CHAPTER 1

Introduction to Sustainable Consumption and Production Challenges and Development

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INTRODUCTION

The sustainable consumption and production (SCP) agenda has been a hypernym for various efforts and approaches to address the growing concerns on bio-diversity loss, resource availability, climate change, and mounting waste problems on land and in seas. In spite of efforts of the global community to support a transition towards more sustainable development through, for example, the Sustainable Development Goals (often referred to as SDGs or Agenda 2030), it seems hard to achieve progress. The most recent scientific report on the SDG achievements raises strong concerns that many of the goals are not even moving in the right directions, such as climate change and biodiversity loss (UN, 2019). In addition, recent crises events such as the Covid-19 pandemic have underlined the vulnerabilities of our globally interconnected social...
and economic systems, and concerns have been expressed that Covid-19 has not only challenged global health systems but has hit the poorest and most vulnerable communities the hardest. The authors of the latest Global Sustainable Development Report point out that all countries are distant, to varying degrees, from balancing human well-being with a healthy environment (UN, 2019).

The complexity in addressing these social and environmental challenges have been highlighted in recent studies of the SDGs that show that they are conflicting, interlinked with trade-offs and synergies, and sometimes contradictory (Bali Swain, 2018; Bali Swain & Ranganathan, 2020; Ranganathan & Bali Swain, 2018; Spaiser, Ranganathan, Bali Swain, & Sumpter, 2016; UNSD, 2020). This implies that a number of environmental, social, and economic interrelationships have to be addressed and suggestions of transformative changes and innovations need to be understood in the context of impact on multiple systems and levels of consumption and production. Technological innovations might not only change production methods but can alter ways of consumption that can be both positive and negative for the well-being of people and the planet.

Ten years ago, policy voices in the EU made statements on the urgency of a collective decision and system-wide sustainability transformation (Federigo & Hontelez, 2010). They identified the challenges of moving from a consumption society and a growth paradigm, and saw it as necessary to challenge current economic thinking: “sustainable production needs to identify priority areas and objectives, beyond climate change and energy. Sustainable consumption also needs to be a priority area for development” (ibid.: 11).

Studies in various academic disciplines relating to sustainable consumption and production have over the years gathered data and assessed the factors responsible for the environmental and social costs generated by a worldwide growing consumer society. The tension between the ability and freedom to consume and a resilient and sustainable Earth system that can provide has visibly increased. Pathways have been suggested in policy, research, and practice to realize change towards more sustainable systems of consumption and production, and a number of international treaties and agreements, such as the Paris Agreement on Climate Change and the Sustainable Development Goals, have been realized in the last decade. However, the complexities, interrelatedness of issues, and the necessary
processes and collective efforts to achieve systemic societal change globally, that can truly move us to adopt more sustainable consumption and production systems, remains to be seen.

This volume will capture and address some of the challenges towards the development of sustainable consumption and production. First, we provide an introduction to the field and discuss some of the findings in earlier research on sustainable consumption and production and, second, we introduce the content and themes of the chapters in this volume.

**Sustainable Consumption and Production**

Sustainable Consumption and Production (SCP) has been an important topic of policy and research agendas since early 2000. For example, the EU-funded research agenda SCORE! (Sustainable Consumption Research Exchanges), was set up in 2005 as a four-year network project to act as one of the EU’s central support structures for the UN’s 10 Year Framework of Programs for Sustainable Consumption and Production. The UN’s SCP framework was established after the 2002 World Summit on Sustainable Development in Johannesburg and was adopted at the United Nations Conference on Sustainable Development in 2012. SCORE! had a series of workshops and conferences to identify and analyse the state of the art in SCP research, and published a book series to promote cases of change in the areas of mobility, food, and energy use (Tukker, Charter, Vezzoli, Sto, & Munch Andersen, 2008). They identified that the challenge to move towards SCP could be vastly different depending on the type of economy a country or part of a country were a part of. Building on the classification made by Hart and Millstein (1999) on consumer economies, emerging economies, and base-of-the-pyramid economies, they argue that all are facing sustainability challenges but that the goal and type of SCP change as well as type of governance needed will differ tremendously (Tukker et al., 2008: 6). In addition, they highlight the importance of understanding the specific context and the socio-technical system including necessary expertise from several sectors while attempting to changing sustainable consumption and production patterns (ibid.).

SCP has also been the focus of several special issues in academic journals such as the Journal of Industrial Ecology (2005, 2010, 2017) and Journal of Cleaner Production (2008). As will be discussed by Srivastava in Chapter 2 in this volume, the concept is elusive and not
clearly defined, which makes it difficult to identify policy measures that can promote certain outcomes. In particular, connections between environmental sustainability and development pose a specific challenge that mirrors the argument made by Tukker et al. (2008). In a recent literature review, comparing developing and developed economies with regard to sustainable consumption and production, Wang, Ghedimi, Lim, and Tseng (2019) find that the focus of the SCP practices varies depending on the level of development. Not surprisingly, economic development is found to be the priority and focus in many of the developing countries although many bottom-up approaches such as corporate initiatives to clean production in the supply chain can be observed (Corral, 2003; Mungkung et al., 2012; Wang et al., 2019). The developing economies are challenged by the tradeoff on the one hand, between promoting production to gain economic development that in the long run can support the consumption needs of their population, and on the other, to implement policies to protect the environment from the impact of a rapid industrial expansion. These priorities have been referred to as a backward attitude tending to “grow first, clean up later” (Rock & Angel, 2007: 10).

In developed economies both bottom-up approaches integrated in business activities, and top-down governmental policies are implemented and enforced. Based on Wang et al.’s review (2019), Western European countries are identified as having the most active SCP approaches, encompassing both industry and governmental approaches linking to both consumption and production.

Early approaches to sustainable consumption and production were focused on the intention to limit the environmental burden from production (Moors, Mulder, & Vergragt, 2005), and research on consumption was mainly focused on consumer behaviour, and more specifically on the so-called consumer behaviour gap, that posits the gap between consumers’ intentions to buy green and their actual buying behaviour. Research has found that efforts to guide consumers into more sustainable consumption patterns have not been successful (Solér, 2012). In today’s consumer society with products relating to individual taste and identity, consumers have been found to strategically avoid information about environmental benefits in their purchase decisions (Dobers & Strannegård, 2005; Nordström & Thunström, 2015). Another stream of research on consumption focuses on mitigating negative consumption and waste patterns (Jonkute & Staniskis, 2016; Staniskis, 2012). Recent literature
on sustainable consumption covers a range of approaches and use of theoretical lenses. One stream emphasizes consumer policy measures as a way to move towards sustainable consumption patterns, for example nudging, (Sunstein & Reisch, 2019). Moreover, some sociological studies focus on the practices of consumption (Warde, 2005, 2017), and raise concerns if individual consumers are able to change to more sustainable behaviours, being trapped in unsustainable societal and market systems (Holt, 2012). A third approach is to address the concept of mindfulness for sustainable consumption. Fischer, Stanszus, Geiger, Grossman, and Schrader (2017) identify in their review the mechanisms of mindfulness that can potentially promote sustainable consumption: to disrupt routines, promote more congruence with regard to the attitude-behaviour gap, nurture non-materialistic values, enhance well-being, and foster pro-social behaviour. They argue that these mechanisms could partly be supported by research, but that the field still suffers from methodological challenges and shortcomings in existing empirical approaches, which are not clearly defined and operationalized (Fischer et al., 2017).

As mentioned, the dominant focus in the early literature, on the production and industrial side, on central themes such as pollution control, production efficiency, and green products have later been complemented with widening the attention to consumption and consumption patterns that underpin the resource-intensity of our economies. Several authors stress the importance of jointly considering production and consumption activities and systems. We will argue that the social systems and processes are as important to recognize and address as the technological ones, to achieve change towards sustainable consumption and production. In the context of reaching the Agenda 2030 goals, mitigating climate change, stopping the biodiversity decline and supporting processes of social and economic development, adopting sustainable consumption and production alone is not sufficient, but can support wider societal and cultural changes.

In an attempt to find a more holistic theoretical approach to sustainable consumption and production, Geels, McMeekin, Mylan, and Southerton (2015) review different schools of thought in the field. They argue that the SCP research suffers from two related problems that hinder theoretical progress. First, the SCP term is acting as an umbrella concept for a wide and heterogeneous set of concepts and approaches and, second, the SCP debates are dominated by two intellectual positions they call “reformist” and “revolutionary”. The reformist position proposes changes within
current market systems and structures, while the revolutionary condemns
the market-based and consumer society model and proposes downsizing
and moving towards alternative lifestyles such as well-being (Geels et al.,
2015). Geels et al. argue that the reformist position is limited in its
potential to foster environmental sustainability with its focus on tech-
nological and consumer behaviour change, and slow with respect to the
urgency demanded by problems such as climate change. The authors also
deem the revolutionary position politically unpalatable (ibid.). Instead,
they suggest a third position called “the reconfiguration position” that
argues that system failure is the core problem, and the focus instead
should be on transitions towards new systems. The reconfiguration will
conceptualize consumption and production as “mutually constitutive and
overlapping domains arising from alignments between multiple elements
(infrastructures, technical artefacts, modes of production and provision,
policies, cultural meanings, consumer practices)” (Geels et al., 2015: 8).
The authors argue that changes of systems such as transport, energy, and
food, will have greater sustainability potential compared to changes in
technologies or behaviour, and will constitute more socially and politically
feasible attempts to change deep societal structures.

Another approach to address the complexities of sustainable consump-
tion and production is the Ecology of Business Models Experimentation
map (Bocken, Boons, & Baldassarre, 2019). The model aims at identi-
fying potential redesign paths towards sustainable business model inno-
vations by including the wider system, identifying unsustainable business
models and ways of lessening the dependencies on them, as well as finding
supporting infrastructures towards sustainable consumption and produc-
tion systems. The circular economy approach is emerging as an influential
paradigm in sustainable consumption and production research and prac-
tice. It is an approach to reduce material and resource use, prolong life
and product reuse, repair, refurbish, or remanufacture and, at the end of
a product’s life, recycle the material and put it into productive use again.
For an in-depth discussion on circular economy, refer to our introductory
chapter in volume II of this edited series (Bali Swain & Sweet, 2021).
Sustainable Consumption and Production: Challenges and Development

In this volume, several authors have taken a wider perspective while studying sustainable consumption and production, and recognized the different contexts in which the research is done when addressing specific environmental or societal problems. Without saying as much, we agree that working with a specific theoretical lens will help frame and analyse the appropriate analytical level. But seeing the study in a larger context without losing sight of its focus will help future inroads into changing SCP. It will enable an understanding of what broader issue-linkages can be influencing the processes and outcomes of efforts, to find answers to challenges such as creating food security, access to clean energy, or controlling the spread of viral disease.

We hope that this volume will contribute to new insights and stimulate further thinking on Sustainable Consumption and Production research. Our contributors come from many countries and the research spans multiple continents. We intend to move the SCP field of research forward by including and addressing several social issues in addition to environmental problems that have dominated the field of SCP, as well as include many regions that have not found a place in most SCP research and studies.

In Chapter 2, Srivastava deliberates on the meaning of the concept of sustainable consumption and production. She argues that SCP reconciles the goal of environmental protection with that of development and condenses it into the “norm” of sustainable development. The chapter investigates SCP’s definitional complexity, measurability, targets and indicators, and the gap between intent and outcomes. It further suggests that the ethical and moral motivations can bring about behavioural changes towards responsible consumption and production practices. This involves highlighting ethics of sustainability in addition to employing the harm principle which addresses both the concerns of environment and development, and contributes to building pathways for achieving SCP.

Blomskog and Hjelmblom (Chapter 3) continue with the conceptual analysis of Sustainability Index. Analysing the concept of OECD-based household sustainable consumption index, they conclude that the index mistakenly treats the concept “sustainable consumption” as a descriptive concept. This results in treating the construction of this sustainability index as a statistical and empirical problem. Blomskog and Hjelmblom
argue that sustainable consumption is thus an *intermediate concept*, that is, the construction of a sustainable consumption index should be regarded as a normative multi-attribute decision process. The analysis benefits policymakers and other stakeholders, contributing to a deeper understanding of sustainability as a concept and avoiding the risk of low validity of its measurement.

Macro-level frameworks like planetary boundaries and Sustainable Development Index (SDI), can help governments identify areas where strategic action is needed. In Chapter 4, Hall and Ranganathan argue that there is a need for new approaches at the micro level that incentivize actors to transition to sustainable forms of development. This necessitates addressing sustainable consumption and production, and inequality. They suggest an approach that closes the gap between the *environmental-production-income* and *distribution-consumption* cycles by coupling environmental sustainability with economic and social sustainability. Their approach to inclusive capitalism bridges the income earned from capital ownership and from wages; and between the human production of goods and services, and the impact of these activities on the environment. Hall and Ranganathan analyse different mechanisms to bridge these divides and suggest broadening the distribution of capital ownership using future earnings of capital and directing this income towards sustainable consumption and production. They argue that this is a holistic solution to the growing environmental problems and income inequality.

In market economies production and consumption are dependent on exchanges between market actors providing and using resources. Junker and Mattsson (Chapter 5) argue for the “whole-of-government” perspective, that interaction between market actors and policy actors are crucial to achieve sustainable development goals and climate mitigation. Technical, economic, and policy innovations are needed for the market to be able to perform fossil-free market exchanges. They use “roadmaps” originating from a non-traditional Swedish government committee named “Fossil-free Sweden” (FFS) and the government’s climate action plan as empirical focus. The roadmaps for specific industries/sectors are developed by market actors and submitted by FFS to the government. With the aim of furthering the knowledge of how interaction between government and business promotes sustainable market exchange, they adopt a conceptual model that identifies three categories of market practices—representational, normalizing, and exchange practices—that are interlinked by
translation. Junker and Mattsson’s policy practice approach refers to a “whole-of-government” perspective. They analyse one of the roadmaps, “Construction”, in terms of how policy innovations, as identified in the climate action plan, can promote technical and economic innovations and help in the development of fossil-free market exchanges.

Making a transition to a sustainable production system involves what Joseph Schumpeter termed creative destruction. Clean technologies need to develop to the stage where they may dislodge fossil fuels and other unsustainable industries. Several of the energy technologies to create a low-carbon economy exist but require significant innovation to overcome intermittency and to reduce material intensity. At the same time, in industrial processes such as steel, aluminium, cement, etc., sustainable production processes are still in their infancy. In Chapter 6, Jerneck reflects on how this transformation to a sustainable production economy may be achieved. The process involves the “creative destruction” of fossil fuels and other unsustainable industries, as alternatives are brought to the point of competitiveness. Jerneck argues that this involves several processes from innovation, finance and knowledge of organizations, supply chains, and markets. This chapter suggests that above all it is a political project, involving political economy, industrial policy, and macroeconomic management; with social policy to ease the transition from sunset to sunrise industries. Although the task is unprecedented, there are lessons to be learnt from previous episodes of politically driven economic structural change, making an understanding of economic history relevant as well. In short, the creative destruction of fossil fuels is an interdisciplinary project with many opportunities for interdisciplinary research and cooperation among social scientists, policymakers, and practitioners.

The financial system has a critical role in promoting sustainable consumption and production. Sandberg and Sjöström (Chapter 7) focus on sustainable investment—that seeks to integrate sustainable development interest and various aspects of the SDGs into its financial decision-making. They examine financial versus moral motivations—of the key actors in this field—to explore the motivations of sustainability-oriented investors for directing capital towards sustainable consumption and production practices. In public communication, sustainable investment is often framed in financial terms, that is, that a focus on sustainability is a way to generate long-term shareholder value; however, some
investors may be motivated by “doing good” to contribute to a sustainable future. These two rationales build on different logics and may produce different strategies on the part of investors, leading to different outcomes. Sandberg and Sjöström argue that the financial logic has a theoretical or mind-to-world direction of fit, and it requires investors to adopt a reactive and hypothetical stance towards sustainability issues. The moral logic, on the other hand, has a practical or world-to-mind direction of fit, and it requires investors to adopt a proactive and categorical stance to sustainability issues. This chapter reflects on what this might entail for sustainable consumption and production.

Citizens and policymakers are increasingly depending on demand-side policies, both behavioural and conventional, to help mitigate climate change. In Chapter 8, Sunstein and Reisch argue that choice architecture may be used as a new policy to reduce greenhouse gas emissions and may supplement or complement the standard tools of economic incentives, mandates, and bans. Several consumers choose the less expensive option between the climate-friendly products or services and alternatives. Sunstein and Reisch suggest that climate-friendly default rules may be applied as an effective tool for altering outcomes instead of large economic incentives. The underlying motivation for doing this includes the power of suggestion, inertia and procrastination, and loss aversion. If chosen well, climate-friendly defaults are likely to have large effects in reducing the economic and environmental harms associated with various products and activities. They further suggest that in deciding whether to establish climate-friendly defaults, choice architects (subject to legal constraints) should consider both consumer welfare and a wide range of other costs and benefits. Sometimes that assessment will argue strongly in favour of climate-friendly defaults, particularly when both economic and environmental considerations point in their direction. The chapter concludes that surveys in 17 countries worldwide show that a majority in many nations are in favour of climate-friendly defaults.

Sustainable consumption and production are often associated with systems and products surrounding firms and industries, often neglecting the sustainability mindsets. Egorova and Luistro Jonsson (Chapter 9) focus on the production and consumption of sustainability literacy, particularly in business education. Recent trends have shown that business schools across the globe are transforming their strategy by widening their societal engagement and integrating sustainability into their curriculum. This chapter analyses the potential and pitfalls of the production and
consumption of sustainability courses by reviewing existing literature and analysing four specific approaches undertaken by business schools—an elective course, an integrated course, a degree programme, and leading sustainability transformation by example. Egorova and Luistro Jonsson provide useful insights into the design and development of sustainability literacy in business schools.

In Chapter 10, Stromberg and Ituarte-Lima address two research questions: (1) Does top-down transparency/information disclosure contribute or not to addressing the social-ecological challenges emerging from supply chains? (2) Do distinct types of transparency, top-down versus ground-up, differ in the way they can contribute to address these challenges and thereby to the enjoyment of the right to a healthy environment? To assess these questions, they use the mining industry as a case study, which faces increasing social-ecological challenges. First, they build on Ituarte-Lima and Stromberg (2018), identifying the sustainability challenges of the sector. The chapter then unpacks information: from the common focus on accuracy and precision, which they argue is necessary but insufficient for reaching positive socio-ecological outcomes, into seven sub-characteristics that they argue are sufficient for contributing to what qualifies as effective transparency. Thereafter, Stromberg and Ituarte-Lima apply these characteristics to contrast how current top-down approaches versus emerging ground-up approaches contribute to effective transparency. This highlights ways in which recent technological advances make ground-up approaches necessary for delivering effective transparency that is conducive to circular and, above all, sustainable commodity chains.

In 2017, about 15.8 million hectares of tropical tree cover loss was recorded due to deforestation. Tropical deforestation has numerous socio-ecological and economic consequences, releasing more greenhouse gas emissions, in carbon dioxide equivalents, than the entire European Union. Understanding how the global commodity system connects production and consumption across distance is essential to explaining and countering the drivers of uneven global environmental change and its societal effects. New forms of information exchange have made it simpler to identify “telecouplings” between these distant producer and consumer systems. In Chapter 11, Delabre, Nolan, Jespersen, Gallemore, and Alexander examine the complexities of implementing private-sector-led “zero-deforestation” commitments, which promise to eliminate deforestation from the supply chains of the commodities that companies
produce, trade, and/or source. Employing the concept of “disarticulations”, Delabre et al. bring an analysis of global production networks into conversation with critical political economy’s emphasis on discourse and knowledge production. They discuss dominant, mainstream discourses prevalent in zero-deforestation governance, including notions that: (1) Implementing zero deforestation is highly technical and thus requires the expertise of consultants and third parties; (2) All supply chain actors have responsibility for zero deforestation; (3) The need for data and technologies for governing deforestation; (4) Jurisdictional approaches provide joined-up governance for zero deforestation. Examining these discourses helps us to understand some of the complexities in the implementation of “zero-deforestation” commitments, how socio-economic processes in global production are linked or delinked, and how people can be connected to or excluded from these chains. Finally, they reflect on opportunities for research and practice in shifting towards sustainable consumption and production of deforestation-risk commodities, and the importance of considering how power relations and knowledge politics shape production networks.

Nsabimana and Umutesi (Chapter 12) examine issues related to increasing farm productivity to ensure food security and reduction in hunger to achieve the SDGs. They argue that a systematic use of agricultural innovations like fertilizers, hybrid seeds, and pesticides together with new technology is the best way to raise farm productivity. This chapter employs an empirical cross-country analysis to investigate the associations between the adoption of agricultural innovations and child nutrition in rural Uganda. Nsabimana and Umutesi find that the reduction in child malnutrition is strongly associated with combined innovations rather than single-use technology. They argue that efforts aimed at reducing child malnutrition and ensuring sustainable food security should focus on adoption of agricultural innovations by farm households through affordable, accessible inputs markets and adequate extension services.

The world’s population is expected to rise to 9.8 billion by 2050 with two-thirds of the people living in urban areas. This population growth is expected to be largely concentrated in Africa and Asia. The urbanization in emerging market economies poses a challenge for agricultural production. At the same time, agricultural productivity is unable to keep up with the speed of urbanization and growth in food demand. This demand for food is highly skewed towards non-human consumption and
wastage. In Chapter 13, Jha reviews the trends in urbanization and agricultural productivity to conclude that the world may be facing a somewhat neo-Malthusian future. Jha suggests that public policy should subsidize agricultural research. Taxation is suggested to reduce the demand for certain types of food (particularly meat) and use of agricultural crops for biofuels. Implications for international trade and domestic agricultural policies are also considered. The chapter further discusses other institutional and demographic measures to reduce food wastage, arguing that for sustainable food security, measures on both the supply and the demand side, need to be urgently undertaken.

Modern cities have been conceived to be inherently unsustainable. While the agglomeration economies due to effective use of land, better opportunities for the provision of public transport, and a lower per capita investment in physical infrastructure are economical on natural resources, urban areas have higher levels of per capita consumption. High density often results in higher costs of space, consequently encouraging high productivity activities in major cities. Education and income differences result in spatial sorting, with corresponding differences in consumption patterns. In Chapter 14, Lerpold, Sjöberg, and Tang suggest that size, density, and the position in the urban hierarchy may need to be taken into account in assessing sustainability outcomes. This intra-urban differentiation needs to be considered with the inter-urban issues of boundary drawing for measurement. Lerpold, Sjöberg, and Tang refer to this as “ontological cityism”.

Lerpold, Sjöberg, and Tang (Chapter 15) review the literature on urban sustainability emphasizing the complexities and trade-offs between and within the 3 Es—ecology, economy, and equality. They focus on the intra-urban dimensions of density, mobility, the built environment and housing, lifestyle trends and gentrification along with social sustainability issues of crime, homelessness, and community. In addition to the gains from increased size and density, outcomes also depend on the urban morphology and the consequences of spatial sorting. Lerpold et al. discuss that positive outcomes generated by density and efficiency may be offset by rebound effects, like less sustainable construction materials or increased income inequality. Thus, sustainability gains often become an empirical issue. Furthermore, social sustainability is as critical as environmental sustainability, and a trade-off between these two types of sustainability may be difficult to resolve.
Energy is central to any economic activity and also to the goals of sustainable growth and development. Its efficient production and use are key to the green growth agenda and in achieving most of the SDGs. For African countries to move from being consumer-based economies to investment-driven economies, infrastructure in the form of energy would be very essential. In Chapter 16, Karimu and Dramani investigate the energy consumption patterns in Africa, particularly in the area of biomass fuels and fuel use in the transportation sector. They find that fuelwood is the most consumed cooking fuel in Africa, especially Sub-Saharan Africa (SSA), where more than 80 per cent depend on this fuel for cooking, revealing an unsustainable consumption pattern. Evidence on transportation suggests that Africa is still a major consumer of fossil fuel even though motorization rates in Africa are below the world average. This may be caused by factors that include poor infrastructure such as limited paved roads (this creates traffic congestion), poor maintenance and servicing culture, and high dependence on used cars.

India has made commitments at the global level towards supporting Sustainable Development Goals and is making considerable progress towards achieving them. Energy consumption in India grew at an average rate of 5.3 per cent between 2013 and 2017. India’s share in the global energy consumption reached 5.6 per cent in 2017. With economic growth, energy consumption is also expected to rise. This has severe consequences for air quality. Vehicular emissions and industrial pollution have resulted in a situation where nine out of the 10 most polluted cities in the world are in India. The Government of India has undertaken various policy measures towards energy conservation and efficient use of energy. Some of the policy measures target industries, while others aim at sustainable consumption via demand-side policies. In Chapter 17, Bansal, Grover, and Martinez-Cruz document and assess policy measures adopted by the Government of India towards sustainable consumption, with a special focus on policies towards energy efficiency. Energy consumption labels inform consumers of the relative efficiency of different products, and are going to be effective if consumers are willing to pay a higher price for the energy efficient products once information is provided. Bansal et al. conduct an experiment in two districts of Delhi, with different socio-economic characteristics such as affluence, education, occupational structure, etc. They find that respondents from the more affluent South Delhi district have a stronger preference for an energy efficient labelled
car and on average, are willing to pay US $ 5050 as compared to US $ 1186 by East Delhi respondents for the same car.

The Covid crisis has underlined the importance of the traditionally ignored and undervalued: nature and care, and household production. Simultaneously, an emerging crisis of care and social reproduction continues to accompany economic growth throughout the world, with the potential to reverse the sustainable development gains. Demographic changes imply that an increasing number of children and elderly need care, which women disproportionately provide. At the same time female labour force participation has increased rapidly since the 1960s with expansion of trade, capital flows, and economic restructuring. Women have thus ended up with the triple responsibility of being income earners, household managers, and care givers. In Chapter 18, Reksten and Floro introduce a comparative assessment of neoclassical, ecological, and feminist economics of consumption and production from the perspectives of sustainability, their conceptions of well-being, and their treatments of institutions and questions of political economy. The chapter seeks to integrate the ecological model of the economy, which explicitly considers the relationship between the economic and environmental systems, and the feminist analysis of the relationship between social provisioning and the economic system. The resulting framework builds on the work of feminist ecological economics.

An underexplored research area connected to women’s health and well-being and the environment is the issue of managing menstrual waste. Disposable pads generate an estimated global waste of around 480 billion soiled pads annually. Most of these used pads end up either in landfills or in the oceans where the plastic and other non-compostable material in these products take hundreds of years to decompose. Garikipati (Chapter 19) explores how markets for menstrual products have evolved and their implications for sustainability of menstrual hygiene management. Garikipati finds that a tangled web of traditional taboos, markets, and government policies have merged to create and endorse asymmetric information in menstrual health that has promoted the single product category of disposable pads. Deep-rooted beliefs and behavioural practices of menstruating women have adverse implications for environmental ecosystems, while seriously limiting women’s agency in the choice of menstrual products as awareness of alternatives is negligible. The chapter argues that “informed choice” has the potential to steer the menstrual health market in a more sustainable direction.
Climate change is often presented as a super wicked problem with the four characteristics: "time is running out; those seeking to end the problem are also causing it; lack of central authority; and policies discount the future irrationality". In a thought-provoking Chapter (20), Fleet, Gunster, and Paterson draw attention to the most salient aspect of such a dilemma: we’re all part of the problem but in ways that often render suspect the claim that individual lifestyle actions are the solution. In the context of the need for urgent climate change action, this chapter poses accusations and admissions of hypocrisy as a type of super wicked provocation, equally displaced over time and space, necessitating ongoing self and institutional re-examination without offering clear or salient choices for sustainable consumption, but nevertheless inviting important conversations. Drawing on existing quantitative and qualitative research showing that the hypocrisy discourse is not simply a sensationalist PR strategy of conservatives but is rather a broad, significant, and multifaceted form of climate change discourse, the authors engage with the varied modes of language hypocrisy in contemporary English language legacy media. Fleet et al. offer both practical and theoretical tools to consider if, and how, hypocrisy can act as fertile ground for pro-climate action.

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