail outlets. Participation observation is suitable for explaining and interpreting an event and a phenomenon (Bruyn, 1963). This observation provides correct data because the information is gathered from the inside (participant) and outside (observer) perspectives (Bouchard, 1976). The researcher visited retail outlets by acting like a consumer to engage in conversations with product consultants and to observe in-store settings without informing retailers about the research aim of the visit. The observation took place from June to August 2012 at 12 stores from six retailers (PowerBuy, PowerMall, HomePro, BigC, TescoLotus, and D Point), covering three categories of appliance retail outlets.

Focus groups were organized to gain information of appliance providers and consumers concerning motives, behaviors, experiences, and interactions on green provisions in a retail setting. A focus group is a group interview for generating data from the communication between researchers and participants and the interaction among participants (Kitzinger, 1994). Both product consultant and consumer focus groups were arranged in Bangkok on September 2012. Twelve product consultants from six retail chains (PowerBuy, PowerMall, BigC, TescoLotus, D Point, and Panya Electronic) were selected based on the granted cooperation from retailers and producers. One “green consumer” and one “non-green consumer” focus groups with 9 and 11 participants, respectively, were organized. Consumers who purchased air conditioners or refrigerators at retail outlets in BMA were randomly approached. Green and non-green consumers were distinguished with the help of short interviews using questions concerning the purchased appliances, the purchasing criteria, and some lifestyle characteristics of consumers.

3.3 Setting the stage: key actors and factors for the negotiation of green provisions at Thai appliance retail outlets

Key actors and factors influencing the mediation processes in retail outlets are presented in this section, which discusses the desk study, interviews, observations, and focus groups. We first introduce producers and retailers as providers of green provisions, followed by the details of consumers as buyers and end-users of appliances. Finally, we elaborate key tools for promoting green appliances: eco-labels.

3.3.1 Producers and retailers in supplying green provisions

At the retail outlet, distributors (representing producers) work together with retailers as appliance providers to make green provisions available to consumers by having product consultants around and displaying in-store settings as key elements to present green provisions. Interviews with HomePro, one of main appliance retailers in Thailand, provide insights into these elements. Product consultants are the staff from either the retailer or distributors. In the case of air conditioners and refrigerators, product consultants are mostly from distributors and are responsible for selling appliances from their brands. Because many product consultants from several brands are in one store, each product consultant tries to persuade consumers to buy products from the brand that he/she represents. Regarding the in-store settings for presenting green provisions, the setting may be specified at two levels: the overall store setting and the specific environment at the point of purchase. The retailer is responsible for arranging the overall setting, whereas producers are granted permission to furnish the point of purchase.

The assortment and the display of particular (brand) appliances at the shopping floor are different from one retailer to another. Based on the information from the participant observation and the product consultants in the focus group, some stores may have larger product selections than the other and some stores display all products, while some do not (Table 3.1).

Table 3.1 Appliance assortment and display in retail outlets in Thailand

Store categories	Product assortment and display
Large specialty store	- Large product selection - Either have displayed models for all products or have few display models for presentation purposes - Either arrange the same type of appliances in the same section or arrange different products from the same brand in one booth
Home improvement store/Large discount store	- Smaller product selection compared with large specialty stores - Either have displayed models for all products or have few display models for presentation purposes - Either arrange the same type of appliances in the same section or arrange different products from the same brand in one booth
Small specialty store and small dealer	- A product selection is dependent on the store; however, consumers can ask for specific models that they like to be sold to them - The arrangement of products varies

Considering the ecological characteristics of appliances, energy efficiency (Energy Label No. 5) is a common theme. For this reason, we examined the case of green air conditioners and refrigerators. From the participant observation, it was found that green shades of air conditioners and refrigerators can be categorized into two groups – basic and superior – and that some appliances were claimed to be greener than others for being more energy efficient, easier to recycle, etc. (Table 3.2).

Table 3.2 Ecological characteristics of air conditioners and refrigerators

Ecological characteristic	Air conditioner	Refrigerator
Basic characteristic	Energy efficiency	Energy efficiency
	No hazardous substances (RoHS compliance)	No hazardous substances (RoHS compliance)
		Chlorofluorocarbon free
		Non-ozone depleting substance (refrigerant and blowing agent)
Superior characteristic	Inverter technology (more energy efficient)	Inverter technology (more energy efficient)
	Recyclable and recycled parts	Recyclable and recycled parts
	Environmentally friendly package	Environmentally friendly package
	Non-ozone depleting substance (refrigerant)	Other improvements, e.g., material reduction for manufacturing the product, LED light, and heat sensor
	Other improvements, e.g., heavy metal-free paint and heat sensor	

3.3.2 Thai consumers, their preferences, and information search strategies

While living in a hot and humid climate, air conditioners and refrigerators are almost indispensable appliances for Thai urban consumers. Thai urban consumers consider several criteria when purchasing appliances. A survey conducted with households in BMA by the Japan External Trade Organization reveals that key purchasing criteria are quality/function/usability (94.0%), energy efficiency labeling (90.0%), and price (82.0%) (cited in Kusaka et al. 2012). The same survey reports that Thai urban consumers (in comparison with China and India) are more familiar with sustainable behaviors such as "setting the air conditioner's temperature higher" and "not opening the refrigerator frequently".

Several aspects of shopping and information search behaviors of Thai consumers are disclosed by our interviews with HomePro executives. First, consumers are not highly price-sensitive when purchasing large appliances. Second, many consumers become active in seeking information before visiting the store. This behavior is rooted in the increase of information sources and the easy access

to information made possible by the Internet. Third, consumers indicate the need for different levels of information and advice from product consultants, depending on how active or passive the overall information search strategy is.

From the consumer focus groups, it can be concluded that there are three basic strategies used by Thai consumers to manage information in relation to shopping. For the first strategy, consumers are active in searching information, but they do not made a decision until paying a purchase visit to the shop. Information sources used are both out-of-store and in-store sources, e.g., consulting with family members, surfing websites, and paying pre-purchase visits to the shops. In some cases, consumers only utilize in-store information by visiting multiple stores. After familiarizing themselves with the information, consumers make a purchase visit and also gather new information on the visit before making their final decision. Within the second strategy, consumers actively search for information and make their decisions before visiting the shop to make a purchase. Like the first strategy, consumers utilize both out-of-store and in-store information, but the in-store information made available to consumers in the shop for a purchase visit is not considered to be of strategic relevance for the decision-making. Third, consumers may display a very passive way of searching and handling information. They do not intentionally seek any out-of-store information and only utilize available information during their purchase visits.

3.3.3 Instruments for promoting sustainable appliances

Energy Label No. 5 is a voluntary and free-of-charge energy efficiency label executed by the Electricity Generating Authority of Thailand (EGAT). The label utilizes ratings from 1 to 5 (5 is the most efficient) to communicate a simple message – purchasing certified appliances save money. In addition to the rating and product details (e.g., model and size), labels for air conditioners and refrigerators display information on the year of the certification criteria, electricity consumption, annual electricity cost, and energy efficiency ratio (air conditioners only). Over the years, Energy Label No. 5 has become embedded in Thai society (Kusaka et al. 2012; Singh & Mulholland, 2000; Vine et al. 2001). Our interviews with the EGAT and HomePro executives reiterate that consumers seek appliances with the highest Energy Label No. 5 rating. Currently, there are 1340 models of air conditioners and 344 models of refrigerators certified with the highest rating (EGAT 2013a, 2013b). It is worth noting that other environmental labels do exist[7]. However, producers of air conditioners and refrigerators do not currently adopt other eco-labels as their communication tools. Many

[7] In addition to Energy Label No. 5, environmental labels that have criteria for electrical appliances are Green Label (for many appliances including air conditioner and refrigerator), Carbon Footprint (for air conditioner and copy machine), and Carbon Reduction Label (criteria focus on production processes of manufacturing companies).

producers, consumers, and experts believe that the eco-label, particularly the Green Label[8], is not yet widely promoted, resulting in the general public being unfamiliar with the label.

In sum, we found that appliance providers use different strategies and levels in presenting green provisions in a retail setting. Thai consumers are active or passive orientations on (green) information; however, they concern the energy efficiency of appliances. Both in-store and out-of-store information sources are utilized differently by consumers, and Energy Label No. 5 plays an important role in presenting green appliances. This information sets the context for mediating green provisions in a retail setting.

3.4 Mediating green provisions at the consumption junction

In this section, we use the results gathered from focus groups to discuss the mediation process as it actually takes place at the shop floor of Thai appliance stores. In this mediation process, different themes can be discerned. We begin by reporting on the communication about "green products". We then discuss the mediation process regarding "environmental information" and "green images and narratives" as they are negotiated between producers and consumers through environmental information tools, face-to-face communication, and in-store setting.

3.4.1 Mediation around green products

Leading producers offer appliances having both basic and superior eco-friendly properties. However, prices of more eco-friendly appliances (including air conditioners and refrigerators), especially advanced technologies, are higher. With the relatively higher prices of green appliances resulting in higher commissions (which differ between companies), product consultants in general are motivated to sell green appliances. However, product consultants do not always present green appliances to consumers at the first instance of the mediation process. They employ this strategy because they make a first assessment of consumers and explore the buying power and product preferences of customers. For this reason, most of the time, they begin with presenting more affordable and general appliances to consumers, whereas more ecofriendly appliances are only introduced later in the mediation process and to selected consumers.

> *The incentive for product consultants is commission. Products with high incentives are the product that product consultants promote to consumers* (Focus group of product consultants).

[8] Specific criteria of Green Label for air conditioners and refrigerators include considerations about ozone depleting substance, hazardous substances, identification signs on plastic parts, noise level during the use of product, information in user handbook, packaging, painted colors (air conditioners only), use of recyclable plastic (air conditioners only), energy efficiency (refrigerators only).

> *Product consultants evaluate consumers. We check consumers' needs and budgets. If consumers set their budget at certain levels, we know that we cannot push (green) appliances to consumers. We rather promote products that have the right price* (Focus group of product consultants).

With regard to the consumers' views regarding green product provision, they indicate their satisfaction with the product provision and particularly enjoy a variety of products with different functions and prices. However, in the case of green appliances, consumers have problems in defining what green appliances are and show different opinions with respect to green appliances. Energy efficiency, however, is reported to be a consistent characteristic of green appliances. Other ecological characteristics are referred to by only few consumers. These results reveal the difficulties that Thai consumers have in detecting and identifying green appliances in the first place.

3.4.2 Mediating environmental information flows, green images and narratives

- Environmental information tools

Energy Label No. 5 has become an influential tool for communicating about environmental aspects. Considering the level of understanding and use of the label, the key message – that using energy-efficient appliances can save money is comprehended by both product consultants and consumers. The label communicates the energy efficiency of appliances without assessing the overall environmental performance of products. The energy label only relates to direct environmental impacts under the control of consumers. Communications regarding indirect impacts in the production and distribution phase of the product are mostly absent. Because the label is primarily framed in terms of "energy and money", many consumers – particularly non-green consumers – do not associate the label with environmental improvement.

> *I think that the label is not related to environment because the communication is meant to be about saving energy and money* (Focus group of non-green consumers).

Next to this general understanding, the usefulness of the label was considered. Product consultant's report that the label is useful and can be utilized to present energy consumption and energy cost information to customers. Consumers agree about the label being useful, but their "reading of the label" depends highly on their adopting a more active or passive orientation toward product information in general. Some consumers only notice the rating, whereas others consider the label in greater detail.

> *I do not just consider the rating because most air conditioners have the highest rating already. I consider the energy efficiency ratio of the products* (Focus group of green consumers).

Because the overall levels of information on green appliances and their performance are low among Thai consumers, there is no clear point of reference to begin considering and discussing the environmental performance of products. To establish environmental communication, product consultants and consumers believe that having more and better environmental labels as well as presenting environmental awards would be helpful for product consultants to more actively present green appliances and for consumers to learn more about green appliances.

> *If there were (environmental) labels on the products, I would consider them. The labels would allow me to make environmentally sound decisions more easily* (Focus group of green consumers).

> *I think we should have one environmental label to inform us about the green aspects of the products. The label should be like a checklist with few key words to tell about the criteria that apply to the product and the producer. In this way consumers can understand easily what it is about and do not need to study a lot. This label can be additional to Energy Label No.5* (Focus group of green consumers).

The main concerns consumers raised about environmental labels relate to visibility and trust. Consumers believe that it is crucial to widely advertise environmental labels in ways similar to Energy Label No. 5. At present, they judge environmental labels to lack visibility for Thai consumers. On the issue of trust, consumers express that the label must be issued by trustworthy organizations, e.g., the government and environmental NGOs, instead of by producers because the latter can make false claims.

> *If the label is issued by the government, it will be very useful because Thai people trust a label when issued by the government. If producers issue labels, it will be difficult. Producers can say that their products are green, but no one can guarantee… it is also acceptable for trustworthy NGOs to issue the label* (Focus group of green consumers).

Printed matters, such as product brochures, are key communication tools, containing detailed environmental information of appliances (e.g., energy efficiency and technologies of products) and providing green images and narratives that symbolically connect companies and their appliances with a green environment and that portray their environmental responsibility. Consumers in the

focus groups report that the presentation of environmental information, images and narratives is in principle useful. However, they believe that current information strategies center too much on green technologies and vague green environment while failing to translate complex information to consumers and their orientations. Consumers want to envision what it means to live on a clean and green planet, for example in terms of storylines that connect technical environmental information with health issues or with reducing the risks of flooding. In this way, Thai consumers could connect with green appliances and producers in a way that fits their everyday life images and experiences.

> *It is nice to see the communications mentioning about green earth, but it seems like a greenwash. I want the communication allowing me to picture what is good for the planet while showing what it means that we are living on a green planet* (Focus group of green consumers).

> *I want the environmental communications to start talking about issues close to people at the beginning. If the communication starts talking about the earth and only mentions humans later, most people feel distant* (Focus group of green consumers).

> *I want to know what are the specific (environmental) contributions that the product makes. Say helping preserve the planet is very broad. Everyone can say that* (Focus group of non-green consumers).

- Face-to-face communication

Face-to-face communication between product consultants and consumers is a key element in the mediation process, as it occurs on the shop floor. The focus group with consultants revealed that product consultants first try to establish trust with consumers by talking with consumers and providing information and storylines related to appliances such as functions, price, promotion, and energy efficiency. Product consultants believe that this basic information can persuade consumers to buy their products. Therefore, aside from energy efficiency, much environmental information and many storylines are left untold, even though product consultants have learned environmental information from trainings and documents.

> *To be honest, consumers concern about prices and saving. They ask for the best deal (lowest price and free gifts). I have seen only very few cases where consumers asked for environmental information* (Focus group of product consultants).

> *Consumers listen to environmental information, but they do not pay attention* (Focus group of product consultants).

Discussion on the environmental performance of products occurs only when product consultants present information of the products that have eco-characteristic as their selling point and in situations when consumers express an interest for (information on) green appliances. This characterization is consistent with the reports from the consumer focus groups. Most consumers report that they were not offered environmental information about products (except energy efficiency).

> *Product consultants did not provide environmental information* (Focus group of green consumers).
>
> *Product consultants are not helpful in giving environmental information* (Focus group of green consumers).

Given these low levels of environmental communication, we discussed ways of improving the process. Both product consultants and consumers recognize some benefits from having a conversation on green appliances at the shop floor. To make this communication work, however, issues concerning the lack of consumer trust in the product consultants and their green products must be confronted. Consumers report that it is difficult to build trust when information does not come from reliable sources. In the few cases where product consultants actively provide environmental information, non-green consumers report that they tend not to pay attention because of their lack of trust.

> *A product consultant told me about environmental information, but I did not listen. I did not trust* (Focus group of non-green consumers).
>
> *If product consultants have documents in their hands and show them while presenting information, this will be more trustworthy* (Focus group of green consumers).

In sum, the level of face-to-face interaction is low, and passive strategies prevail. The energy efficiency of appliances is discussed regularly and in some detail, whereas other environmental aspects are left untouched.

- In-store setting

First we discuss the overall setting, e.g., the environmental content communicated at the shop level. Environmental themes are sometimes used to decorate the store by highlighting green appliances with materials that relate to the environment. In the product consultant focus group, the issue of green in-store settings is received with reservation. The participants believe that green settings are

less likely to persuade consumers to buy green appliances.

> *I think that green in-store settings do not make much of a difference in the decision making of consumers. Consumers who come to the store just say that it is beautiful* (Focus group of product consultants).

> *Consumers may partly absorb environmental information from the informative setting, but they need to be further informed* (Focus group of product consultants).

However, consumers believe that a green setting is a plus. Store settings can be arranged in such a way to facilitate consumers' information search processes. Both product consultants and consumers indicate that having a dedicated section for green appliances would be useful to highlight the presence of green appliances and to facilitate the information search and exchange processes.

> *Having green in-store settings with a separate section for green appliances (from each brand) is useful for my information searching, but not for making a decision on the spot. I want to compare with other brands* (Focus group of green consumers).

> *Having a separate section for green products for all brands and displaying the same type of products in the same sub-section will simplify information gathering and comparison* (Focus group of green consumers).

Furthermore, consumers report that green appliances should be highlighted by using relevant materials along with information and storylines. For example, the demonstration of recycled materials and green product technologies (dissection of appliances to show green technologies) is of interest. Information on recycling technologies goes together with the display of recycled materials.

With regard to the management of in-store settings at the point of purchase, the results are rather poor. Current product presentations focus on prices and functions primarily. Only few leading producers communicate about the improved environmental performance of products and present green images through stickers and small displays on the products. An example is the display board, which describes how a reduction of the nuts and bolts used in a refrigerator has resulted in resource savings. Consumers report that they in principle appreciate such effort, again under the condition that they can easily connect with and understand the environmental storylines and slogans used.

The conclusion with respect to the ways in which green products are presented, displayed, and discussed at the shop floor must be that overall communication levels are low and of the passive type. Green products have low visibility to Thai consumers and most often are not presented at particular places or advertised in particular manners because retailers and producers do not expect

Thai consumers to actively search for and respond to these communications. Consumers in our focus group also confirm this image of Thai consumers being passive in their orientation toward green products and information.

3.5 Conclusion and discussion

Our empirical findings can be used to answer the research questions with respect to (1) the level and quality of green provision in the Thai retail sector for appliances, (2) the concerns and preferences of Thai consumers regarding more sustainable appliances, and (3) the ways to improve green provision by realizing better correspondence between provision dynamics and on the one hand and life-world rationalities of Thai consumers on the other. The findings for the level of green product provision indicate that many appliances with basic and superior green characteristics are made available in retail outlets. Although the levels of actual product provision are high, the communication strategies targeted at consumers to promote green appliances and eco-lifestyles can be said to remain passive, at a low level, and primarily focused on improved energy efficiency and money savings. With regard to the second research question on the orientations of Thai consumers, we can conclude that consumers are satisfied with the product provision and are willing to know more about green appliances and environmental information. However, consumers opt for more active and trustworthy forms of communication from providers – communications that better reflect their (environmental) interests and which can support and facilitate their search efforts to gain access to relevant information. With regard to the third question, therefore, the future ways identified for improving green provision are the communication of consumer-related and easy-to-understand environmental contents (information, images, and storylines) in a more trustworthy manner. By improving the consumer-orientation of provider strategies, consumers may more easily identify and assess the benefits of green appliances in relation to conventional products while being better able to imagine what it means to contribute to climate change policies by purchasing and using more sustainable appliances.

Based on empirical findings, it can be concluded that Thai consumers are neither active nor passive in embracing green provisions. Instead, they are receptive and open to green provisions that are tailored to fit with their orientations; therefore, communication strategies of appliance providers are relevant in this regard. In particular, communication strategies realized on the shop floor through environmental communication tools, face-to-face communication between providers and consumers, and in-store settings are essential for being more active and trustworthy when informing consumers about (environmental) contents that they are interested in. To improve provider–consumer communications concerning environmental communication tools in retail outlets, in addition to the well-established Energy Label No. 5, trustworthy environmental labels such as the Green Label

could be utilized to communicate with Thai consumers. The environmental labels would simplify environmental communications and help to (re)establish trust among Thai consumers. The issue of unfamiliarity of the label among Thai consumers could be resolved by studying lessons learned of the Energy Label No. 5 program (see e.g., Chotichanathawewong & Thongplew, 2012; World Bank, 2006).

The use of face-to-face communications on the shop floor is an important instrument for integrating environmental contents into existing sale procedures. Training on environmental communication could be organized for sales managers, product consultants, and other relevant contact personnel in the retail outlets. Through the training, contact personnel would learn how to trustworthily communicate environmental information with consumers and would be able to actively tell consumers about the information on the differences, benefits, and environmental qualities of green appliances in a trustworthy manner. The in-store setting and presentation of green appliances could also be improved. Arranging the same type of green appliances in one separated area, displaying easy-to-understand environmental information and storylines around the shop and in the green appliance display area, and decorating the green appliance display area with green color and materials related to recycling could be some options to consider for presenting green appliances to Thai consumers in a more compelling way.

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Chapter 4

Transformation of the dairy industry toward sustainability: The case of the organic dairy industries in the Netherlands and Thailand

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Abstract

After decades of promoting organic agriculture, organic dairy production and consumption have been widely embraced by industrialized countries and have recently emerged in newly industrialized countries, although they take different shapes in different countries. In this article, the development of organic dairy production and consumption in the Netherlands and Thailand are compared. We describe the different development pathways of the organic dairy sectors in these countries, highlighting the role of corporate social responsibility (CSR) strategies of companies and the influence of economic, policy, and societal networks. It is shown that the Dutch societal network has been particularly influential in advancing organic dairy development, but such a network is almost absent in Thailand. In addition, the breakthrough of organic dairy products in the Netherlands resulted from the collaboration of economic, governmental, and societal actors, whereas such collaboration is not yet well developed in Thailand. The key factors for further development of the organic dairy industry are the expansion of CSR strategies of dairy processors on the one hand, and the linkage between CSR strategies, civil society initiatives, and governmental supports on the other hand.

Keywords: Dairy industry, Organic dairy product, CSR, Thailand, the Netherlands

4.1 Introduction

In the last few decades, organic agriculture and products have gained attention from farmers, consumers, and governments in many countries, leading to the adoption of organic agriculture and products worldwide (Schaack, Lernoud, Padel, & Willer, 2013). However, there are different trends in organic production and consumption in industrialized and newly industrialized countries. The markets for organic products in industrialized countries, particularly the European Union and the United States, are more mature (LEI, 2003; Kortbech-Olesen, 2003), while organic production in newly industrialized countries is primarily for export (Sahota, 2009). However, the dynamic of consumption in newly industrialized countries is changing. With emerging middle classes, (green) consumers with health and environmental concerns are demanding safer and more sustainable foods (Kantamaturapoj, Oosterveer, & Spaargaren, 2012; Roitner-Schobesberger, Darnhofer, Somsook, & Vogl, 2008). Food companies, including multinationals, such as Danone and FrieslandCampina, are increasingly interested in emerging demands, and engage in organic food provision as both a market opportunity and a significant aspect of corporate social responsibility (CSR) (Maloni & Brown, 2006; Thongplew, Van Koppen, & Spaargaren, 2014).

The emergence of the organic sector within the food industry has attracted much scholarly attention and several studies have looked into the dynamics of organic supply and demand and the factors

explaining the differences between countries. Most of these studies have focused on Europe, the United States, and Australia. In an extensive comparative study, Michelsen, Lynggaard, Padel, and Foster (2001) investigated the development paths of organic farming in 6 EU countries. Conceptualizing organic farming as a social movement, they explored factors of influence in three institutional domains: farming community, agricultural policy, and food market. The study shows that nationally acknowledged certification and financial support for farmers are common features in the development paths, but differences are found in the market developments and in the co-operation across different institutional domains. According to the authors, such co-operation is a key success factor for organic growth. They recommend, among other things, the development of platforms for non-competitive interactions between the organic farming and the general farming community.

In a more recent set of studies, the growth of organic industry has been investigated from the angle of interest group capacity and policy capacity (Daugbjerg & Halpin, 2010; Halpin & Daugbjerg, 2008; Halpin, Daugbjerg, & Schvartzman, 2011). These studies investigated the organizational evolution of key organic interest groups in Australia, the UK, Sweden, and Denmark. Among these countries, Australia and Denmark differ most in terms of policy implementation capacity. Policy in Australia is characterized as a non-intervention strategy, with certifying organizations as the most dominant actors, while an active market development strategy is found in Denmark, with capable organic interest groups that effectively target retailers and consumers. In explaining these differences, the authors point at the higher levels of associative capacity and corporatist deliberation in Denmark (Daugbjerg & Halpin, 2010).

Another relevant field of study is the comparison of consumer demand for organic products. Investigating consumer perceptions and behavior through household panels and surveys in Denmark and the UK, Wier, O'Doherty Jensen, Andersen, and Millock (2008) show that the larger share of organic products is sold in supermarkets or discount stores. They conclude that "mainstream sales channels currently constitute a relatively robust means of encouraging more consumers to become light or medium users of organic food products" (Wier et al., 2008: 418). However, they show that demand for specific products is fluctuating and growth is far from stable. Particularly heavy users have less confidence in the mainstream channels and tend to buy in alternative, direct channels. To increase organic budget share and loyalty to mainstream channels, attention is needed for consumer information and more supply from local producers and processors. In a related study, which included Italy, the limited availability of organic variants surfaced as another obstacle for regular buyers of organic produces (O'Doherty Jensen, Denver, & Zanoli, 2011).

A more complete discussion of existing studies is beyond our scope but this selective overview may illustrate that the development of organic sector presents a complex and interesting case for studying the greening of production and consumption. The dynamics of organic growth are influenced by a diverse set of processes in the institutional domains of civil society, state, and market. Depending on the conceptual angle of their studies, authors have highlighted different factors explaining success or failure. Most of the existing studies concentrate either on the interrelationships between governmental policies and farming sectors, or on the consumer perceptions and demands; however, the roles of dairy processing companies are mentioned but not analyzed in depth. Another characteristic is that these studies mainly investigate industrialized countries.

Conceptually, our research adds to this field of study in two ways. First, this research compares an industrialized country with a newly industrialized country. Second, this research uses a conceptual framework that embraces several institutional domains - by analyzing the influences of economic, policy, and societal networks -, and that gives full attention to active roles of dairy processing companies in the analysis - by including the CSR strategies as an explicit factor of influence. Dairy is selected because it is prominent within the organic product assortment (Dimitri & Venezia, 2007; Rosati & Aumaitre, 2004). Moreover, while there is much debate on whether organic products are environmentally sustainable, organic dairy is arguably a more environment-friendly approach than conventional dairy (e.g., Cederberg & Mattsson, 2000; Oosting & De Boer, 2002).

We selected the Netherlands and Thailand as countries to compare because they both show significant trends of organic dairy production and consumption. Organic dairy production and consumption have constantly grown in the Netherlands (e.g., Bakker & Brouwer, 2011, 2012) and have recently emerged in Thailand (Thongplew, Van Koppen, et al., 2014). Until now, few comparative research has been done for these two countries, and the economic, policy, and social dynamics underlying organic dairy growth in the Netherlands and Thailand are largely unknown (Aiumlamai, Kreausukon, & Wongnen, 2012; Oosting & De Boer, 2002; Oudshoorn, Renes, & De Boer, 2008; Smit, Driessen, & Glasbergen, 2009). There was also a pragmatic reason: access to domestic data sources was easier because of the nationalities of the authors.

This research has the objective to explore and compare the dynamics of sustainability transformations toward organic dairy production and consumption in the Netherlands and Thailand for gaining insight into the factors influencing these dynamics. The main research question is: “What are the roles of (organic) dairy processors and the influences of economic, policy, and societal networks in initiating and mainstreaming organic dairy production and consumption in the Netherlands and Thailand?”

We first present the theoretical framework and methods (section 4.2). Then, we analyze the dynamics driving organic dairy production and consumption in the Netherlands and Thailand (sections 4.3 and 4.4). In the final section (4.5), we compare findings, draw conclusions, and discuss some implications for the future of sustainable production and consumption, particularly in newly industrialized countries.

4.2 Conceptual framework and methodology

4.2.1 Triad-network model: environmental transformations of industries and companies

This study uses the "triad-network model" as a model for analyzing environmental transformations of industries and companies. The model was developed as an analytical tool to describe and evaluate environmental transformations of industries and companies within the broader framework of ecological modernization theory (Mol, 1995). It brings together insights from different strands of network theories and distinguishes three types of networks influencing companies and industries: economic, policy, and societal networks. Each of these networks represents a particular analytical perspective, a set of institutional arrangements, and a number of (collective) actors (Mol, 1995; Van Koppen & Mol, 2002). Economic networks represent the interactions between economic actors governed by economic rules and resources. The analytical perspective is oriented to the interdependencies of firm for market power and resources, and their structural influence on continuity and transformation in economic processes. The economic network perspective builds on literature on industrial networks (Axelsson & Easton, 1992; Grabher, 1993). Policy networks represent the interactions between governmental agencies and industrial actors governed by political-administrative rules and resources. The analytical perspective is oriented to co-operation and conflict between actors, their interdependencies in terms of political influence and organizational capacity, and "the rules of the game" structuring their interactions. It builds on policy network theory (e.g., Marsh & Rhodes, 1992). This policy network approach bears similarity with the approach taken in the abovementioned studies of Daugbjerg and Halpin (e.g., Daugbjerg & Halpin, 2010). Societal networks represent the interactions between the industry and civil society, with an analytical focus on the development of social movements and NGOs, and their influence on environmental reform - directly or via government or economic actors. This perspective is rooted in social movement studies, among others, and bears similarity with the approach of Michelsen and his co-researchers to organic farming as a social movement (Michelsen et al., 2001).

We chose for a network model, because networks are a useful device for understanding processes that are not exclusively steered through government hierarchies or market transactions, but are governed by the interplay of different actors and institutional logics (Börzel, 1998; Grabher, 1993), as it is the case for development of organic production and consumption. The triad-network model

has an additional advantage that it combines analytical insights of studies from different institutional angles, as described above. This advantage of inclusiveness, however, comes at a price. The network relationships in the model are heterogeneous, and for some actors, positioning in the networks is somewhat ambiguous. This makes the model less suitable for quantitative network analysis. In this research, we rather apply it as a heuristic tool for a descriptive, qualitative analysis.

While rooted in industrialized country research, the triad-network model is used in several studies to analyze environmental transformations in industrializing countries (e.g., Anh, My Dieu, Mol, Kroeze, & Bush, 2011; Chavalparit, 2006; Mol, 1995; Wattanapinyo & Mol, 2011). Chavalparit (2006) for example, shows how the adoption of cleaner production by the palm oil industry of Thailand is influenced by policy and economic networks, while the societal network plays a limited role. Anh et al. (2011) describe how environmental improvement and agro-industrial clustering of the shrimp processing industries in Vietnam mostly rely on market dynamics in the economic network.

Even though the triad-network model recognizes companies as change agents in environmental transformations, existing studies have mainly analyzed the greening of industry as a response to influences from economic, policy, and societal networks. Recent developments, however, confer a much more proactive role of companies themselves in mobilizing a wide range of actors in society toward environmental transformations over the full product life cycle. Such proactive company environmental strategies can include suppliers and consumers. They occur not only in highly industrialized countries, but also in newly industrializing regions of the world, such as China and Southeast Asia (He, Lu, Mol, & Beckers, 2012; Rao, 2002; Schaller, Kuhndt, & Pratt, 2009; Spaargaren & Van Koppen, 2009; Thongplew, Spaargaren, & Van Koppen, 2014). To make explicit this proactive role of companies, not just as part of a transforming industry but as an individual "agent of change", we extended the triad-network model with environmental CSR, as visualized in Figure 4.1.

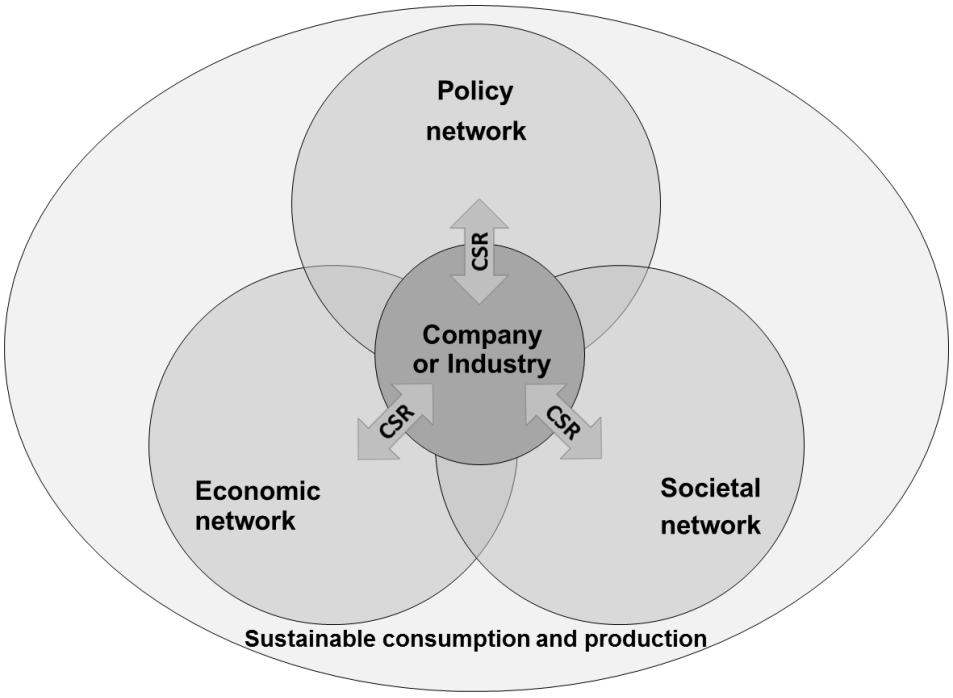

Figure 4.1 Triad-network model and CSR framework to analyze sustainable consumption and production

4.2.2 Corporate social responsibility: business framework for achieving sustainability

CSR is a strategic framework for companies to integrate economic, environmental, and social concerns in business operations. There are several CSR approaches, of which the stakeholder approach has come to dominate more recent studies (Lee, 2008). This approach advises companies to consider and recognize the interests and demands of individuals or groups, so-called "stakeholders" that can affect or be affected by their operations (Freeman, 1984). Stakeholders include actors that are directly related to the company (e.g., regulators, suppliers, and consumers) as well as actors associated to the business operation in other ways (e.g., communities and NGOs) (Branco & Rodriques, 2007; Clarkson, 1995; Werhane & Freeman, 1999). As Vogel (2006, 2010) observes, the importance and global connectedness of NGOs in governing corporate conduct has significantly increased in response to the growth in power and globalization of companies. In highlighting the importance of actors in the economic, political, and societal networks affecting the company, the stakeholder approach of CSR is consistent with and can be integrated in the triad-network model.

This research focuses on the environmental CSR. With regard to the environment, CSR principles emphasize that companies need to take environmental responsibilities beyond legal compliance and reduce environmental impacts from not only their own activities, but also the activities of stakeholders under their influence (ISO, 2009). Companies can be passive or active in this regard. Companies using a passive approach will involve in philanthropic activities disconnected from business operations, such as charities and donations (e.g., Aluchna, 2010). Companies with an active approach will formulate strategic activities that can be integrated into business strategies and operations, and will engage stakeholders in their CSR strategies for improving environmental sustainability in the production-consumption chain and in society (e.g., Lyon & Maxwell, 2008; Porter & Kramer, 2006). Particularly, this active approach is relevant to integrating CSR in our conceptual frame to highlight the role of companies as an "agent of change".

Companies with strategic and proactive CSR initiatives can influence and engage economic, policy, and societal actors in initiating environmental transformations (Idemudia, 2009; Nijhof, de Bruijn, & Honders, 2008; Rondinelli & Berry, 2000). As a result new, company-initiated interactions between the company and actors in the three networks may emerge. Interactions between companies and economic actors will center on sustainable consumption and production throughout and even beyond the chain. Interactions between companies and the government are not limited to environmental compliance, but may include broader initiatives to facilitate greener production and consumption. Interactions between companies and the societal actors will extend to partnering for sustainability. These new interactions emerging from CSR strategies of (key) companies may lead to new governance mechanisms (Cramer & Loeber, 2004; Midttun, 2005; Zadek, 2001).

The "triad-network and CSR" framework, as explained above, will guide our analysis of the transformation toward organic dairy production and consumption in the dairy industry (Figure 4.1).

4.2.3 Methods

To investigate the organic dairy industries in the Netherlands and Thailand and their connected networks, we used a desk study and a series of semi-structured interviews with key informants. The desk study was conducted during 2011-2013 and looked into the emergence and growth of organic dairy production and consumption and CSR strategies of dairy companies concerning organic dairy initiatives.

From 2011 to 2013, 14 semi-structured interviews were conducted face-to-face[9] with economic, policy and societal actors involved in organic dairy production and consumption activities. All interviews were recorded and transcribed. The interviews with (organic) dairy processors were conducted to gather information on CSR strategies for executing organic initiatives and interactions with stakeholders. The interviews with other key actors were conducted to collect information regarding interactions with the (organic) dairy industry and their roles in organic dairy development. The average length of interviews was one and a half hours.

In the Netherlands, 4 interviews[10] were conducted with representatives from the largest organic dairy processor (Ecomel, a company under Royal FrieslandCampina) and its organic dairy farmers, and 5 economic, policy, and societal organizations (De Natuurweide; Bionext; Southern Agriculture and Horticulture Organization, ZLTO; Louis Bolk Institute; and Wageningen University and Research Centre, WUR). In Thailand, 10 interviews were conducted with representatives from 2 organic dairy processors (FrieslandCampina Thailand and Dairyhome) and 8 economic, policy, and societal organizations (CP-Meiji; Farm Chokchai; Dairy Promotion Organization of Thailand, DPO; Federation of Thai Industries; Cooperative Promotion Department; Organic Livestock Institute; Management System Certification Institute, MASCI; and Organic Agriculture Certification Thailand, ACT).

4.3 Organic dairy production and consumption in the Netherlands

In this section and the next, we report our findings for the Netherlands and Thailand, consecutively. In each section, we first present the general development of organic dairy. We then analyze the dynamics underlying the development of organic dairy production and consumption as discussed in the theoretical section.

4.3.1 Dairy industry in the Netherlands and its organic dairy development

- Development of the dairy sector in the Netherlands

Dutch dairy production has a centuries-long history. In the 1950s-1960s Dutch dairy production significantly expanded and outgrew the local demand (Productschap Zuivel, 2012b). Currently, dairy represents an important agricultural sector utilizing more than 60% of the agricultural land and generating significant economic values (NZO and LTO, 2011). There are almost 19,500 dairy farms and 1,470,000 dairy cows producing 11,900,000 tons of raw milk/year (the average yield is 8,000 kilogram/cow/year) (Productschap Zuivel, 2012a). There are 20 dairy companies with 50 dairy

[9] One interview was scheduled for face-to-face but the interviewee had an urgent engagement, resulting in a phone interview.
[10] Interviewees assume multiple positions in several organizations.

processing factories. Out of these companies, 5 companies are cooperatives, operating 31 factories, which together process 95% of milk. The largest cooperative company is Royal FrieslandCampina, processing 60% of the total milk (Productschap Zuivel, 2012a). Dairy products are marketed in domestic (35%) and international (65%) markets (Productschap Zuivel, 2012a). With a milk consumption (excluding butter) of around 350 kg/capita/year, the Netherlands rank among the highest dairy consuming countries in the world (FAO, 2015).

- Organic dairy production and consumption

"Bio-dynamic farming" and "ecological farming" are the main organic farming approaches in the Netherlands[11]. Organic farming started in the 1920s with the "bio-dynamic farming" approach. "Ecological farming" emerged from the ecological movement organized by civil society in the early 1970s (Baars, 2002) and became the dominant approach. Initially, the organic dairy market was developed by local, NGO-driven, private initiatives (Baars, 2002). During the 1990s to 2000s, many significant changes occurred regarding the market, companies, and farming.

A significant market development was the sale of organic dairy in the supermarkets. Specialized shops were the main sale channels. In 1996, Albert Heijn, the largest supermarket chain in the Netherlands, successfully introduced organic milk in the supermarket (Baars, 2002; Mauser, 2001). This opened the door to a significant increase of the organic dairy sales in the late 1990s. The market share of organic fresh dairy grew from 0.4% in 1991 to 0.7% in 1998 and 1.8% in 1999 (LNV, 1992; Platform Biologica, 2000). The success encouraged other supermarkets to sell organic dairy products. Over the last decade, the market share of organic dairy products has further increased (Figure 4.2). Currently, organic dairy products are sold through supermarkets (52.1%), out-of-home channels (31.0%), and specialized shops (14.7%) (Bakker & Brouwer, 2012).

[11] The difference between bio-dynamic and ecological farming is in the underlying philosophy. Bio-dynamic farming is grounded in anthroposophy, a holistic philosophy founded by Steiner. Like bio-dynamic farming, ecological farming adheres to principles of organic farming, but it is not connected to anthroposophy. More details can be found in Baars (2002).

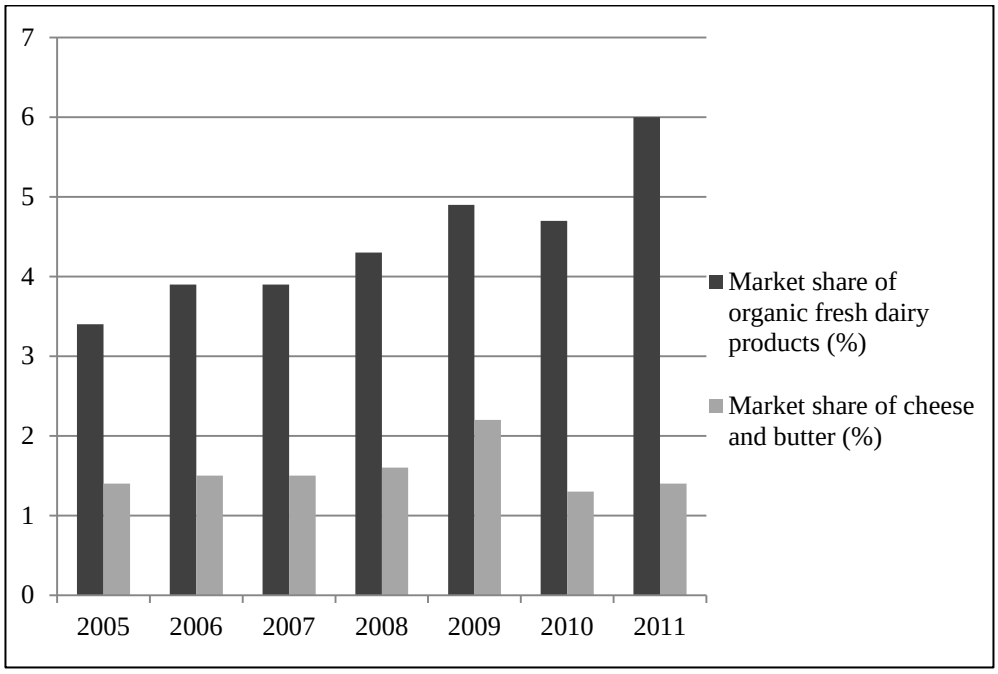

Figure 4.2 Market share of organic dairy products from 2005-2011

Source: Biologica (2007, 2008, 2009, 2010) for data from 2005 to 2009 and Bakker and Brouwer (2011) for data from 2010 to 2011

The successful sale at Albert Heijn also stimulated the entering of large conventional processors into the organic market and the increase of small-scaled processors (Baars, 2002). Currently, there are approximately 10 organic dairy processors with more than 10 consumer brands (Table 4.1), with FrieslandCampina, Arla, and Vecozuivel as key players.

Table 4.1 Organic dairy brands and processors in the Netherlands

Consumer brand	Number of processing factories	Processing company
Campina Boerenland, Zuiver Zuivel, and Groene koe	2	Ecomel (Royal FrieslandCampina)
Arla	1	Arla Foods
Vecozuivel	1	Vecozuivel
Vechtenaer	1	Vechtenaer
Weerribben Zuivel	1	Weerribben Zuivel
Rouveen	1 (only processing cheese)	Rouveen
CONO	1 (only processing cheese)	CONO Kaasmakers
Hooidammer	1 (only processing cheese)	Henri Willig
Aurora	1 (only processing cheese)	Aurora
Other brands (e.g., Bio+, Albert Heijn, and C1000)	Unknown (licensed processors to process products)	

Between 1990 and 2000, the number of organic dairy farms increased more than 4 times (from 71 farms in 1990 to 300 farms in 2000) (Oudshoorn et al., 2008). In the last decade, the number of organic dairy farms has slightly changed, but the herd size and milk productivity have increased (LEI, 2014). The current number of organic dairy farmers is approximately 330 (LEI, 2014).

4.3.2 Dynamic of the organic dairy industry in the Netherlands

- Economic network
    - (Organic) dairy farmers and organic dairy farmer association (De Natuurweide)

Even when dairy farmers played a necessary role in the establishment of organic dairy production, their influence on the advancement of organic dairy has been rather limited. In the cooperative structure of the Dutch dairy sector, conventional dairy farmers who wish to convert to organic farming can only put pressure on the connected processor by indicating their intention. The conversion usually takes place when a processor decides to start or increase organic dairy production, and this decision depends on the market. Due to the interest of many farmers in organic farming, there was a waiting list of dairy farmers wishing to convert, up until 2006 (Smit et al., 2009). Without signing a contract with the processor, dairy farmers are less likely to convert to organic farming (Sukkel, Van der Waal, & Van Balen, 2007). Farmers are also averse to switching

to a new processor for organic farming (Smit et al., 2009). The interview with the organic dairy farmer confirmed this picture of the limited influence of farmers.

The farmers consolidated into an association, De Natuurweide, to have more negotiating power. The association represents about half of the organic dairy farmers and aims to protect the interests and benefits of organic dairy farmers. According to the interviews with De Natuurweide and the organic dairy farmer, the association brings together organic dairy farmers and identifies the needs of farmers, and cooperates with different actors, including Bionext and the Louis Blok Institute, to generate new knowledge. However, due to the reasons mentioned above, the association has limited power to negotiate with dairy companies for advancing organic dairy.

- Conventional dairy industry

Conventional dairy processors played a significant role in establishing the organic dairy industry through the participation in the organic dairy market. When the potential of the organic dairy market became apparent in the late 1990s, large conventional processors decided to engage in organic dairy. Campina Melkunie took over two small organic processors and Friesland Coberco started an organic product line (Van der Grijp and den Hund, 1999). At the time, the two processors controlled more than 80% of the consumption milk market (Mauser, 2001). According to interviews with De Natuurweide and Bionext, organic products are complementary for conventional dairy companies because organic products serve as premium products in their product lines. The participation of large conventional processors helped expand the organic dairy production, distribution, and commercialization.

- Bionext

Bionext (successor of the organic agriculture platform Biologica) is an organic production chain organization, which supports organic dairy development by lobbying for legislations, providing information, advising the government, and organizing campaigns. According to the interview, Bionext took a leading role in the task force on the market development of organic agriculture, established by the Dutch government (see policy network section). Currently, Bionext no longer receives financial support from the government, but it still organizes the organic dairy chain and tries to bring together different economic actors to stimulate consumer demands.

- Louis Bolk Institute[12] and WUR

The Louis Bolk Institute and WUR are key institutes conducting research on organic dairy development (Sukkel & Hommes, 2009). They receive funding from both private and public sources to conduct research and employ networking and cooperative approaches for conducting their research on organic dairy farming (e.g., improving organic cow breeding and sustainable farming practices) and organic dairy commercialization (e.g., creating the right image for products).

- Skal[13]

Skal is a non-profit foundation assigned by the Dutch government to organize organic certification and inspection. The establishment of a legally acknowledged label for organic food in 1993 was an important step in mainstreaming organic dairy farming and products by establishing product control and consumer trust. Skal was rooted in the abovementioned small-scale environmental movement initiatives toward organic food in the 1970s and 1980s (Verdonk, 2009). Its origins, therefore, lie in the societal network.

- Retailers

Retailers are influential in promoting organic consumption. The relationship between retailers and dairy processors is one of balanced power (Smit et al., 2009), in which retailers and dairy processors constantly negotiate on price and prominence on the shelf. Dairy processors have to sell their products every day because they are highly perishable, while retailers are expected to carry dairy products that consumers prefer (Smit et al., 2009).

In the 1990s, the dairy processor Ecomel (later taken over by FrieslandCampina) and NGOs pressured Albert Heijn to sell organic milk (see societal network section). According to the interview, Ecomel went door-to-door to hundreds of Albert Heijn shops in 1996 to ask the supermarket to sell organic milk and to allow the company to do marketing in the shop.

> *We went from shop to shop to let Albert Heijn see that there was a market for organic dairy products… We approached shop managers that were responsible for dairy products. At that time, it was possible to introduce the product that way… By one year, around 200 Albert Heijn shops carried the "Groene Koe"(Green Cow) brand.*

[12] The organization can be categorized as a societal actor; however, we inclined to use the classification of Mol (1995) to classify the organization as an economic actor.
[13] The organization can be categorized as a societal actor; however, we inclined to use the classification of Mol (1995) to classify the organization as an economic actor.

The sale of organic milk became a success within a few years, influencing Albert Heijn to fully promote organic dairy products. With the success of Albert Heijn, other supermarkets started selling organic dairy products in their shops and some launched their house brands of organic dairy products. These developments marked the beginning of mainstreaming organic dairy products and showed the decisive role of retailers, especially supermarkets, in broadening organic dairy commercialization and consumption. The influence of supermarkets was confirmed by all interviews in the Netherlands.

- Dutch Food Retail Association (Centraal Bureau Levensmiddelenhandel, CBL) and Association of Dutch Catering Organization (Vereniging Nederlandse Cateringorganisaties, VeNeCa)

CBL and VeNeCa have supported organic dairy commercialization. Since the early 2000s, the associations cooperated with the government to increase consumer spending on organic products (see policy network section) Several strategies have been used by their member retailers and caterers, such as expanding the ranges of organic products, replacing products with organic products, and providing information to consumers (Biologisch Convenant, 2001, 2008). The interview with Bionext confirmed that the associations helped stimulate organic dairy demands.

- Consumers

Consumers are influential actors in enhancing the levels of organic dairy production and consumption. Since the late 1990s, consumers have become increasingly influential through their growing demand for organic dairy products. In response to this demand, organic dairy production has increased and organic dairy products have been made available in new channels, such as canteens and kiosks at train stations. Consumer studies indicate that health, taste, reliable quality, and environmental friendliness are reasons for Dutch consumers to buy organic food (Biologica, 2003; Schifferstein & Oude Ophuis, 1998). All interviewees in the Netherlands noted that consumers are an influential driver for organic development. Interviews with the dairy farmer, FrieslandCampina, and Bionext revealed that many consumers purchase organic dairy products because they have a positive feeling about the products and think the products have a better taste (even though they do not know technicalities of organic products).

- Policy network

The Dutch government plays a substantial role in promoting organic dairy production and consumption. The government set ambitious targets for having 5% annual growth for organic agricultural areas and 10% annual growth for consumer spending on organic products (Ministry of

Agriculture Nature and Food Quality, 2007). The Ministry of Agriculture, Nature and Food Quality promotes organic dairy farming and consumption by using subsidies and market-oriented approaches. The government provided five-year conversion subsidies for dairy farmers who converted to organic dairy farming from 1994 to 2004, as a part of the rural development policy of the Common Agricultural Policy (CAP) in Europe. The interview with the organic dairy farmer indicated that conversion subsidies helped maintain the price of organic dairy products at an acceptable level for consumers, which was beneficial for familiarizing consumers with organic products. Later, the government revised its policy by terminating conversion subsidies and pursued market-oriented policies by allocating budgets to partially reimburse certification costs and to develop the market for organic products (Ministry of Agriculture Nature and Food Quality, 2007; Smit et al., 2009). The government also established a task force for organic market development, which brought together important actors in the chain, including chain organizations, dairy companies, and retail and food service associations, with the aim of stimulating demand for organic products. As indicated in the interview with Bionext, one strategy of the task force was to replace the radical image and perception of organic with more positive feelings.

> *The task force arranged consumer campaigns to communicate about taste and positive feeling... Consumers do not want too much technical information. They just want to feel good. So we used the slogan "je proeft de aandacht" (you can taste the attention)… This positioned organic products as premium products that are tasty and well taken care of.*

In addition, the government supported the generation and dissemination of knowledge and innovation by allocating 10% of the agricultural research budget for organic farming research (Sukkel et al., 2009).

- Societal network
    - Citizens and societal organizations

Citizen and societal organizations are active in influencing environmental transformations of the (organic) dairy industry. Dutch citizens appreciate the values of dairy farming, posing a challenge to dairy farmers and the dairy industry to become more ecologically friendly. A panel study conducted with Dutch citizens showed that Dutch citizens see the socio-cultural values of dairy farms (Boogaard, Oosting, & Bock, 2008). The influence of citizens was expressed through, and represented by, societal organizations of the ecological movement.

Societal organizations have put pressure on and have cooperated with dairy companies for advancing organic dairy production and consumption. The ecological movement in the 1970s, together with the emergence of environmental organizations (e.g., Stichting Natuur en Milieu, Milieudefensie, and De Kleine Aarde) played important roles in establishing the organic dairy industry (Baars, 2002). The Stichting Natuur en Milieu, for example, pressured large dairy processors and supermarkets to produce and sell organic products in the 1990s, contributing to the introduction of organic dairy products in supermarkets. The establishment of Skal was initialized by civil society groups (see economic network section). Interviews with FrieslandCampina, De Natuurweide, and Bionext confirmed this influence of societal organizations.

In addition to pressuring companies, some NGOs cooperate with dairy companies and the government on different sustainability initiatives. For example, the Weidegang network, an independent organization promoting the outdoor grazing initiative, was established by the cooperation of NGOs and other actors, including Friesland Foods (Van Amstel, Van der Pijll, & Spaargaren, 2012).

- Organic dairy companies and their CSR strategies for organic dairy production and consumption

Organic dairy processors with their own processing factories and product brands, such as FrieslandCampina and Arla, have ambitious sustainability strategies (see e.g., Arla Foods, 2013; Royal FrieslandCampina, 2012). These companies have CSR strategies to engage different actors in their organic initiatives, including activities to green the supply chain through assistance to farmers, and green provisioning strategies to promote organic dairy consumption. According to interviews with FrieslandCampina and its member farmer, the company provides member farmers with financial assistance during the organic conversion and an independent guaranteed price for raw organic milk.

The organic dairy market became more mature in the late 1990s, and organic dairy companies have increasingly competed to sell products using different strategies and (socio-cultural) framings to promote products. The socio-cultural framings used by a company reflect what the company perceives to be of concern and value to consumers. Some companies use price and basic communication strategies (i.e., indicating that products are organic), and some employ advanced strategies. The interview with FrieslandCampina revealed that the company uses advanced strategies and framings to communicate with consumers about reasons to consume organic dairy products (e.g., linking consumers with farmers by using tracking codes on the package to track the origin of the milk). Different strategies and framings helped capture different consumer groups, resulting in the growth of organic dairy consumption.

- Summary

Organic dairy had its origin in the early 20th century and was further triggered by the ecological movement and environmental NGOs in the 1970s. Societal organizations played major roles, and still do so, in pressuring dairy companies and supermarkets to produce and sell organic dairy products, establishing consumer trust through organic labels, and cooperating with economic and policy actors to promote sustainable dairy chain. Although societal actors were crucial in the early stages of organic dairy development, the activities of actors in the economic network were decisive for the mainstreaming of organic dairy consumption in the late 1990s. Particularly, the sale of organic dairy products in supermarkets and the entering of conventional dairy companies in the organic dairy market significantly contributed to the growth of organic dairy production and consumption. The government has promoted organic dairy by incentivizing organic conversion and bringing actors together to increase organic consumption through market-oriented approaches. In addition to these interactions and dynamics, we witnessed an increasing role of CSR strategies of dairy companies in organic dairy development. CSR-related strategies help facilitate organic conversion, enhance collaboration among economic, policy, and societal actors, and promote organic dairy consumption. Figure 4.3 provides an overview of actors and networks.

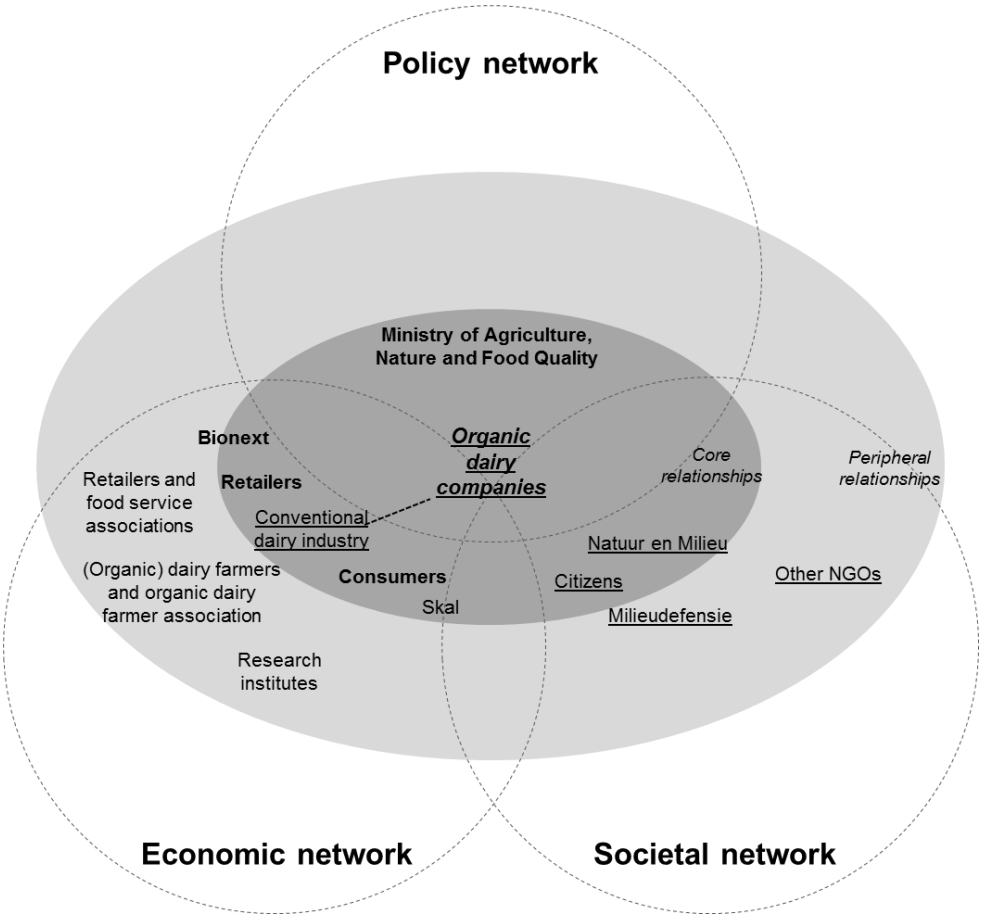

Figure 4.3 Relationships between the organic dairy industry and the three networks in the Netherlands

Explanation for the figure:

1) Underline text represents a significant involvement for establishing the industry (the initial development).

2) Bold text represents a significant involvement for mainstreaming organic dairy production and consumption in a current stage.

3) A square dot line represents a close connection between the two actors.

4.4 Organic dairy production and consumption in Thailand

4.4.1 Dairy industry in Thailand and its organic dairy development

- Development of the dairy sector in Thailand

Since the emergence of dairy farming in the early 1900s and the intensifications in the 1960s and the 1980s, the sector has experienced an increased growth in several aspects, especially in the number of cows and farms, the amount of raw milk produced, and the quantity of milk consumption. In 2010, more than 21,000 households ran dairy farms with a total of 525,019 dairy cows, producing 840,691 tons of raw milk with an average yield of 10.99 kilogram/cow/day (OAE, 2012). Most dairy farms are smallholders, but there is a growing number of farms with more than 50 dairy cows (Aiumlamai et al., 2012).

Approximately, 150 dairy cooperatives and collection centers purchase raw milk from farmers and sell to dairy processors (Aiumlamai et al., 2012). The commercial market takes about half of the total raw milk quantity[14] (Bureau of Agricultural Economics Research, 2011). Almost all raw milk in the commercial market is processed into ready-to-drink milk for domestic consumption (Cooperative Business Development Office, 2007). There are approximately 20 to 25 processors, 5 of which are large companies processing more than 100 tons/day of raw milk. Dairy consumption has been promoted as a healthy diet; however, the consumption is relatively low at 14 liter/capita/year (Planning Division, 2012).

- Organic dairy production and consumption

The organic milk provision was initiated by a small processor - Dairyhome. Initially, Dairyhome worked with few dairy farmers on low-chemical-input farms. Since 2007, the company has cooperated with the Department of Livestock Development on organic dairy. Currently, Dairyhome is a certified organic whole milk processor, having approximately 12 member farmers. The company, according to the interview, also certified all dairy products with Carbon Footprint (see the communication of Carbon Footprint in Mungkung et al., 2012). Butterfly Organic is another company that started selling organic milk in 2011. Butterfly Organic retrieves raw organic milk from a pilot organic farm, established as a knowledge hub by the DPO.

The DPO and FrieslandCampina Thailand are also working on organic initiatives. The DPO, as a dairy processor, announced that it plans to convert the herd of 400 cows to organic and to work with 50 member farmers on organic farming (Thaipost, 2012). However, it is still uncertain about

[14] There are two milk markets in Thailand - commercial and school milk markets. For comparative purposes, we target only at the commercial market.

processing organic products. FrieslandCampina Thailand, according to the interview, is working with one dairy cooperative to produce organic milk. The company aims at producing 13 tons/day of raw organic milk from 900 cows (80 farmers) (Newswit, 2011). As of July 2014, organic milk from FrieslandCampina Thailand was not yet on the market. Table 4.2 provides a summary of companies working on organic dairy.

Table 4.2 Organic dairy brands and processors in Thailand

Consumer brand	Number of processing factories	Processing company
Dairyhome	1	Dairyhome
Butterfly Organic	1	Butterfly Organic (subcontracted the other company to process milk)
Unknown	Unknown (in preparation)	FrieslandCampina Thailand
Unknown	Unknown (uncertain about processing organic milk and having an organic product line)	DPO

Organic dairy products are marketed through home delivery, company-owned stores, specialized shops, and selected supermarkets (in locations with high-income consumers). According to the interview with Dairyhome, organic milk has an estimated share of around 0.5% in the commercial market. Therefore, the quantity of organic dairy can be calculated as approximately 2,400 tons/year[15] (excluding a projected supply from FrieslandCampina Thailand).

4.4.2 Dynamics of the organic dairy industry in Thailand

- Economic network
    - Farmers and dairy cooperatives

Dairy farmers and cooperatives do not pressure to advance organic dairy initiatives. The interview with the Organic Livestock Institute provided an overview showing that incomes from dairy farming are barely sufficient to sustain the livelihood of smallholders. Farmers also face problems with productivity, milk quality, and farm management (Korthong, 2010) and are not concerned much with the conversion to organic farming. The interviews with Dairyhome and FrieslandCampina Thailand revealed that the two companies approached and assisted farmers when they started or increased organic dairy production. It was noted in the Dairyhome interview that many of the

[15] The calculation is made by using milk consumption quantity in 2011 at 938,000 tons (50% goes to the commercial market) (OAE, 2012).

farmers approached are not willing to convert even with the presence of assistance and financial benefits in the long run.

- Parent company of organic dairy company

Royal FrieslandCampina, the parent company of FrieslandCampina Thailand, plays a significant role in its organic dairy initiative. According to the interview, Royal FrieslandCampina stimulated FrieslandCampina Thailand to incorporate their global CSR strategies, which resulted in a decision to develop the organic milk initiative.

> *(CSR) strategies are directed and governed by the global corporate strategy (Route 2020). Under Route 2020, we can see that FrieslandCampina is ambitious about helping the environment.*

This implies that the organic dairy initiative is not only about making profits, but also about maintaining the company's leading position in sustainability and setting a sustainable course for the industry.

- Conventional dairy industry

Two out of the five large dairy processors (FrieslandCampina Thailand and DPO) have implemented organic dairy initiatives, and FrieslandCampina Thailand has stated that it aims to launch organic dairy in the market. This involvement is likely to benefit organic dairy development. However, a competition between organic and conventional dairy industries is not clearly visible yet because the organic dairy market is still a small niche market and the organic product is still undersupplied.

- Research institutes

Research institutes support organic dairy development by cooperating with organic dairy processors on organic dairy projects. Dairyhome has collaborated with several research institutes, including a project in cooperating with Kasetsart University (and few governmental agencies) to improve production, and with the National Innovation Agency to develop grass-fed organic milk. It should be noted that most research projects are funded by the government.

- Organic Agriculture Certification Thailand[16]

The ACT is an accredited, non-governmental organic certification body engaging in organic dairy development. The ACT directly cooperates with Dairyhome to further develop the Thai organic dairy standard and assists Dairyhome with implementing the standard among dairy farmers.

- Retailers

Retailers put pressure on organic dairy companies to increase the supply of organic milk. The numbers of specialized shops and supermarkets are growing in urban Thailand and they are increasingly making organic foods available in their shops (Kantamaturapoj et al., 2012). Currently, organic dairy products are available in many retail outlets, but not in sufficient amounts to satisfy the demand. According to the interview, Dairyhome cannot fulfill all requests from retailers because the production of raw organic milk falls short. In other words, consumers and retailers are driving the market for organic milk.

- Consumers

Consumers are key actors in the further growth of organic dairy production and consumption. Kantamaturapoj (2012) confirmed the presence of green consumers in Bangkok and found that organic food consumers clearly perceive health benefits from organic foods. According to the interviews with Dairyhome and FrieslandCampina Thailand, the companies realize that health-concerned people are potential consumers. However, there is no organized pressure from citizen-consumers on the dairy industry and the government to increase organic dairy production (see also societal network section).

- Policy network

The government is highly involved in organic livestock development, including organic dairy (Ellis, Panyakul, Vildozo, & Kasterine, 2006). Several agencies under the Ministry of Agriculture and Cooperatives, including the Department of Livestock Development (DLD), the Organic Livestock Institute, and the DPO, have promoted organic dairy farming by educating farmers about organic farming, providing financial support to (selected) dairy cooperatives and farmers on organic conversion, and cooperating with dairy processors on organic dairy development. The Ministry of Agriculture and Cooperatives also facilitated institutional changes and used a market-based approach to promote organic diary and to establish consumer trust. In this regard, Thai organic dairy standards were drafted and organic accreditation (National Bureau of Agricultural Commodity and

[16] The organization can be categorized as a societal actor; however, we inclined to use the classification of Mol (1995) to classify the organization as an economic actor.

Food Standards) and certification (DLD) bodies were appointed to provide free certification services.

- Societal network
    - Citizens and societal organizations

With a short history of dairy farming, there is no evidence of widespread socio-cultural values attached to dairy farming by Thai citizens. There are only a few societal organizations promoting organic agriculture and consumption (e.g., Green Net, Sustainable Agriculture Foundation Thailand, and Thai Green Market Network), but they have limited influence on the organic dairy development and particularly promote the production and consumption of other organic produce (e.g., rice and vegetables).

- Organic dairy companies and their CSR strategies for organic dairy production and consumption

Organic dairy companies with their own processing factories and product brands have detailed strategies to address environmental sustainability (Thongplew, Spaargaren, et al., 2014). These companies use strategies to engage different actors to produce and sell organic dairy products. As mentioned above, they provide technical and financial assistance for organic conversion and farm management to dairy farmers. Consumer-oriented strategies to present organic dairy as a green product are limited (Thongplew, Van Koppen, et al., 2014).

Organic dairy companies are developing the market. With a short supply of organic milk and an emerging market, organic dairy companies realize the need to establish the market and do not directly compete with each other. The interview with Dairyhome provided two examples of constructive relationships between companies. First, Dairyhome shares its experiences in working with dairy farmers with FrieslandCampina Thailand. Second, Dairyhome is optimistic about FrieslandCampina Thailand entering the organic dairy market because the power of large companies will enlarge organic dairy consumption and this will bring benefits to Dairyhome as well.

- Summary

Organic dairy was initiated by a small organic dairy processor in the 2000s and was further developed by the contributions of economic and policy networks. However, the societal network did not significantly contribute to the development. Economic actors were instrumental in promoting organic dairy development. Particularly, the demand of consumers (expressed through retailers) contributed to the expansion of organic dairy production and consumption. The policy network

played a vital role in facilitating organic dairy development by educating and assisting dairy farmers on organic conversion, working with dairy processors on organic dairy initiatives, and establishing organic accreditation and certification bodies and standards. In addition to these influences, CSR strategies of organic dairy companies have increasingly played important roles in initiating organic dairy initiatives in assisting farmers on organic conversion, cooperating with governmental agencies, and promoting organic milk consumption. Figure 4.4 provides an overview of actors and networks.

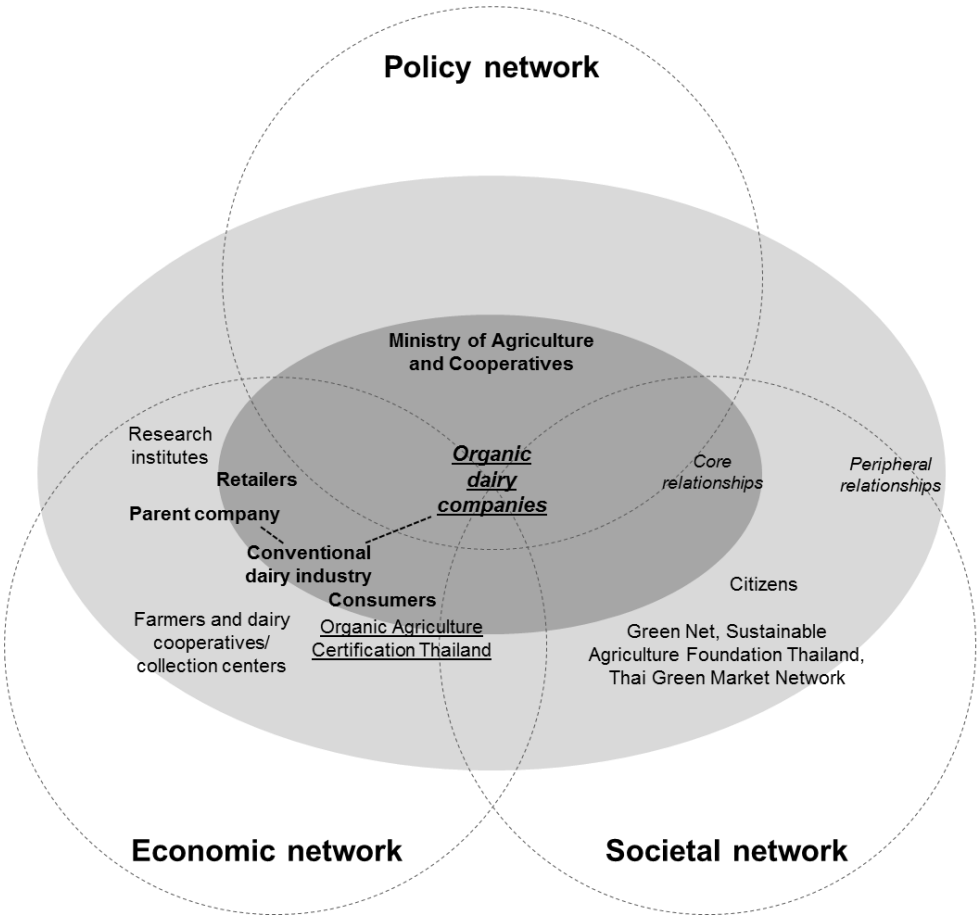

Figure 4.4 Relationships between the organic dairy industry and the three networks in Thailand

Explanation for the figure:

1) Underline text represents a significant involvement for establishing the industry (the initial development).

2) Bold text represents a significant involvement for mainstreaming organic dairy production and consumption in a current stage.

3) A square dot line represents a close connection between the two actors.

4.5 Comparison, conclusion, and a look ahead

Differences between the Netherlands and Thailand in the development of organic dairy production and consumption go beyond the obvious fact that the Dutch dairy sector, including organic dairy, is much stronger and has developed earlier in time than the dairy sector in Thailand. Our study reveals different development pathways in the two countries, with diverging roles of actors in the economic, policy, and societal networks. The most striking differences are found for the influence of societal networks. In the Netherlands, the first push for organic dairy came from civil society actors, which stimulated organic dairy development, interest among farmers and small processors, emergence of small-scale retail channels, and the first appearance of organic dairy in Albert Heijn supermarkets. Only then did large processors step in, together with retailers, to further stimulate commercialization and consumer demand. To date, actors in the Dutch societal network still pressure and collaborate with governmental and economic actors. In Thailand, there has been hardly any push from civil society and the societal network has limited relevance yet. Turning to the economic networks we observe that in absence of impulses from civil society, economic actors Thailand have been, and still are the prime movers. Small companies have been the primary driver of organic dairy provision, and the recent initiatives of large processors are expected to further stimulate organic dairy production and consumption in Thailand. A major issue for the company initiatives in Thailand is to increase supply from organic dairy farmers, whereas in the Netherlands supply has never been a big issue, with more than enough farmers willing and able to convert. Doubtlessly, the strength of Dutch dairy farming, including well-established platforms for knowledge exchange has contributed to this. Other Dutch economic actors, especially supermarkets and conventional dairy processors have also strengthened organic dairy development. In Thailand, only few economic actors have been closely involved, but this situation is currently changing. With regard to the policy networks, mainly consisting of the national government and a few relevant agencies, we find substantial and quite similar contributions in both countries: supporting dairy farmers in converting to organic, funding of research, provision of information, and facilitation of a body for organic certification and labeling to gain consumer trust. Distinctively, the Dutch government has stimulated and funded collaboration between actors involved in production, retail and consumption, among others in the form of the task force for organic market development.

This research, particularly the Dutch case, corroborates several findings from previous literature. In an early stage, the Dutch organic dairy activities can be understood as a social movement, as in Michelsen et al. (2001). For the development in Thailand, however, and for the current stage of development in both countries, this approach appears to be less adequate. The Dutch case confirms the importance of collaboration of organic interest groups and government in targeting retailers and consumers, as reported by Daugbjerg and Halpin (2010) for Denmark. Also, the importance of large

retailers in mainstreaming organic dairy, noted by Wier et al. (2008) is underlined by our findings. Relatively new to literature on organic dairy is the key role we find for dairy processors in Thailand, in the absence of a strong societal network to pressure business and government. Small-scale processors and more recently large-scale processors play a pivotal role in advancing organic production and consumption. Our findings indicate that CSR strategies of dairy processors can influence their position on organic dairy. Such an influence is manifest for FrieslandCampina, the largest organic dairy processor in the Netherlands and one of the two large processors engaged in organic dairy in Thailand. For this multinational, promoting organic dairy is not only an economic strategy, but has also become part of the sustainability strategy (Thongplew, Van Koppen, et al., 2014). This is so for both countries, but given the important role of large processors in Thailand, it is of stronger potential influence in the country.

In order to further advance organic dairy in Thailand, supply from organic dairy farms needs to be improved. Clear efforts are currently made to achieve this, both by processors and by government. An even bigger challenge is to further enlarge retail channels and consumer demand, because at the end of the day consumer sales will determine the growth of organic production and consumption. This research and other studies suggest that intensive collaboration between actors involved from different networks is key to effectively targeting retail and consumers. This implies that companies aiming to advance organic dairy will need to seek intensive cooperation with other business, civil society, and governmental actors. In principle, this fits in well with active, strategic CSR strategies. Based on these considerations, we expect that linking CSR strategies and civil society initiatives with governmental acknowledgement and support will be an important feature of the sustainability road ahead and a rewarding topic of further research, particularly in newly industrializing countries.

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Chapter 5

Companies in search of the green consumer: Sustainable consumption and production strategies of companies and intermediary organizations in Thailand

This chapter has been submitted to *Journal of Cleaner Production* as Thongplew, N., Spaargaren, G., & Van Koppen, C.S.A. Companies in search of the green consumer: Sustainable consumption and production strategies of companies and intermediary organizations in Thailand (under review).

Abstract

Over the past two decades, Thailand, as an emerging economy, has developed sustainable consumption and production (SCP) policies and strategies to a considerable extent. While the first phase of SCP policy development has primarily focused on upstream actors and production processes, the second phase has extended company SCP policies and strategies to downstream actors and consumption processes. We examine how appliance and dairy companies in Thailand have been involved in the shift from sustainable production to (also) sustainable consumption, from upstream to (also) downstream orientations, and from green supply to (also) green demand. In making this shift, companies can be assisted by so-called intermediary organizations that claim to hold specific knowledge on and access to Thai consumers. We explore in some detail the company-intermediary collaborations and discuss how they conceive and frame the role of citizen-consumers as change agents in the context of emerging markets for sustainable products and services.

Keywords: CSR-strategies; SCP-strategies of companies; Intermediary organizations; Consumer roles; Thailand

5.1 Introduction

The United Nations Stockholm Conference on the Human Environment in 1972 marked the beginning of environmental policies on sustainable consumption and production (SCP). Over the last four decades, SCP policy development has evolved over two phases (Murphy, 2001; Murphy & Cohen, 2001). The first phase (phase I), running from the mid-1970s to the 1990s, involved the formation of production-focused environmental policies based on the premise that new technologies and sciences would improve environmental performance and production efficiency levels while minimize environmental pollution and health risks (Murphy & Cohen, 2001). During this phase, consumption and consumer-related issues hardly appeared in the discourse. It was not until the 1992 Earth Summit in Rio de Janeiro occurred that the second phase (phase II) of policy discourse on SCP began. During this phase, specific topics on sustainable consumption and roles of "green consumers" began to penetrate the policy discourse. This enhanced focus on consumption highlighted the key role of social aspects and dynamics of environmental issues on SCP policies and strategies (Murphy & Cohen, 2001). As a result, questions concerning environmental behaviors and lifestyles of citizen-consumers have been featured prominently in the agendas of policymakers, practitioners, and scholars (Jackson, 2005; Spaargaren, 2003; Spaargaren & Oosterveer, 2010; Sustainable Consumption Roundtable, 2006).

Over the last two decades, social science research have shown that citizen-consumers of OECD countries have begun to think and act along sustainable lines in various consumption domains, and

especially with respect to housing, food, and transport (Davies, Fahy, & Rau, 2014; Doyle & Davies, 2013; Evans & Abrahamse, 2009; Spaargaren et al., 2007; Spaargaren, Oosterveer, & Loeber, 2013). Some studies reported that citizens have started doing their bits for the environment, assisted in this endeavor by (nudging) strategies of the providers (companies and retailers). Several scholars also note that citizen-consumers no longer view themselves as consumers who solely satisfy their individual needs by consuming (sustainable) products (Clarke, Newman, Smith, Vidler, & Westmarland, 2007; Johnston, 2008; Martens & Spaargaren, 2005; Spaargaren & Oosterveer, 2010; Trentmann, 2007), and organized citizen-consumers have begun to act as "political consumers" who feel responsible for SCP issues that extend beyond their individual needs (Micheletti, 2003; Micheletti, Follesdal, & Stolle, 2004; Stolle, Hooghe, & Micheletti, 2005). By engaging with upstream processes and actors, consumers have become politically organized stakeholders that place pressure on companies and retailers operating in upstream segments of production-consumption chains. These activities can involve negative forms of unsustainable product, service, and company boycotting and positive forms of buycotting (Micheletti, 2003; Micheletti et al., 2004).

The emergence of organized groups of politically active citizen-consumers has challenged governments, societal organizations, and social movements alike. The key question from them is how to further mobilize, support, and organize the (buying) power of citizen-consumers in ways that contribute to the development of transparent and trustworthy markets for sustainable products and services. For companies, it raises the practical question of how they should respond and strategically (re)act to demanding and politically organized green consumers. As Spaargaren and Van Koppen (2009) have noted, a wide range of consumer-oriented strategies have been employed by companies and retailers. Defensive strategies function based on the premise that consumers and their organized buying power remain insignificant. Proactive company strategies recognize consumers as "agents of change" and promote not only a spectrum of sustainable products and services, but also green information (eco-labels), images and frames that can help consumers engage in sustainable lifestyles and consumption patterns (Boström & Klintman, 2008; Dauvergne & Lister, 2012, 2013; Esty & Winston, 2009; Spaargaren & Van Koppen, 2009). In addition to adopting proactive consumer orientations, companies have sought ways to promote the development of a "level playing field" for green products and services by asking governments to impose stricter environmental regulations and by partnering with other actors and organizations with special knowledge on and relations with citizen-consumers (Esty & Winston, 2009; Winsemius, 2013). Such intermediary organizations, particularly environmental and consumer NGOs are understood to help companies develop markets for green products by engaging with citizen-consumers in novel ways (Austin, 2007; Nicholls, 2002; Spaargaren & Mol, 2008).

While SCP policies and strategies have become truly global phenomena, the engagement of citizen-consumers with green products and markets vary regionally, with OECD consumers and civil society actors being more active and visible on the political scene compared to, for instance, their Asian counterparts (Kumar et al., 2009; Micheletti, 2003). Most social science studies on the role of citizen-consumers as change agents for SCP focused on OECD countries. Thailand and its emerging economy can be regarded as an interesting case that is reflective of similar Asian countries characterized by rapidly growing middle class populations, sustained economic growth, and export-oriented production. As an emerging economy, Thailand has developed SCP strategies to a considerable degree, and the country's environmental policy discourse recognizes the key role of clean technologies, sustainable products, and eco-labeling and the need for a proactive attitude towards environmental issues on the part of governments and industries (e.g., IGES, 2010; Zhao & Schroeder, 2010). As in most Asian societies, however, Thailand's efforts to realize the ecological modernization of production and consumption have been shaped primarily by production, technologies, and industrial actors (e.g., A.P.J. Mol, 2006; A.P.J. Mol, Sonnenfeld, & Spaargaren, 2009) and much less so by citizen-consumers, households, and civil society organizations (IGES, 2010). Companies and other major actors involved in greening industries in Thailand have been successful at gradually expanding the quantity and selection of green products and services entering the market. However, they have not substantively engaged Thai citizen-consumers in emerging markets for green products and services. This situation is partly attributable to specific political and socio-culture conditions in Asia that differ from those of OECD countries in several respects. Environmental NGOs are less prominent and powerful, citizen-consumers are not as well organized and are less represented in SCP decision-making bodies, and governmental agencies remain distant for organizing green consumers and domestic green market (Kantamaturapoj, 2012; Thongplew, Van Koppen, & Spaargaren, 2014).

Against this backdrop, we examine the feasibility of assigning Thai green consumers a more prominent role in future SCP policy and strategies. While recognizing differences between Asian and OECD countries, we explore roles that companies and governmental agencies can play in engaging with green consumers. We explore potential intermediary organization roles that may prove instrumental to companies while developing more "consumer inclusive" SCP strategies. In the following section, we present the theoretical framework, research questions and methods employed this study (section 5.2). Empirical findings are presented as six case studies on consumer inclusive SCP initiative (section 5.3). We conclude with a discussion of these findings and answer the research questions in section 5.4.

5.2 Theoretical framework and methodology

We seek to develop a theoretical framework that allows for a detailed analysis of the role of companies in engaging citizen-consumers in green markets and sustainable products. The framework focuses on the following three elements: company CSR strategies (5.2.1), intermediary actor and organization roles (5.2.2), and ways in which companies and their intermediaries define potential roles of citizen-consumers in developing green markets (5.2.3). After discussing the three elements of our framework, we present the central research questions derived.

5.2.1 CSR company strategies: extending from production to consumption

In pursuit of environmental sustainability, companies worldwide have formulated environmental corporate social responsibility (CSR) strategies. These strategies aim to contribute to the greening of production and consumption while showing society at large each company's willingness to contribute to sustainable development. By engaging in CSR and similar strategies that prioritize environmental performance, companies earn their "license to produce" from governments and societal actors.

In initial phases of their development, (strategic) environmental CSR strategies mostly involve improving production processes and upstream segments of production-consumption chains through the use of process-integrated clean technologies, thereby reducing environmental impacts of production processes while producing greener products. For the organization, monitoring, and management of relevant processes, environmental management systems (EMS), life cycle analysis (LCA), and so-called integrated chain management (ICM) strategies are employed as important instruments. Important drivers behind ecological modernization of production in Thailand involve adherence to environmental regulations, the reduction of production costs via eco-efficiency improvements, and the retention of access to (international) markets with higher environmental requirements (Thongplew, Spaargaren, & Van Koppen, 2014; Thongplew, Van Koppen, et al., 2014).

In OECD countries, the first phase of the greening of production is typically followed by a second phase, wherein company strategies are extended to include (green) consumer orientations. Consumers are addressed as green or ethical citizen-consumers that contribute to the development of green markets by buying greener products and services and by consuming them in more sustainable ways. Companies engaged in this second phase aim to sell consumers greener products and services by providing environmental information, including green labels on products, and by employing (nudging) strategies that facilitate consumers access to green products and services (Reisch, Eberle, & Lorek, 2013; Thaler & Sunstein, 2008). These consumer-oriented strategies are regarded by some

authors as a manifestation of more advanced CSR strategies, as they combine various goals to simultaneously improve economic and environmental company performance through the creation of new green markets that extend beyond the scope and control of individual companies (Zadek, Sabapathy, Døssing, & Swift, 2003).

Not all companies operating in markets are sensitive to (green) consumer demands. Companies vary with respect to the strategic importance of consumers and their involvement in green markets. Companies have been categorized based on their level of consumer orientation by Spaargaren and Van Koppen (2009) among others. When companies acknowledge the need for proactive strategies directed at consumers, they can either engage with consumers individually or partner with other organizations that hold specific knowledge on and access to relevant citizen-consumer groups (Sulpizio, 2014; Thongplew, Spaargaren, et al., 2014). In several OECD countries, partnerships that promote green products and services have become essential to company environmental strategies (Esty & Winston, 2009; Glasbergen, Biermann, & Mol, 2007; Winsemius, 2013). Driven by a need for compliance and reputation maintenance, by company and societal values, and by new business opportunities (e.g., product differentiation), companies strategically partner with intermediaries – in particular with environmental NGOs – deemed instrumental to citizen-consumer engagement in green markets (Austin, 2007). Intermediaries are regarded by companies as strategic allies that enhance the legitimacy of green strategies and that raise consumer trust (Dahan, Doh, Oetzel, & Yaziji, 2010; Doubleday, 2004; Vogel, 2005). We explore the roles of intermediary organizations in greater detail in the following section.

5.2.2 Intermediary organizations: collaborating with companies to engage consumers

The term of "intermediary" does not have a single operational definition. Callon recognizes its broad meaning when suggesting that "*an intermediary is anything passing between actors which defines the relationship between them"* (1990, p. 134). Most of the time, however, intermediaries play specific roles in mediating different interests and stakeholders (C. Allen, 2003; Brousseau, 2002; Van Lente, Hekkert, Smits, & Van Waveren, 2003). Medd and Marvin (2008) therefore present the notion of "strategic intermediaries" that are directly related to functions and interests at stake. Such strategic intermediaries can be individuals (C. Allen, 2003), organizations (F. Allen & Santomero, 1997), institutions (Piore, 2001), or networks (Van Lente et al., 2003). Studies focusing on specific functions of strategic intermediaries in the context of SCP strategies and business and non-business actors remain limited. Taking inspiration from the study by Moss, Medd, Guy, and Marvin (2009) on strategic intermediaries in the water sector, we recommended distinguishing between four key functions of strategic intermediaries in the context of SCP.

First, "green information providers and campaigners" support public education and mobilization regarding sustainable development. This category of strategic intermediaries includes organizations and social movements that promote sustainable engagements in the broadest sense. These intermediaries promote "doing your bits" for the environment as framed in the UK and call for publics to act upon sustainability issues by assuming personal responsibility for the environment (e.g., Hobson, 2004). While several governmental agencies have acted as strategic intermediaries of this form, the most prominent have been non-governmental environmental organizations (e.g., Greenpeace, World Wild Fund for Nature; WWF, and Friends of the Earth International; FOEI) and ad-hoc citizen-consumer networks (via the Internet and social media) that represent civil society. Second, "green lobbyists and policy negotiators" address interests of represented groups in policymaking processes that regulate and support industry sustainability. Such groups negotiate with policymakers and industries at various levels to help formulate sustainability policies of all forms. Professional groups such as Bionext in The Netherlands and representative organizations such as the World Business Council for Sustainable Development (WBCSD) serve as examples, though environmental NGOs also increasingly assume vital roles in these processes. Third, "green capacity builders and dialogue facilitators" address the capacities (the knowledge, experiences, and portfolios) of various chain actors in addressing SCP issues while seeking to further structure dialogues on these matters. These intermediaries train and counsel (mostly upstream) chain actors on green production and consumption, audit and assessment report development, and so on. Environmental consulting firms such as the Schuttelaar and Partners of the Netherlands and think-thank organizations such as the Collaborating Centre on Sustainable Consumption and Production serve as examples of active and professional organizations in this field. Fourth, "market-oriented green certification and standard bodies" work with companies to establish procedures, standards, labels, and other measures that help equip consumers to serve as company allies in the development green markets for sustainable products and services. These intermediaries seek to actively promote consumer trust while enhancing company credibility levels in the eyes of citizen-consumers. These intermediaries may be viewed as developing "licenses to serve the green consumer" with products and services that are more sustainable. Organizations and institutions that focus on eco-labeling products and services are the best known representatives of this category, with the Marine Stewardship Council (FSC), Forest Stewardship Council (MSC), and Fairtrade International (Fairtrade mark) serving as key examples.

As our research focuses primarily on company–consumer relations, two strategic intermediaries are of particular relevance: green information providers and campaigners, on the one hand, and market-oriented green certification and standard bodies, on the other. Both intermediaries can help promote green products and services by engaging citizen-consumers in emerging green markets in various ways. In OECD countries, environmental NGOs and (green) consultancy firms have become

prominent strategic intermediaries. These intermediaries operate in both the visible arena of public media outlets and in the seclusion of company headquarter negotiation rooms. Professional environmental NGOs have tended to move away from merely pressuring companies through "naming and shaming" mechanisms and have instead developed SCP "partnerships" with companies (Glasbergen et al., 2007; Vogel, 2005). Environmental NGOs have partnered with companies largely for funding- (for organization survival), capacity- (for organization effectiveness), and mission-driven reasons (for the social cause) (Austin, 2007).

5.2.3 Consumer framing: what do companies expect from citizen-consumers and how do they approach them?

When companies decide not to enter into a relationship with consumers, they often argue that consumer behaviors are difficult to predict and that no reliable indicators can anticipate future (green) market development. Companies that do assume a proactive stance on consumer engagement in green markets however find sufficient premises for their strategic decisions in shifting consumer trends and preferences. Important questions to ask in this regard include the following. How should companies conceive of the future roles of citizen-consumer in emerging green markets and what does this mean in terms of building strategic relations and alliances between companies and (leading groups of) citizen-consumers?

When discussing (the framing of) potential consumer roles in emerging green markets, one must note that consumers are primarily viewed as either individual change agents or as participants of a social group and of behavioral practices shared with others. We discuss "stand-alone consumer" and "connected consumer" frames in the following section.

- The stand-alone consumer frame

The individual or stand-alone consumer frame figures prominently in the social science literature on consumer behaviors and is the dominant frame used in environmental policies that promote behavioral change. Social science studies on individual consumer behaviors are found in psychology and economics fields, and theories of planned behavior (Ajzen, 1991) and rational choice models (Gatersleben & Vlek, 1998) serve as dominant frameworks. These frameworks identify two crucial aspects of engaging consumers in emerging green markets. First, individual consumers should be willing and able to enroll in green markets. This "willingness" is analytically related to cognitive factors such as attitudes, values, awareness levels, and feelings of responsibility for environmental changes. One's "ability" refers primarily to one's knowledge of environmental impacts of products and services. Second, motivated and informed individuals should be properly and effectively provided with greener products and services. By improving the "contexts" or choice-configurations

of individual consumers, consumers are expected to more and easily engage in green products and services (Shove, 2010; Spaargaren, 2003).

When companies and strategic intermediaries use the stand-alone consumer frame, they emphasize the need for general information that facilitate environmental awareness and individual learning and for specific information (in the form of eco-labels and similar tools) on the environmental impacts of products and services. This general approach to information provision for the promotion of informed environmental decision-making can be combined with "nudging" strategies that improve individual consumer choice configurations. Nudging strategies involve directing consumers to "right environmental choices" by changing the settings or contexts in which choice processes are made ("choice architects") (Thaler & Sunstein, 2008). In the context of this consumer frame, the success or failure of strategies that attempt to engage consumers in green markets is typically known to depend on levels of awareness and concern of individual consumers. Consumers can be judged as passive by some companies and intermediaries, but as responsible and active by others. When consumers are expected to act unconcerned and passive, they are not recognized as change agents and as crucial stakeholders involved in the greening of production and consumption. Companies prefer to organize green markets "behind the backs" of the consumer. This strategy has been criticized by some authors as proving ineffective in the long run (Spaargaren & Van Koppen, 2009). However, when consumers are viewed as ethical consumers with high levels of environmental awareness, companies seek to motivate consumers to buy green, eco-labeled products and to avoid unsustainable products and companies operating in the same markets. Examples of materializing this consumer frame are companies and intermediaries providing environmental information, setting up eco-labeling schemes, organizing awareness campaigns, and offering incentives to buy green product and services (also see Jackson, 2005).

- The connected consumer frame

When discussing the connected consumer frame, the concept of "citizen-consumers" is described by many authors to define the interconnections between public or so-called "civic" (moral, ethical, political) responsibilities, on the one hand, and private, ordinary consumer responsibilities, on the other. It is argued that the sustainable consumption debate not only involves environmentally and climate friendly consumption practices in the private sphere. Rather, it serves as a means through which consumers can express their public responsibilities and concerns for promoting a more sustainable society as a whole. Market buying power is thus used not only to satisfy individual private needs, but also to express an interest in bettering the world, e.g., a world characterized by less inequality of access to nature-based life chances within and between generations (Dobson, 2003; Spaargaren & Mol, 2011).

According to the connected consumer frame, consumers make "individual decisions" but do not operate in isolation from the rest of society. Consumers are influenced by relevant social networks, by existing modes of green product provision, and by everyday life behavioral routines shared with others. In the social science literature on sustainable consumption, the connected consumer frame is discussed as an alternative to the isolated, stand-alone consumer frame and is divided into two basic sub-frames. Both notions of the connected consumer frames are of particular relevance to the themes of our research.

First, Michele Micheletti (2003), in presenting her "political consumerism" concept, has illustrated the effectiveness of organized consumer interests and powers in the domain of consumption. She used the case of boycotts and buycotts to show how organized consumers can pressure companies to respond to legitimate citizen-consumer demands. According to Micheletti, connected consumers organize and coordinate their activities or have others (NGOs and other intermediary organizations representing the consumer) do so on their behalf. When confronted with organized consumers who engage in all forms of political consumerism, companies in OECD countries often seek to establish organized, structural relations with organized consumer representatives, thereby foreclosing boycotts and engaging consumers in future green product buycotting. Roundtables, councils, dialogues, and other recently developed forms of environmental governance serve as examples of this phenomenon. Organized consumers are met with organized responses from companies, which are typically developed with the help of strategic intermediaries. CSR blogging activities (e.g., Fieseler, Fleck, & Meckel, 2010) also spur dialogue with organized (political) consumers. Companies create blogs and other online platforms to engage consumers in sustainability discussions on the Internet and to build virtual consumer communities, allowing consumers to discuss environmental topics of interest with companies and other consumers.

Second, Alan Warde and other sociologists in the field of sustainable consumption have illustrated the relevance of "shared behavioral routines" to the study of (sustainable) consumption behaviors (Evans, McMeekin, & Southerton, 2012; Shove, 2003; Spaargaren, 2011; Warde, 2005). With respect to behaviors such as retail shopping, doing the laundry, or going for a holiday, behavioral routines and practices are performed by individuals around the world in similar ways due to shared technologies, competencies, and values involved in the successful reproduction of these "individual" behaviors. Because shared elements are essential to explaining these behaviors, sociologists argue that not individuals, but rather shared practices should be taken as the basic unit of analysis and policymaking. When companies frame consumer roles in green markets based on the notion of shared behavioral (shopping) routines, they seek to connect with consumers directly in retail spaces or to similar "consumption junctions" (Cowan, 1987), which refer to specific places and moments where and when product providers meet consumers to exchange sustainable products and services.

As the focus no longer lies primarily on individual consumers (as in nudging strategies), but instead on shared practices enacted by groups of consumers in retail spaces, companies and intermediaries are presented with a range of additional options. They can train salespeople persons and other retail employees to consult consumers on green products in a trustworthy manner; they can invite consumers to engage in demonstrations; they can lead by example by lighting and cooling spaces in energy-saving ways; and they can provide special (transport) services to particular consumer groups. When providing information at consumption junctions, companies grant the consumer a look "behind the shelves and eco-labels" (Boström & Klintman, 2008) in the interest of building a structural relationship of trust. Sebastiani and Geremia (2013), for instance, describe how consumer members of Gruppo d'Acquisto Solidale (ethical purchasing group) are invited and engaged by producers to participate in production activities to verify and experience production processes.

5.2.4 Research questions

The above listed discussion on SCP strategies i) described different (proactive and defensive) consumer-oriented strategies, ii) described various roles that strategic intermediaries can employ when helping companies engage with consumers, and iii) presented a number of specific frames on citizen-consumer roles as change-agents used by companies and intermediaries to develop tangible strategies. This framework is used to organize our empirical research on the dairy and appliance industries in Thailand. Three main questions guide our research:

1) How can SCP-related consumer-oriented strategies of appliance and dairy companies in Thai markets be characterized?

2) Which consumer frames as change agents for SCP are used in the two sectors, and which (intervention) strategies are related to these frames?

3) When seeking to engage citizen-consumers in proactive ways, what roles do dairy and appliance companies in Thailand assign to strategic intermediaries?

These research questions are answered in section 5.4, following the empirical results.

5.2.5 Method

A desk study and in-depth interviews were employed as the main study methods. The desk study, conducted from 2012 to 2014, involved examining CSR and consumer-oriented strategies and various modalities of green product provisioning; intermediary roles in greening consumption and consumer frames used by producers and intermediaries; and existing company-intermediary collaborations that encourage consumers to purchase sustainable dairy and appliance products in

OECD countries and in Thailand. The results of the desk study were used to develop our conceptual approach and to design interview checklists.

A total of 19 semi-structured face-to-face interviews were conducted with nine dairy and appliance companies and eight strategic intermediaries (few companies were interviewed more than once) from 2011-2014. A list of open-ended questions was sent to the companies and organizations before the study was conducted so that they could call on appropriate interviewees. The interviews lasted one hour and thirty minutes on average, and all interviews were audio-recorded and transcribed. The following dairy companies were interviewed: CP-Meiji, Dairyhome, Farm Chokchai, Dairy Farming Promotion Organization of Thailand, and FrieslandCampina Thailand. The following appliance companies were interviewed: Daikin, Mitsubishi Electric, Panasonic, and Toshiba. All company interviewees worked at the management or executive level. Intermediary organizations were selected based on their level of cooperation with dairy and appliance companies that were seeking to promote sustainable products and/or based on their capacity to engage consumers in buying and consuming green dairy and appliance product. The following organizations were interviewed: Electricity Generating Authority of Thailand (EGAT), Thailand Greenhouse Gas Management Organization (Public Organization) (TGO), Organic Agriculture Certification Thailand (ACT), Thailand Environment Institute (TEI), Green Net, BioThai, Industrial Environment Institute (IEI), and Federation of Thai Industries (FTI). Seven of the 19 interviews (conducted in 2014 with Dairyhome, Toshiba Thailand, TGO, Green Net, TEI, BioThai, and IEI) focused specifically on cases wherein companies have sought to engage Thai consumers in (emerging) green markets. Specific checklists were used for each interview, with items for discussion categorized in accordance with the research questions.

5.3 Empirical findings: six case studies on Thai companies and strategic intermediaries and their relationships with (green) consumers

During the interviews, representatives of companies and intermediaries discussed their views and (intervention) strategies pertaining to Thai citizen-consumers. Presentations conducted by organization representatives were occasionally given before the interviews. The (slideshow) presentation and interview data allowed us to organize the empirical findings based on six "sustainability initiatives," which (when considered together) we argue represent different ways in which Thai companies and intermediaries conceive of the role of Thai citizen-consumer in emerging green markets. The first three cases serve as examples of company-driven sustainable initiatives, as they not only describe SCP-strategies conducted by (large and small) appliance and diary companies, but also shed light on relations between companies and intermediaries. The last three cases describe intermediary-driven sustainable initiatives and (governmental and non-governmental)

strategic intermediary efforts to determine ways to engage consumers in emerging green markets in collaboration with companies and (representatives of) consumers.

5.3.1 FrieslandCampina Thailand: greening the supply chain for sustainable products

FrieslandCampina Thailand, a subsidiary company of the Royal FrieslandCampina, is a large dairy processor in Thailand that sells dairy products under the name of "Foremost." The company has strived to improve its own environmental performance by reducing energy and water consumption levels and has made efforts to improve the environmental performance of other dairy chain actors (Thongplew, Van Koppen, et al., 2014).

The company has recently begun to produce organic dairy milk products. FrieslandCampina Thailand argues that this organic dairy initiative was initiated not only for economic reasons, but also for environmental and societal reasons. The company wishes to maintain its world-leading position while leading the Thai dairy market the right (sustainable) direction. In implementing its organic diary initiative, the company worked with key actors operating upstream: the Soi Dao Dairy Cooperative and its 80 member farmers. The main aim of the project was to produce raw organic milk by assisting the cooperative and farmers. An Office of Agricultural Economics (OAE) report shows that the FrieslandCampina Thailand organic project spurred ecological improvements on dairy farms (OEA, 2012). FrieslandCampina Thailand aims to support the organic supply chain by assisting the dairy cooperative and underequipped farmers. The company offers knowledge on organic dairy farming practices through the application of good agricultural practices (GAP) (Newswit, 2011). In addition to providing technical assistance, the company will pay a premium price for raw organic milk. With the company's assistance, farm-scale environmental transformations required for organic dairy production are expected. However, at the time of the interviews, FrieslandCampina Thailand had not yet been launched on the market, as preparatory arrangements had not yet been completed. Current efforts focus on furthering cooperation with key upstream stakeholders to effectively realize green supply chain for organic dairy products.

Given its focus on upstream actors and production processes, the strategy of FrieslandCampina Thailand toward Thai citizen-consumer still only exists on paper. During the interview, it was noted that the company plans to market organic products by increasing consumer awareness of organic dairy products in general. Thai citizen-consumer perceptions of organic dairy products are expected to be positive in principle. Thai consumers are perceived to have an interest in organic dairy products for both ethical and food safety reasons.

5.3.2 Toshiba Thailand: the need for more information and consumer education

Toshiba Thailand, a joint-venture company between Thai shareholders and Toshiba Corporation Japan, is a leading home appliance company. The company began working in the area of environmental sustainability more than two decades ago and remains active in improving environmental performance. Environmental initiatives managed by the company cover a broad range of environmental improvements (e.g., SCP activities targeted at greening the production-consumption chain).

As with most appliance companies, Toshiba Thailand possesses ample experience with particular forms of information and with educating consumers. The Energy Label No. 5 mass campaign encourages Thai consumers to purchase energy efficient appliances (see section 5.3.5). The energy label campaign is used by Toshiba as a dominant frame when considering consumer engagement in green markets. The campaign has been run since the early 1990s by the EGAT, and the energy label is now the most well-known appliance label among Thai consumers. In addition to information provided on energy labels, Toshiba Thailand has engaged consumers in retail spaces, the key consumption junction. Consumers are invited to buy greener appliances by "product consultants" (salespeople) and so-called "point-of-purchase materials." Such materials include "tree stickers" placed on green appliances to reflect the number of trees that can be saved by using a given appliance. Despite the apparent success of the Energy Label No. 5 campaign, the CEO-representative of Toshiba Thailand did not show great confidence in the green-consumption potential of Thai consumers. The company found that the effort did not significantly affect turnover rates and that few consumers expressed appreciation for and commitment to the effort. The company thus believes that consumers need to be further informed and educated to increase environmental awareness. With green awareness among Thai consumers being estimated as generally low, and with prices viewed as the main determinant of buying behaviors in the appliance sector, the company did not express considerable confidence in future engagement of Thai consumer with their green products. If strategic intermediaries were better equipped to educate consumers, Toshiba would welcome cooperation with intermediaries.

These first two cases examined sustainable initiatives conducted by large companies, which operate as powerful actors in the production chain and in the market. These companies rely on conventional strategies and stand-alone consumer frames to address sustainable consumption issues and to engage consumers. In the following section, a different type of company operating in a niche market is examined, revealing a different perspective on the issue.

5.3.3 Dairyhome: innovative sustainable products for green niche markets

Dairyhome is well known in the Thai dairy sector as a creative small company that has employed radical strategies to develop innovative sustainable products and engage consumers while creating niche markets for sustainable products, which may grow more popular in the near future.

Dairyhome was the first organic dairy processor in Thailand, with 12 member farmers. The company first operated as a chemical-free dairy processor in 2001. From 2003-2004, the company owner and managing director, Mr. Pruitti Kerdchoochuen, aimed to introduce organic dairy products as premium products to Thai consumers. As with FrieslandCampina Thailand, to process organic dairy products, Dairyhome needed to develop the chain from scratch: working with a small number of farmers who needed to be convinced of going organic products. The company assisted the farmers in technical and financial matters, product development, and in the establishment of a market for organic dairy products of various types.

In the interview, the Dairyhome director argued that there is a (relatively) small group of Thai consumers that is deeply concerned not only with food safety issues, but also with sustainable food production. The company thus believes that there is a niche market for organic food in Thailand. In developing a niche market for organic dairy products, the company has created value-added organic dairy products that are developed with special care for people and ecosystems. For example, the company has developed the organic "Bed Time" milk containing higher natural melatonin concentrations to help with sleep routines. Another creative new product is so-called organic grass-fed milk.

These innovative organic dairy products are delivered to the consumer through a proactive "product plus strategy" that appeals to the connected consumer frame – producing organic dairy products with care for the environment, and presenting (sustainability focused and value-added) storylines that engage niche consumer groups with the products. Consumers become engaged with the company in primarily two ways. First, consumers are connected to the company via green-focused, trustworthy, and innovative images and storylines. In developing its green image, Dairyhome certified all of its dairy products (39 at the time of the interview) under Carbon Footprint label and some products under Organic Thailand label and creatively communicated these features to consumers using various forms of media. The Bed Time milk product, for instance, is advertised with a storyline that states that the product helps one to get good sleep. Second, the company employs an organic (food)shop and restaurant model (located close to its production plant) to provide consumers, school children, and other target groups the opportunity to learn about Dairyhome, its organic products, and its (green) identity.

The company director plays a crucial role in developing effective product plus strategies. He holds extensive knowledge of dairy products and professional connections in the industry, as he graduated with an animal science degree and previously worked as a dairy training officer at the DPO for approximately 10 years. As the first organic dairy company in the country, the company also attracts media attention and can mobilize additional resources. In launching its Bed Time milk product, for instance, Dairyhome applied for technical and partial financial support from the National Science and Technology Development Agency and developed the product in collaboration with Suranaree University of Technology.

Though still a small company that primarily serves niche markets, Dairyhome can be said to have more extensive and creative orientations on consumers. The company combines its strong (upstream) product and process orientation with an elaborate strategy to reach downstream actors and develop niche markets. The company director has access to useful resources and relevant networks, and thus active means of utilizing relevant intermediaries can be employed. However, due to the company's small size, some consumer-related activities are managed in-house, without the help of structural relations with professional strategic intermediaries. We now take a closer look at intermediary relations in the following three sections.

5.3.4 The Thailand Environmental Institute (TEI): an enthusiastic SCP intermediary

The Thailand Environmental Institute (TEI) is a leading and well-known Thai think-tank NGO that promotes sustainable development in Thailand and in ASEAN countries. TEI carries more than two decades of extensive SCP experience, focusing on issues such as SCP policy, cleaner production, eco-efficiency, energy efficiency, environmental management system, greening the supply chain, green procurement, and eco-labeling.

The TEI positions itself as a strategic organization that promotes SCP by working with governmental agencies, companies, and consumers. The TEI, as a strategic intermediary that assumes the role of a "market-oriented green certification and standard body," developed the Green Label (a Type I eco-label) to promote the adoption of sustainable products. The institute also developed the Carbon Reduction label (together with the TGO, see Box 1) to stimulate the consumption of products manufactured via low-carbon production processes. Although sustainable consumption promotion is on the TEI's agenda, the institute mainly focuses on greening processes and products in collaboration with companies as a "green lobbyist and policy negotiator" and as a "green capacity builder and dialogue facilitator." The TEI's prominent position in this field is reflected in its role as the secretariat office for the Thailand Business Council for Sustainable Development (TBCSD), a group of leading companies in Thailand that works to promote sustainable development. When assisting companies, the TEI has improved environmental

performance levels in the social domain by providing training, consulting, coaching, and auditing services. During the interview, the president of the TEI expressed considerable awareness of the institute's orientation as working primarily on SCP issues with upstream actors and processes, thus denoting the institute's involvement in phase I of SCP development. However, when collaborating with companies on SCP themes and processes, the TEI currently encourages companies to focus more on issues of sustainable consumption and on the development of consumer markets through (green) product certification and promotion of green market in general.

Given its SCP-focused orientation and strong connections with companies and governmental organizations, the TEI is in an excellent position to assist companies in developing consumer-oriented strategies. The institute representative acknowledged during the interview that most Thai consumers until now have not recognized environmental sustainability issues as a major priority, but that the TEI now focuses on connected consumer framing and believes that citizen-consumers can be mobilized to buy and use green products and services in support of a modern and more sustainable lifestyle. The TEI is able and willing to serve as a strategic intermediary that assists companies that are willing to take a proactive stance on green consumers and markets. Consumers are viewed as potential change-agents that must be activated and organized for sustainable consumption. The TEI is willing to expand its historically upstream-oriented role by acquiring new knowledge and strategies that can help connect companies and their green products and services with Thai citizen-consumers who can be convinced to use these products to render their lifestyles and consumption practices more sustainable.

5.3.5 The Electricity Generating Authority of Thailand (EGAT): the Energy label actor

The EGAT, a state-owned enterprise, is a governmental organization that promotes energy conservation. The EGAT together with the Ministry of Energy developed a voluntary and free energy efficiency label (Energy Label No. 5) to promote the reduction of electricity consumption from households. The label employs a rating of one to five (five being the most efficient) to denote efficiency levels. During initial phases of the program, the EGAT convinced appliance companies to join the program and then launched a nation-wide campaign with a series of eye-catching advertisements to inform consumers of a simple message: purchasing certified appliances saves money in the long run.

The Energy Label No. 5 has proven influential in SCP matters in the Thai appliance industry for more than two decades. The campaign involved the development of certification criteria for 24 types of appliances, and over one thousand appliances were brought under the most efficient level in March of 2015. The label has been acknowledged as a successful program in terms of building consumer trust and selling energy efficient appliances (Kusaka, Kojima, & Watanabe, 2012; Na

Phuket & Prijyanonda, 2000; Singh & Mulholland, 2000). According to our interview with the EGAT, most Thai consumers seek electrical appliances with the highest Energy Label rating when purchasing appliances, incentivizing appliance companies to participate in the labeling program. A recent survey of the Japan External Trade Organization confirmed that most Thai consumers (76.4%) recognize the label and that 90% of consumers in this group view such labeling as a purchasing criterion (cited in Kusaka et al., 2012).

The EGAT has served as a strategic intermediary that has driven the development and adoption of energy efficient appliances by serving as a "green capacity builder and dialogue facilitator" that convinces appliance companies to join the labeling program (at the initial phase); as a "green information provider and campaigner" that informs consumers on issues of energy efficiency; and as a "market-oriented green certification and standard body" that connects appliance companies with consumers by developing company specific information strategies on energy efficiency issues. Based on their experiences in the field, EGAT representatives reported differences between leading appliance companies that employ proactive consumer-oriented strategies and advanced product technologies and companies that employ less advanced product technologies and which take a more reactive or defensive stance on green markets and green consumers.

In discussing the future of sustainable consumption in Thailand, the EGAT reports that the organization will continue to improve the program by rescaling efficiency criteria and by expanding the labeling program through the inclusion of various new products. The energy label campaign primarily promotes energy reduction and associated financial savings to Thai consumers. The Energy label and associated consumer information campaigns are too important and influential to abandon in favor of adopting others, perhaps more innovative consumer-oriented strategies. The EGAT's continuation of the energy label campaign does not however mean that the organization is unreceptive toward new consumer market strategies. Representatives indicated that the EGAT and TEI have discussed the possibility of working together on the development of more integrated consumer-oriented strategies, though these discussions are not yet conclusive.

5.3.6 The Thailand Greenhouse Gas Management Organization (TGO): carbon footprint for consumers in search of greener lifestyles

The Thailand Greenhouse Gas Management Organization (TGO) is an autonomous governmental organization that implements projects and activities related to greenhouse gas (GHG) emissions. Activities that the TGO has launched in collaboration with organizations housed under the Ministry of Science and Technology include the Carbon Footprint of Product (CFP) project in 2009 and Carbon Footprint Reduction (CFR) project in 2013. The CFP is a label that takes into account GHG emissions created throughout a product's entire life cycle. GHG emission quantities are shown on

the label in terms of carbon dioxide equivalents (CO_2eqs). The CFR is a label that shows product contributions to carbon emission reductions. It shows that a particular product has reduced carbon footprint through either having at least 2% GHG reduction comparing to the product's footprint for the base year or meeting the TGO benchmark on GHG emissions for the given product or product group. In December of 2014, nearly 1,400 CFP- and CFR-certified products existed (mostly food products). TGO carbon labeling activities are judged to be of strategic importance to Thai industries and companies that strive to enhance the competitiveness of export-oriented industries. However, as noted during our interviews, carbon labels that inform Thai consumers are no longer viewed as mere downstream spin-off features of the upstream investment.

The TGO is convinced that low environmental awareness and support for green initiatives and products of Thai consumer is thus far characteristic of earlier phases of economic development found in so-called transition economies. When Thai society becomes more developed, the TGO expects a significant segment of the population to show an interest in safe and sustainable products and in green lifestyles. This situation explains why the TGO promotes climate-friendly initiatives to both companies and citizen-consumers. The TGO advises companies to not only produce climate friendly products, but also to inform Thai consumers on ways in which such products can be used to support low-carbon lifestyles and behavioral routines. When enough green products enter the Thai economy, the TGO expects Thai consumer interest in carbon neutral lifestyles to increase. To help accelerate the development of green markets, the TGO has initiated a number of initiatives that extend beyond upstream, producer, and product orientations of first-phase SCP policies and strategies. The projects briefly described in Box 5.1 focus on citizen-consumers, everyday consumption patterns, and sustainable lifestyles. In targeting consumer practices of carbon monitoring and off-setting and in providing devices that may be used by citizen-consumers to lead more sustainable lifestyles, the TGO has developed a new set of consumer-oriented instruments that promote SCP.

Box 5.1: TGO projects assisting Thai consumers reduce the carbon footprint of their consumption routines and lifestyles

- Thai Carbon Footprint Calculator: a web-based platform and application for smartphones and tablets that calculates individual carbon footprints
- Carbon Natural Man: a voluntary carbon-offsetting program for individual citizen-consumers
- Carbon Reduction Label: a certification for consumer products manufactured from low-carbon production processes
- Carbon Neutral Products: a carbon neutral certification for products offered to Thai citizen-consumers
- Cool Mode Label: a citizen-consumer-oriented and enterprise-oriented carbon (and ventilation), health, and quality certification for cloth inspired upon by the Japanese cool-business campaign
- Green Card Project: an upcoming project in collaboration with the Department of Environmental Quality Promotion that rewards consumers who follow sustainable practices and lifestyles

In developing climate-related programs for familiarizing consumers with climate-friendly products, practices, and lifestyles, the TGO has served as a strategic intermediary that acts as a "green information provider and campaigner" and "market-oriented green certification and standard body". The TGO has expanded the set of available instruments used when working with companies that aim to relate to citizen-consumers in a more proactive way. In moving away from individualist approaches and moving toward low carbon society, the TGO runs a number of projects based on connected consumer framing to connect with (organized) consumer groups. These activities involve the development of activities and models such as Carbon Neutral Meeting, Carbon Neutral Organization, and Low Carbon City models.

In balancing the needs of the three intermediaries discussed in the last three cases, the roles of these strategic intermediaries in promoting SCP cover all four key functions. It is evident that conventional SCP strategies categorized as phase I SCP strategies exist alongside more recent and innovative phase II strategies. Interestingly, intermediaries no longer restrict themselves to advising companies on targeting Thai consumers. In conjunction with their existing collaborations with companies, strategic intermediaries also address citizen-consumers directly by employing connected consumer framing and a new set of instruments

5.4 Discussion and conclusion

To characterize present-day Thai company SCP strategies on consumer involvement in green market development, we differentiated between phase I and phase II SCP strategies. Phase I strategies are heavily oriented toward upstream actors, processes, and products and involve public awareness campaigns on a company's environmental products and performance. Our desk study and six case studies show that Thai dairy and appliance companies commonly employ phase I SCP strategies and instruments. After more than two decades of green industry in Thailand, such activities have generated not only cleaner production processes, but also green products sold under environmental labels. Skillfully run general awareness campaigns have allowed companies to make use of strategic intermediaries to inform consumers of relevant environmental information and to increase the visibility of green products. The Energy Label No. 5 campaign serves as a strong example of this approach. With the help of the EGAT, the label was launched on the market, and Toshiba and other appliance companies participated in the program.

Overall companies and strategic intermediary views on the results of phase I SCP activities in terms of greening consumption are not positive. Most actors involved in organizing phase I activities conclude that the visibility of eco-labels and products has not always resulted in "green buying" by the general public. As they view Thai consumers to remain less environmentally aware, company representatives argue that green markets can only be successful when green products are economically attractive to consumers or when products are made attractive through the promotion of specific product attributes, as in the case of the organic Bed Time milk product. Disappointing consumer responses to green markets are legitimized by some interviewees who note buying power differences between consumers in transition economies and those of OECD countries. For other interviewees, however, this response is correlated with poorly elaborated phase II activities initiated by companies and strategic intermediaries. These interviewees argue the rapidly growing Thai middle-class represents a group of "silent green consumers" who can be woken up when provided with the proper wake-up call. Especially in the case of strategic intermediaries such as the TEI and TGO, the need for a shift toward phase II activities is recognized and claimed to be already underway, as we learned from the representatives' views and from recent activities that foster sustainable lifestyles and practices among consumer groups (e.g., a wide array of consumer-related carbon footprint reduction activities).

According to the interviewees, phase II SCP activities that enroll consumers with emerging green markets would employ new consumer frames. These new framings would move away from stand-alone consumer frames that only focus on awareness campaigns and simple (nudging) intervention strategies related to individual choice configurations. "Connected consumer" frames are emphasized

as more effective in terms of spurring behavioral change. The TEI and TGO as strategic intermediaries and Dairyhome as a company noted that more inclusive strategies that focus on the concerted consumer group actions at so-called consumption junctions (e.g., retail spaces, restaurants) and in other settings relevant to targeted consumer (purchasing) behaviors and practices (e.g., online information searches) would serve as complementary instruments available to companies when connecting with green consumers.

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Chapter 6

Conclusion

6.1 Introduction

Globalization has brought many economic and socio-cultural changes to emerging economies. As a result of globalization, emerging economies have not only witnessed the improvement of socio-economic conditions and the emergence of new middle classes, but also faced the adverse impacts of resource depletion and environmental degradation (Lange & Meier, 2009). These negative impacts are closely linked with unsustainable patterns of production and consumption (e.g., Zhao & Schroeder, 2010). Confronted with increasing and considerable environmental impacts, industries and companies have been called to take action since the late 1980s. They have stepped in to address these problems and develop environmental corporate social responsibility (CSR) strategies to promote sustainable consumption and production (SCP) by enhancing the environmental performances throughout entire production-consumption chains. A recent development within industries and companies in emerging economies is the formulation of greening strategies that complement the environmental improvements of production processes, suppliers, and products. These emerging strategies aim to address (the roles of) consumers in the development of green markets.

This research looked into the development of SCP in globalizing Thailand, an emerging economy in Southeast Asia. Thailand has witnessed not only increasing environmental problems (e.g., Global Environmental Forum, 1999), but also changing patterns and increasing levels of consumption, particularly in urban areas (Zhao & Schroeder, 2010). The appliance and dairy industries were selected to (comparatively) study transformation processes toward SCP in Thailand. To investigate the transformation of greening production and consumption and its underlying dynamics, ecological modernization theory (EMT) was employed as the overarching theory to provide a comprehensive perspective for analyzing the dynamics that drive environmental transformations toward more sustainable patterns of production and consumption. The theoretical framework was derived from EMT and was organized around the concepts of CSR and citizen-consumers. Key assumptions of the theoretical framework were that companies can contribute to the greening of production-consumption chains 1) by improving their environmental performance in organizing greener production processes and products and 2) by engaging consumers with consumer-oriented strategies that encompass the provision of greener products and services, the availability of environmental information, and the offering of green images and narratives that give meaning to their green products from a consumer point of view.

Against this background, this study (comparatively) investigated greening strategies of the appliance and dairy industries in Thailand with a specific emphasis on the possibilities to enhance the levels of SCP through green provisions made available to Thai (citizen) consumers. Three research questions were used as guidance:

1) What is the existing situation with respect to the greening of production and consumption in the appliance and dairy industries in globalizing Thailand, and how does the existing situation in Thailand compare to the greening of production and consumption on a global level?
2) What are the roles and strategies of companies in the appliance and dairy industries in greening production and consumption, and how are the green provisions from the appliance and dairy companies organized and provided to Thai citizen-consumers?
3) What are the roles of retailers and strategic intermediaries in working with appliance and dairy industries to improve green provisions and to engage citizen-consumers with more sustainable products in globalizing Thailand?

This chapter summarizes and discusses the key empirical findings of this research. In the next section (6.2), the general dynamics of the greening of production and consumption in the appliance and dairy sectors in Thailand are provided and discussed. Section 6.3 looks into the appliance and dairy companies by discussing their strategies for improving their production processes and the environmental performance at the upstream part of the chains and their strategies for promoting green consumption through improved green provision. Section 6.4 discusses the strategic roles of retailers and intermediary organizations for assisting appliance and dairy companies in engaging Thai citizen-consumers in emerging green markets. Section 6.5 discusses possible improvements for enhancing the levels of SCP in Thailand through green provisions from the appliance and dairy industries, followed by a reflection on the theoretical framework used in this research (section 6.6). This chapter concludes with recommended future research (section 6.7).

6.2 Transformations toward the sustainable consumption and production of the appliance and dairy industries in Thailand

For more than two decades, many significant developments regarding the greening of production and consumption have taken place in the appliance and dairy sectors of Thailand. By using the triad-network model and the core characteristics of EMT as analytical instruments to assess the situation in Thailand with respect to the appliance and diary industries, we have been able to show that transformations toward SCP have been driven not only by the appliance and dairy companies, but also by the wider influences stemming from the economic, policy, and (although not very strong in Thailand) societal networks that are shown to be connected to the industries.

Having employed the triad-network model (Mol, 1995) to examine transformations towards SCP, our research, as reported in Chapters 2 to 5, showed that in Thailand, within *the economic network*, appliance and dairy companies have taken on important roles in improving the production-consumption chains to become more sustainable. They not only improved their production processes by using newer environmental technologies, strategies, and concepts, but also included suppliers in improving the environmental performance of the upstream sections of the chain. These companies have also recently started to involve consumers in using more sustainable products. CSR strategies of companies, influences from headquarters, collaborations with policy and economic actors (e.g., retailers and eco-labeling certification bodies), international trade dependency (of the export-oriented appliance industry), and the green demand of silent citizen-consumers were identified as important factors that have influenced appliance and dairy companies to advance SCP (Chapter 2; Chapter 3; Chapter 4). In *the policy network*, governmental agencies in Thailand have been instrumental in facilitating greening processes by enforcing end-of-pipe regulations. In addition to being environmental enforcements, Thai governmental agencies act as intermediaries and facilitators for providing support and assistance to industries to advance SCP, involving societal organizations in policy discourses, and educating the general public on environmental sustainability (Chapter 4; Chapter 5). As for *the societal network*, the contributions of societal actors for greening the production and consumption are overall still limited but are entering a phase of transition. Societal organizations, such as environmental NGOs involved in sustainable consumption, have relatively low numbers and have limited resources for organizing societal movements to pressure the policy and economic actors to become more sustainable (Chapter 4; Chapter 5). Thai citizen-consumers are still unorganized, but there is an emerging discussion on how to pursue more sustainable lifestyles and "low carbon" practices. The potential role of citizen-consumers as change-agents for SCP is also discussed among actors and organizations within the economic network when considering ways to increase the demand for green products. This particular role was discussed in more detail in the case of organic dairy consumption, as reported in Chapter 4.

When trying to assess the key findings from a theoretical point of view, we discuss the transformations towards SCP in Thailand against the five core characteristics of EMT described in Chapter 1 (Mol, 1995, 2001; Spaargaren, 1997): the increasing roles of science and technology in mobilizing environmental transformations, the increasing roles of economic and market actors and dynamics to steer environmental transformations, the changing roles of the nation-state (government) in environmental transformations, the shifting roles of NGOs in environmental transformations, and the changing discursive practices and emerging new ideologies in political and societal discourse. With the use of these five characteristics, we can answer the first main research question when assessing the overall level of the greening of production and consumption in the appliance and dairy industries in Thailand.

First, a new set of environmental technologies and concepts were shown to play an important role in mobilizing and realizing environmental improvements, particularly in relation to production processes. During the 1990s-2000s, end-of-pipe technologies were employed to treat pollution from production processes, particularly wastewater from dairy processing, and knowledge on cleaner production contributed to the improvement of resource use and efficiency in manufacturing appliance and dairy products. Technology-driven ecological modernization processes also took off in Thailand from the 1990s onward. *Second*, economic actors were shown to increasingly play crucial roles in pursuing environmentally sound (best) practices and promote sustainable products. We documented how new environmental initiatives, such as the greening of the supply chain, hazardous substance-free appliance products, organic products, and self-declared eco-logos were introduced in the economic sphere. These initiatives were driven by both domestic and global market-oriented actors, organizations, and dynamics (e.g., Thai citizen-consumers' demand for organic dairy and requirements for importing appliances to the European Union). Economic actors engaged in processes of greening production and consumption against the background of sustainability issues play an important role in global/international markets. *Third*, policy actors were shown to shift roles from primarily being environmental regulators to also acting as facilitators and intermediaries. In this process of opening up, national policies were making more room for other actors, including industries, to take part in environmental transformations. Since the mid-1990s, governmental agencies have provided (financial and technical) support to industries and companies for improving their production processes, manufacturing green products, and expanding green markets. Cleaner production assistance programs, the Energy Label No. 5, and the Organic Thailand label serve as examples. When compared to OECD countries, the Thai model showed close cooperation between governmental agencies and industries in markets. *Fourth*, although not related to NGO pressure, as was the case in many OECD countries, topics of environmental sustainability in industries (e.g., CSR, SCP, and similar activities being initiated as "license to produce") have penetrated into policy and societal discourses and have increasingly become an integral part of (policy and market) decision-making processes. The National Master Plan on Cleaner Production (2002 to 2011) and the National SCP Strategies (2006 to 2011) serve as examples of outcomes from policy discourse. A more recent example is that climate-related subjects have been institutionalized in national policy, and climate change impacts have been apprehended by Thai citizens. *Fifth*, the emergence of a new discourse emphasizing the (changing) roles of the civil society in Thailand, particularly environmental NGOs pressurizing for transformations toward sustainable consumption, were shown to be not yet clearly visible. This is because civil societal organizations in Thailand tend to have low numbers and limited resources for campaigning, organizing, and being active and visible in the discourse. We did, however, document—particularly in Chapter 5—niche market innovations aimed at mobilizing consumers to engage in green markets while expressing their wish

for more sustainable and healthy lifestyles by engaging with green products, eco-labels, and green narratives.

Having compared the transformations toward more sustainable patterns of production and consumption of the appliance and dairy industries in Thailand to the global situation, this research indicates that the greening of production and consumption in Thailand follows the basic pattern found in many OECD countries while diverging at specific points (the role of the national state and of civil society in particular) that originate from the Asian context. The process of greening production and consumption is technology and market driven to an important extent, and it is moving beyond the phase of improving only the environmental performances of production processes and the manufacturing of green products. The current phase complements the (upstream) production and technology orientation with a focus on the (downstream) greening of consumption, particularly by promoting the adoption of eco- and energy-labeled products and services and by facilitating sustainable practices and lifestyles. The typical Thai mode of ecological modernization is found primarily in the more important role of sciences and technologies and the policy network (and organizations) against the backdrop of a more modest role for civil society actors in the discourse on sustainability in general and SCP policies and strategies in particular.

Among the many actors involved in the greening processes, appliance and dairy companies were shown to be the main economic actors that have played important roles in mobilizing transformations toward SCP. More importantly, we documented how companies in both sectors started to recognize the relevance of involving and engaging consumers with their processes of greening production and consumption. The next section therefore discusses the CSR strategies of appliance and dairy companies for promoting SCP and their emerging orientation on the role of consumers in greening production-consumption chains.

6.3 Strategies of appliance and dairy companies for greening production and consumption

Our empirical results, as reported in Chapters 2 to 5 in particular, allow for the conclusion that over the course of almost three decades, the green strategies of appliance and dairy companies in Thailand have evolved in two phases. In the first phase, the greening strategies of companies were shown to be targeted at reducing pollution, improving production efficiency, and greening the upstream parts of their production-consumption chains. The second phase of SCP strategies of companies has shown an additional focus on the greening of consumption by engaging consumers in green markets and on sustainable practices and lifestyles.

6.3.1 Strategies for greening the production process at the upstream parts of the chain

From the 1990s to the 2000s, the appliance and dairy companies in Thailand advanced their greening strategies for environmental performance in both the production process and the upstream part of the chains. We categorized these developments into three stages and accompanying approaches.

First, in the early 1990s, industries and companies adopted end-of-pipe strategies and pollution-reduction technologies to minimize environmental pollution that originated from their production processes (Chapter 2). Treating wastewater and managing industrial and hazardous waste were the key issues addressed by the appliance and dairy industries in this period. The pressures that stemmed from the environmental regulations of the government and the developing concerns about environmental degradations in both Thai society and international markets were significant drivers for companies to cope with environmental pollution (Chapter 2).

Second, in the early 2000s, the industries shifted their environmental strategies and approaches to pollution prevention. Cleaner technology, eco-efficiency, 3R-strategies, and environmental management systems were the principal concepts and tools adopted by appliance and dairy companies for improving their environmental performance (Chapter 2). The adoption of pollution prevention strategies also marked the emergence of environmental CSR because these environmental improvement activities went beyond what was legally required. It was non-legal factors, particularly economic motivations—including government assistance programs, financial incentives for improved environmental performance, and an export orientation of Thai industries (especially the appliance industry)—that drove companies to adopt cleaner production strategies (Chapter 2).

Third, in the mid-2000s, the strategies for greening the supply chain began to reach beyond the role of the companies themselves in producing dairy and appliances products. They extended their environmental strategies to their suppliers and their key stakeholders located in the upstream sections of production-consumption chains. Forms of integrated chain management emerged, with companies actively assisting other chain actors to become more eco-friendly in their orientation and performance. Appliance and dairy companies in Thailand implemented activities such as environmental audits, green procurement, and knowledge provision to encourage their suppliers to work in a more eco-friendly manner and to obtain green raw materials and parts (Chapter 2; Chapter 4).

In our comparisons between the appliance and dairy industries, we were able to show that the appliance industry in particular developed more advanced and proactive greening strategies to

improve the production process and the upstream section of the chain. This is because many appliance companies are Transnational Corporations (TNCs) with comprehensive environmental strategies and practices in place, whereas the dairy sector in Thailand is comprised of few multinational companies and many small, local companies. Additionally, the appliance production is export oriented and is subjected to more stringent environmental requirements from international markets (e.g., environmental management system), whereas the production of dairy products is primarily for domestic consumption.

These comprehensive production- and upstream-oriented greening strategies provide a solid ground for the appliance and dairy companies to extend their greening strategies from sustainable production to sustainable consumption, from upstream to downstream orientations, and from green supply to green demand in phase two, as discussed in the next subsection.

6.3.2 Consumer-oriented strategies for greening consumption: improving green provisioning

This research paid particular attention to greening strategies that materialized through *green provisions* (sustainable products, environmental information, green images and narratives) to assist citizen-consumers in incorporating sustainable products and services into their everyday life (Spaargaren & Van Koppen, 2009). The results of our research show that there is a difference between the appliance and dairy industries in terms of the green provisions offered to Thai consumers. We investigated the quality of green provision by looking at the level of provision of green products, the provision of information, and the development of frames and narratives that could help consumers engage with the information and products offered.

Sustainable products were shown to be increasingly made available in Thai markets by both appliance and dairy companies. Green appliance and dairy products have different shades of green, and they can be categorized into basic and superior green products. The latter category is claimed to be more environmentally friendly. We argued that basic green features within the appliance sector refer to energy-efficient and hazardous-substance-free appliances, and superior environmental qualities were linked to the use of more energy-efficient technologies, recycled and recyclable parts, and ozone-friendly refrigerants (Chapter 3). Superior green appliances are offered by most large appliance companies. We argued that the basic green qualifications of dairy products are related to the improved environmental performance of companies in general (e.g., energy and water use in processing plants), whereas superior green qualities are primarily connected to sustainable practices of dairy farming, such as organic and low-chemical-input dairy farming (Chapter 2; Chapter 4). We showed that superior dairy products are made available by only a small number of dairy companies (Chapter 2).

In addition to offering green products, different messages or flows of *environmental information* have been provided by companies to Thai consumers. Embracing the idea that Thai consumers need be informed about environmental sustainability, appliance companies primarily informed consumers about the enhanced environmental performances of themselves and their products. The energy efficiency of products, hazardous substance-free products, and environmental improvement initiatives of companies were shown to form the basis of consumer-oriented information flows (Chapter 2). In the dairy industry, some large dairy companies were shown to inform consumers about the improved environmental performances at the supplier farms and in the production process in the context of the enhanced food safety and sustainability characteristics of dairy products. Smaller dairy companies were documented to inform consumers on the spot and in some detail about the superior (environmental) quality of their sustainable dairy farming and products using, for example, carbon and organic labels as strategic information tools (Chapter 2, Chapter 5).

In addition to environmental information, different *green images and narratives* were shown to be presented to Thai consumers. Most appliance companies utilize green images and storylines related to the financial benefits of using more energy-efficient appliances. Making use of self-declared eco-logos, their sustainability frames depict the company as being an environmentally responsible actor that provides eco-friendly products to consumers. Because in the perception of large appliance companies, sustainability concerns are not very prominent for Thai consumers, they seek to connect their green products with the emergence of "modern lifestyles" in Thailand. To be a modern consumer, one needs to be a sustainable consumer who pays attention to eco(efficient) products and more environmental sustainability in general (Chapter 2; Chapter 5). For the dairy industry, most mainstream dairy companies construct their green images and storylines around the health benefits of their products and the improved performances of farmers as key actors in the production processes. A small number of dairy companies—operating in niche markets in particular—do actively recognize broader sustainability concerns and interests emerging among Thai citizen-consumers. They not only develop sustainable images and storylines based on a more comprehensive view of sustainable dairy farms and products, but also try to "educate" consumers about sustainability issues, for example, by inviting consumers to visit their farms and retail outlets (Chapter 2; Chapter 5).

Having compared green provisions between the two industries, our empirical findings suggest that the appliance industry has a more active and more standardized form of green provision than large dairy companies. There are, however, two small dairy companies (Dairyhome and Farm Chokchai) that illustrate unique and innovative cases for offering green provisions to consumers in niche markets. Dairyhome, an organic milk company, strategically addresses the sustainable interests and preferences of citizen-consumers through its green provisions and familiarizes consumers with its

green images and storylines at its restaurant and retail outlets. Farm Chokchai, a premium dairy company, strategically utilizes its dairy farm and processing plant as a tourist destination and invites consumers to visit and learn more about the green practices and images of the company.

When discussing the level and quality of the green provision of appliance and dairy companies against the background of the general CSR literature (see e.g., Zadek, Sabapathy, Døssing, & Swift, 2003), this research showed that environmental CSR strategies in Thailand take forms of "strategic corporate responsibility and competitive responsibility". Manufacturing green products has become a "basic business opportunity to be seriously considered" for most companies, and working to enlarge markets for sustainable products has become a well-established approach among responsible companies. These developments offer new insight and evidence that the CSR of appliance and dairy companies in Thailand are considered and implemented as strategic activities. Previously, it was documented that most CSR activities in Thailand were philanthropic and non-strategic (Prayukvong & Olsen, 2009), but we showed this situation to be different today.

When summarizing our main findings on the expectations of companies regarding the role of consumers in bringing about sustainability changes, we argued that important differences between companies can be reported. These differences allowed for a categorization of companies into two main categories of "higher" and "lower" levels or degrees of expectations. In most cases, representatives of companies expressed rather modest levels of expectation. Appliance and dairy companies basically depict their consumers in terms of individuals who, in principle, can be mobilized to buy or "boycott" green products. This will only happen, however, under the condition that consumers have certain levels of environmental awareness and are offered good-quality (green) products within suitable choice configurations. Most companies therefore provide general environmental information to enhance consumers' awareness, specific environmental information on the environmental impacts of the green products of the company (e.g., climate, eco-, and energy labels), and a choice configuration on the shopping floor that contains relevant elements to nudge consumers in the direction of green provisions. In only a few reported cases, companies have high, positive expectations towards their consumers as potential change agents. In these cases, consumers are recognized by companies as belonging to their key stakeholders (who can be engaged) and as crucial factors in the emergence of markets for sustainable products. Companies in these cases regard consumers as citizen-consumers who, in principle, want to express their private sustainability concerns in their market decisions for green products. These consumers, in principle, could be mobilized and organized as a (political) factor for greening production-consumption chains and networks. Within this more advanced frame of expectations, broader socio-cultural elements of Thai consumers and ideas about sustainable (modern) lifestyles are emphasized.

The expectations regarding the role of consumers as potential change agents co-determine the ways in which companies in the appliance and dairy sectors organize their green provisions in terms of the products offered and the information flows and images presented. When proactively trying to engage citizen-consumers, appliance and dairy companies seek the assistance of both retailers and intermediary organizations in ways discussed in the next section.

6.4 Retailers and strategic intermediaries assisting companies to engage citizen-consumers

This thesis shows that appliance companies in Thailand work closely with retailers to familiarize consumers with green provisions in retail outlets. Appliance and dairy companies in Thailand also turn to strategic intermediaries to improve their green provisions and engage Thai citizen-consumers in developing green markets.

6.4.1 Retailers: organizing green provisions at the consumption junction

Retailers are widely acknowledged as powerful actors in production-consumption chains (Gereffi, 1994; Ogbonna & Wilkinson, 1998; Oosterveer, Guivant, & Spaargaren, 2007). Occupying the position in between manufacturing companies and consumers, retail outlets are the place where interactions and negotiations on green provisions between producers and consumers take place. Retail outlets are therefore known as "consumption junctions" (Cowan, 1987), which refer to specific places and moments where and when companies and consumers negotiate in buying (green) products. Currently, retailers are pressured to offer sustainable choices, are aware of increasing green demands, and are competing to be more sustainable; therefore, retailers become more engaging in selling green products and in providing environmental information (and green images and narratives) to consumers (Kantamaturapoj, 2012; Kantamaturapoj, Oosterveer, & Spaargaren, 2013).

Our empirical findings reported in Chapter 3 show that retailers play a crucial role in engaging Thai consumers at retail outlets. Retailers work with appliance companies on strategies to inform and engage Thai consumers in buying green appliances on the shopping floor through two main channels. First, they use informational materials (e.g., brochures and point-of-purchase materials) to inform consumers about the green appliances and environmental performances of companies. Second, they utilize product consultants (salespersons) to directly engage with consumers on the shopping floor for initiating conversations on (green) products. The findings also suggest that Thai consumers are open to learn about and experience green products. However, Thai consumers report a lack of trust in the information and engagement strategies of retailers and appliance companies (Chapter 3). Appliance companies and retailers have been trying to engage consumers on the

shopping floor to buy green appliances, but these efforts in general have not been welcomed by Thai consumers. This unsuccessful engagement does not mean that Thai consumers are not willing to become engaged in the future. Consumers in our focus groups indicate that they look for trustable information and trustworthy salespersons on the shopping floor as preconditions for their engagement.

6.4.2 Strategic intermediaries: engaging citizen-consumers in green markets

Strategic intermediaries, particularly NGOs, are widely recognized to have special features that are beneficial to companies to enhance their societal and economic value (Dahan, Doh, Oetzel, & Yaziji, 2010). Specific knowledge, consumer trust, the representation of public interests, and legitimacy are examples of special properties of strategic intermediaries (Dahan et al., 2010; Doubleday, 2004; Vogel, 2005). Strategic intermediaries have increasingly collaborated with companies to execute the CSR-related programs and sustainable initiatives of companies, including engaging citizen-consumers in the creation of (green) markets (Glasbergen, Biermann, & Mol, 2007).

The empirical findings presented in Chapter 5 indicate that governmental and non-governmental strategic intermediaries in Thailand started to play crucial roles in assisting companies to improve communications with consumers about sustainable products and services in the mid-1990s (Chapter 5). Holding specific knowledge on and access to Thai consumers, strategic intermediaries develop market-oriented initiatives, particularly eco-labelling programs (including the Energy Label No. 5, the Organic Thailand label, and Carbon Footprint labels) to help companies inform consumers about the environmental performance of green products in ways that are trusted by Thai consumers. In addition to this traditional approach of informing consumers, strategic intermediaries are increasingly promoting a more proactive approach for engaging consumers in emerging green markets. A small number of front-running strategic intermediaries recently started to develop new consumer-oriented projects that foster sustainable lifestyles and practices among consumer groups in Thailand (e.g., a set of consumer-oriented programs on carbon-neutral consumption, the offsetting of greenhouse gas, and the so-called Green Card project). Our empirical findings suggest that a number of appliance and dairy companies in Thailand are at the edge of a new, more encompassing and proactive approach towards consumers, also realizing the usefulness of and need for collaboration with both governmental and non-governmental strategic intermediaries to engage consumers to use green products and green markets (Chapter 5). The intermediaries are instrumental for companies when trying to convince consumers to buy their green products, as a number of intermediary-company coordinated (information and action) campaigns have shown to be a success.

6.5 Improving green provisions to better engage Thai (citizen) consumers

Having summarized and discussed the main findings on the greening of production and consumption and the consumer-oriented strategies of the appliance and dairy industries in Thailand, this section discusses the relevance of our findings for companies that seek to enhance the levels of SCP through green provisions in the near future.

6.5.1 Aligning green provisions with actual sustainability interests and socio-cultural characteristics of Thai citizen-consumers

This research reveals that appliance and dairy companies in Thailand can further align their green provisions (particularly environmental information flows and green images and storylines) with the interests and requirements of Thai citizen-consumers. Appliance and dairy companies in Thailand use different greening strategies and approaches to inform Thai consumers about their sustainable products and environmental responsibilities. Thai consumers are often perceived to have low levels of environmental awareness; therefore, the greening strategies of appliance and dairy companies are restricted to providing general environmental information to increase general environmental awareness about green products and labels. The environmental information and storylines attached to them, however, do not sufficiently correspond with the environmental interests, shopping habits, and product demands of Thai citizen-consumers. When these specific, socio-cultural and lifestyle-related interests and requirements of citizen-consumers are acknowledged, companies can effectively improve their green provisions accordingly.

This research suggests that Thai citizen-consumers are open to know about environmental sustainability, to experience sustainable products, and to become engaged in green buying and green markets. For the appliance sector, the research findings indicate that environmental information and green storylines should be made available for citizen-consumers according to their information search habits and preferences and in line with their established shopping practices. Combining shop-floor processes with Internet-based search strategies and increasing general trust through increased transparency and accountability might serve as important examples in this respect. For the dairy sector, a small number of innovative firms could be used as examples for other companies in the future. Our case studies on companies operating in organic niche markets reported creative ways to connect sustainability images and frames with other values—food safety and increased well-being—which are important for Thai consumers. Their proactive initiatives to engage different lifestyle groups of citizen-consumers (students, youths, people with sleeping problems) by inviting them to the farm and the factory (restaurant) are examples for future strategies of companies to increase trust, transparency and active engagements with green products, companies, and markets.

6.5.2 Collaborating with strategic intermediaries to engage (citizen) consumers

This research suggests that governmental and non-governmental strategic intermediaries in Thailand are important partners for appliance and dairy companies to improve the quality of green provisions and to engage Thai citizen-consumers. Strategic intermediaries in Thailand have initiated different types of non-state market-driven initiatives to facilitate the adoption of sustainable products and services. On the one hand, most past and up-and-running initiatives of strategic intermediaries (together with companies) are about providing information and organizing environmental campaigns with the aim to increase the environmental awareness of Thai consumers and to make green products more visible and trustworthy in the eyes of consumers. Examples are eco-labels initiated by governmental agencies and NGOs. Some of these initiatives are successful, but many are not well recognized by Thai consumers.

On the other hand, a few recent and up-and-coming market-driven initiatives of strategic intermediaries try to address not only the issues of trust and visibility of sustainable products but also the economic and socio-cultural aspects of Thai citizen-consumers. Examples of these new initiatives are the carbon-neutral and offsetting programs and the Green Card project. These new projects have the potential to enlarge markets of sustainable products and services because they recognize consumers and consumer orientations in a broader sense and because they are primarily operated by well-known intermediaries with certain levels of trust and legitimacy in the eyes of Thai consumers.

6.6 Theoretical reflections on sustainable consumption and production

This research contributes to the understanding of the greening of production and consumption in globalizing Thailand. By analyzing the dynamics of environmental transformations and the strategies of companies for the greening of production and consumption, this research has provided insight into the ways for companies to involve consumers in green consumption. This research advances not only the broader EMT and SCP literature but also the consumer-oriented CSR literature.

The *first* contribution relates to the connection between the "EMT of production and consumption and CSR strategies for sustainable consumption" of companies in emerging economies. The key argument of EMT is that environmental transformations of companies and industries are driven by influences and pressures from economic, policy, and societal networks (Van Koppen & Mol, 2002). This particular argument has been found to be the case in many OECD countries (e.g., Archambault, 2004; Mol, 1995; Søndergård, Hansen, & Holm, 2004).

This research, however, finds that environmental transformations in Thailand are not driven by the economic, policy, and societal networks in ways that are identical to OECD-related trajectories. Empirical findings derived from our desk study, interviews, and focus groups depart from OECD studies on the greening of industries in the sense that we witness strong interwoven dynamics between the economic and policy networks in Thailand. There is concerted action for advancing environmental transformations with an active role for the government. Our findings, however, also show remarkable similarities with OECD strategies, such as the active participation of industries and companies in sustainability strategies. Our research shows that companies in Thailand act as change-agents for mobilizing environmental transformations in production-consumption chains, particularly through their well-elaborated CSR strategies. Using the triad-network model in a comparative perspective, we add to the literature by being able to better explain the underlying (market) dynamics of environmental transformations of the industries. Therefore, by incorporating CSR with EMT to analyze environmental transformations, we suggest enhancing the explanatory power of EMT in the context of emerging economies, in which industries and companies play active roles in advancing environmental transformations.

The *second* contribution is about "engaging citizen-consumers in the contexts of middle-income economies", which contributes to the literature and the debate on the role of citizen-consumers in emerging economies in Asia. Engaging consumers to reduce environmental impacts is widely studied and discussed (Jackson, 2005; Prothero et al., 2011; Spaargaren & Oosterveer, 2010). In the context of high-income economies, activating and engaging citizen-consumers in sustainable consumption have been largely taken up by societal actors, such as NGOs and consumer organizations (e.g., Boström & Klintman, 2008; Micheletti, 2003; Micheletti, Follesdal, & Stolle, 2004; Stolle, Hooghe, & Micheletti, 2005).

This research illustrates a different picture of how consumers are engaged. The empirical findings derived from the desk study, interviews, focus groups, and participant observations show that not environmental NGOs but industries and companies (with facilitation and help from governmental agencies and strategic intermediaries and building upon their existing CSR strategies) act as very important actors that attempt to organize and engage Thai citizen-consumers with green provisions and in emerging green markets. Motivated by emerging markets and competitive advantages (e.g., maintaining a leading position and the reputation of the company), companies have increasingly become active in supplying green provisions and involving consumers in adopting green products and sustainable practices and lifestyles, despite the absence of explicit pressures from non-governmental (civil society) actors. By drawing on the literature from two different fields (CSR and the environmental behaviors of citizen-consumers), this research provides new insight on the important role of economic actors in influencing the environmental (shopping) behaviors of

consumers. Therefore, when studying and discussing the engagement of citizen-consumers in green consumption, particularly in emerging economies, it is important to investigate the involvement of actors outside the societal sphere in mobilizing citizen-consumers.

6.7 Future research on sustainable consumption in emerging economies

This research primarily studies green consumption from a company perspective, providing insights on how industries and companies in Thailand become change-agents for engaging (citizen) consumers in green consumption and mobilizing transformations toward SCP in the production-consumption chains. However, this research does not touch upon consumers and their lifestyle elements in great detail. Therefore, further consumer-oriented research on sustainable consumption in emerging economies is recommended (IGES, 2010; Prothero et al., 2011). In particular, topics related to citizen-consumers as participants in a range of social practices that are relevant for greening consumption and the different green lifestyles dynamics at play in everyday life are relevant topics for future research (see e.g., Barr, Gilg, & Shaw, 2011; Hobson, 2003; Spaargaren, Van Koppen, Janssen, Hendriksen, & Kolfschoten, 2013).

Another area of future research on greening production and consumption in emerging economies is to study and analyze the changing roles of the government and the impact of market-driven environmental governance (see e.g., Cashore, 2002; Cashore, Egan, Auld, & Newsom, 2007). It is evident in this research that the Thai government has been instrumental in advancing SCP. More importantly, governmental agencies have increasingly assumed the roles of non-state authorities and strategic intermediaries by initiating economic actions and market-based initiatives, such as voluntary eco-labels and certifications to steer markets toward green consumption. In this regard, three interrelated research agendas are of prime importance to gain insight to further enlarge green markets and promote sustainable consumption in globalizing Thailand: 1) studying the arrangement of market-driven governance, 2) evaluating the roles of governmental agencies as authority seekers and green market facilitators in market-driven dynamics, and 3) exploring the market responses and changes associated with the changing roles and economic actions of governmental agencies.

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Appendix I: List of interviews (in alphabetical order)

Bionext	Chain organization for the organic sector
BioThai	NGO
Cooperative Promotion Department	Governmental organization
CP-Meiji	Dairy company
Daikin Industries (Thailand)	Appliance company
Dairyhome*	Dairy company
Dairy Promotion Organization of Thailand	Governmental organization/ Dairy company
De Natuurweide**	Farmer association
Ecomel	Dairy company
Electrical and Electronics Institute	Industry specific institute
Electricity Generating Authority of Thailand	State-owned enterprise
Farm Chokchai*	Dairy company
Federation of Thai Industries	Industry association
FrieslandCampina Thailand	Dairy company
HomePro*	Appliance retailer
Industrial Environment Institute	Industry specific institute
Louis Bolk Institute**	Independent institute
Management System Certification Institute	Independent institute
Mitsubishi Electric Consumer Products (Thailand)	Appliance company
Organic Agriculture Certification Thailand	NGO
Organic dairy farmer**	Dairy farmer
Organic Livestock Institute of the Department of Livestock Development	Governmental organization
Panasonic Thailand	Appliance company
Southern Agriculture and Horticulture Organization**	Farmer association

Toshiba Thailand*	Appliance company
Thailand Environment Institute	NGO
Thailand Greenhouse Gas Management Organization (Public Organization)	Autonomous governmental organization
Wageningen University and Research Centre**	Academic institution

Note:

* Interviews were conducted more than one times.

** Two separated interviews were conducted with two respondents and both respondents work for more than one organization.

Summary

Thailand, an emerging economy with emerging middle classes, has witnessed socio-economic changes in several respects in the last five decades, including fast industrial development, significant economic growth, rapid urbanization, and substantial population growth. These developments have entailed resource depletion and environmental pollution, which are associated with unsustainable ways of manufacturing products and unsustainable levels and patterns of consumption. In this regard, industries and companies have been called to take part in resolving environmental problems. They have developed environmental corporate social responsibility (CSR) strategies to enhance their environmental performance for improving their production processes and upstream sections of production-consumption chains. More recently, their strategies have focused on involving consumers in greening consumption.

This research looked into transformations toward sustainable consumption and production (SCP) of the appliance and dairy industries in Thailand from a production-consumption chain perspective. It put an emphasis on the roles and strategies of appliance and dairy companies in greening consumption with an explicit involvement of consumers. "Green provisions" (green products and services, environmental information, and green images and narratives) from companies (in cooperation with retailers and strategic intermediaries) and certain extents of consumer behaviors and lifestyles were studied. Ecological modernization theory (EMT) was employed as the overarching theory, providing a comprehensive perspective for analyzing the dynamics that drive transformations toward more sustainable patterns of production and consumption. The theoretical framework was derived from EMT and was developed around the concepts of CSR and citizen-consumers to analyze ways (for companies) to better involve Thai citizen-consumers in buying sustainable products.

The appliance and dairy industries in Thailand have gone through several significant developments with regard to the greening of production and consumption in the last two decades. These developments have been driven primarily by the dynamics of the economic and policy networks. The dynamics of the societal network, however, still have limited influence. Within *the economic network*, CSR strategies of multinational corporations and local companies, influences from headquarters, collaborations with other policy and economic actors (e.g., intermediaries, retailers, and certification bodies), and international trade dependency (of the export-oriented appliance industry) are dynamics that have influenced the appliance and dairy companies to advance SCP. In *the policy network*, key dynamics arise from the (changing) roles of governmental agencies not only as environmental regulators, but also as intermediaries and facilitators for providing assistance to industries to advance SCP, to involve societal organizations in policy discourses, and to educate the general public on environmental sustainability. As for *the societal network*, the dynamics of the

societal network are still limited (low numbers of societal organizations and limited resources) but are entering a transitional phase, in which citizen-consumers as change agents are increasingly discussed.

Appliance and dairy companies in Thailand have shown to have comprehensive production- and upstream-oriented greening strategies. This provides a solid ground for the appliance and dairy companies to extend their greening strategies from sustainable production to sustainable consumption, from upstream to downstream orientations, and from green supply to green demand. This research primarily discusses greening strategies materialized through *green provisions* for greening consumption.

Sustainable products have been made available in Thai markets by both the appliance and dairy companies. Green appliance and dairy products have different shades of green and can be categorized into basic and superior green products. Basic green features of green appliances can refer to energy-efficient and hazardous-substance-free appliances, whereas the superior environmental features of green appliances refer to the use of energy-efficient technologies, recycled and recyclable parts, and ozone-friendly refrigerants. Superior green appliances are offered by most large appliance companies. The basic green qualifications of dairy products are related to the improved environmental performance of companies in general (e.g., energy and water use in processing plants), whereas the superior green qualities of dairy products are primarily connected to the sustainable practices of dairy farming, such as organic and low-chemical-input dairy farming. Superior dairy products are, however, made available by only a small number of dairy companies.

Next to offering green products, different messages of *environmental information* have been provided by companies to Thai consumers. Appliance companies primarily inform consumers about their and their products' enhanced environmental performance. The energy efficiency of products, hazardous substance-free products, and green initiatives of companies are the basis of consumer-oriented information. In the dairy industry, some large dairy companies inform consumers about the improved environmental performance at the supplier farms and in the production process in the context of enhanced food safety and the sustainability characteristics of dairy products. Smaller dairy companies inform consumers about the superior (environmental) quality of their sustainable dairy farming and products by using carbon and organic labels as strategic information tools.

In addition to environmental information, different *green images and narratives* are presented to Thai consumers. Most appliance companies utilize green images and storylines related to the financial benefits of using more energy-efficient appliances. They also use self-declared eco-logos to depict themselves as environmentally responsible actors that provide eco-friendly products to consumers. In addition, they seek to connect their green products with the emergence of "modern lifestyles" in Thailand. For the dairy industry, most mainstream dairy companies construct their

green images and storylines around the health benefits of their products and the improved performance of farmers as key actors in the production processes. A small number of dairy companies operating in niche markets actively recognize broader sustainability concerns and interests that emerge among Thai citizen-consumers. They develop sustainable images and storylines based on a more comprehensive view of sustainable dairy farms and products and educate consumers about sustainability issues, such as by inviting consumers to visit their farms and retail outlets.

It is evident that different degrees of consumer orientations and socio-cultural aspects of citizen-consumers have been integrated into green provisions of companies. In most cases, appliance and dairy companies basically recognize consumers as individuals who can be mobilized to buy green products. This will only happen, however, under the conditions that consumers have certain levels of environmental awareness and are offered good-quality (green) products within suitable choice configurations. Most companies therefore provide general environmental information to enhance consumers' awareness, specific environmental information on the environmental impacts of the (green) products of the company (e.g., eco-labels), and a choice configuration on the shopping floor to nudge consumers in the direction of the green provisions. In only a few cases, companies recognize consumers as their key stakeholders (who can be engaged) and as crucial factors in emerging green markets. Companies in these cases also regard consumers as citizen-consumers who express their private sustainability concerns in their market decisions for green products and can be mobilized and organized as (political) actors for greening production-consumption chains. Within this more advanced frame, broader socio-cultural elements of Thai consumers and ideas about sustainable (modern) lifestyles are emphasized.

When appliance and dairy companies proactively try to engage citizen-consumers, they seek the assistance/cooperation of retailers and intermediary organizations. Retailers play a crucial role in engaging Thai consumers at retail outlets. Retail outlets are locations where companies meet consumers to negotiate in the purchasing of products. Retailers together with appliance companies use information materials and product consultants (salespersons) as strategic instruments to promote green products and engage consumers. It is found that engaging Thai consumers in retail outlets has the potential to enhance the adoption of green appliances only when companies and retailers are able to provide consumers with trustable information and trustworthy salespersons on the shopping floor. Both governmental and non-governmental strategic intermediaries have played important roles in assisting appliance and dairy companies to promote the use of green products by using informational tools, such as eco-labels. In addition to these informational tools, a few front-runner strategic intermediaries have recently realized the need for a more proactive approach to engaging consumers in emerging green markets. They have developed new consumer-oriented projects that foster sustainable lifestyles and practices among consumer groups. These new projects have been shown to

be promising alternatives for appliance and dairy companies to increase the adoption of green products and to enlarge green markets because they recognize consumers and consumer orientations in a broader sense, and a number of (past) intermediary company-coordinated (information and action) campaigns have been shown to be a success.

In sum, this thesis finds that appliance and diary companies in globalizing Thailand have increasingly attempted to engage consumers to buy and use more sustainable products and in enlarging green markets by employing different consumer-oriented strategies. However, they do not yet have a full-fledged consumer-oriented strategy to engage the consumer and to green consumption. To advance consumer-oriented strategies to engage Thai consumers in sustainable products and emerging green markets, companies should acknowledge consumers as change-agents and recognize the (sustainable) practices and lifestyles of Thai citizen-consumers to engage Thai citizen-consumers in green markets. In doing so, appliance companies (together with retailers) can make environmental information and green storylines available to citizen-consumers according to their information search habits and preferences and in line with their established shopping practices. Combining shop-floor processes with Internet-based search strategies and increasing general trust through increased transparency and accountability are important examples. Dairy companies can improve their consumer-oriented strategies by considering examples of small and innovative dairy companies operating in organic markets. To do so, dairy companies can connect with Thai citizen-consumers by connecting green images and narratives with the topics of food safety and improved well-being. In addition, they can initiate consumer-oriented activities (e.g., inviting consumers to visit farms and restaurant outlets) to actively engage different consumer groups to increase trust and transparency. To help realize these improvements, appliance and dairy companies can seek to cooperate with strategic intermediaries on new consumer engagement initiatives to engage citizen-consumers with more sustainable products.

About the author

Natapol Thongplew was born on 15 March 1982 in Bangkok, Thailand. He grew up and received education in Bangkok until high school. In 1999, he joined the Health Science Department, Thammasat University for his Bachelor of Science (1999-2002). Later he pursued a Master Degree in environmental sciences with hazardous waste concentration at University of Colorado, the United States of America (2004-2006). Afterward he returned to Thailand and began his career as a researcher at the Thailand Environment Institute (TEI) and the Thailand Business Council for Sustainable Development (TBCSD) for about 3 years before receiving a full-scholarship from the Ministry of Science and Technology, Thailand to study a PhD in environmental management. In March 2010, Natapol started his PhD research at Environmental Policy Group (ENP), Wageningen University. After completing his PhD, he will assume a position of instructor at the Department of Biological Sciences, Faculty of Science, Ubon Ratchathani University, Ubon Ratchathani province, Thailand.

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Oral Presentations

- *Producers' strategies for greening consumption and production: the case of appliance and dairy industries in Thailand*. PhD trip of the Environmental Policy Group to Denmark and Sweden, 12-20 October 2012, Lund, Sweden
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