

Contents lists available at [ScienceDirect](https://www.sciencedirect.com)

Resources, Conservation & Recycling

journal homepage: www.elsevier.com/locate/resconrec

The Political Economy of (Un)Sustainable Production and Consumption: A Multidisciplinary Synthesis for Research and Action

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ARTICLE INFO

Keywords:

Power
Political economy
Global inequality
Environmental justice
Environmental governance
Sustainable consumption and production

ABSTRACT

Despite widespread recognition of the need to transition toward more sustainable production and consumption and numerous initiatives to that end, global resource extraction and corresponding socio-ecological degradation continue to grow. Understanding the causes of this persistent failure is a necessary step towards more effective action. This article contributes to that understanding by synthesizing theory and evidence that links unsustainable production-consumption systems to power and inequality. While sustainable consumption and production research and action mostly focuses on technological or behavioral change, the socio-ecological inequalities driving production-consumption systems built into the organization of our global political economy, remain largely overlooked. In response, we propose a structural political economy orientation that seeks explicitly to reduce these inequalities and advance environmental justice and, thus, create the conditions for sustainable production-consumption systems. We then propose three important arenas of research and action towards sustainable production-consumption systems: justice, governance, and co-production of knowledge and action. These arenas, collectively and individually, can serve as entry points to study and act on the dynamics of (un)sustainable production-consumption systems. This can be done at the micro level, with respect to specific commodity chains or systems of provisioning, or at meso and macro levels with respect to national and global production networks. Our proposed orientation helps distinguish research and practice proposals into those emphasizing management and compensation resulting often in persistence of unsustainability, from those proffering structural changes in unsustainable production-consumption systems. We invite critique and collaboration to develop this research and action agenda further.

1. Introduction

The persistence of unsustainable levels and patterns of production

and consumption, despite decades of environmentalism and the proliferation of initiatives and policies to address the issue, is well recognized (Byrne and Yun 1999; Lebel and Lorek 2008; Urry 2010; O'Rourke and

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<https://doi.org/10.1016/j.resconrec.2020.105265>

Received 18 June 2020; Received in revised form 3 November 2020; Accepted 3 November 2020

0921-3449/© 2020 Published by Elsevier B.V.

Lollo 2015). Scholars in various fields have observed that, even as the energy and material intensity of production and consumption have improved, the global extraction and consumption of resources, and the associated ecosystem degradation, continue to increase (Wiedmann et al. 2013; Schandl et al. 2018; IPBES 2019).

In response to this observation, the authors of this paper brought together their expertise from their various disciplines on Systems of Sustainable Consumption and Production (SSCP).¹ Drawing on the multi-disciplinary evidence we synthesize in this paper, we argue that research on SSCP needs to take structural change more seriously to address the roots of inequality and injustice in the global political economy, through appropriate governance and action. This orientation is needed in order to make strategies based on technological efficiency and personal or organizational behavioral change more effective. In this paper we outline such an orientation: a political economy research and action agenda that addresses power and justice explicitly (Menton et al. 2020; Fuchs et al. 2019; Fuchs et al. 2016; Sachs 1999) and recognizes the importance of co-produced knowledge and action to shift production-consumption systems² towards sustainability. We suggest that attention to power, justice, and co-produced knowledge and action can help bridge efficiency-oriented approaches like circular economy and strong sustainability frames like degrowth, as discussed in this journal by Schröder et al. (2019).

In Sections 2, 3 and 4 of this paper, respectively, we describe our method, identify major problems associated with today's dominant research and action on production-consumption systems, and demonstrate the need and rationale for a political economy orientation. This is followed in Section 5 by three arenas of research and practice that, we argue, require more attention if we are to understand and overcome the dynamics driving the (un)sustainability of production-consumption systems: justice; governance; and co-produced knowledge and action. We argue that analysts and practitioners must reflect on whether their work is limited to mitigating the adverse impacts of unsustainable production and consumption by focusing on the management of the crises that emerge from such systems, or if their work contributes to truly transformative solutions, able to deliver systems for sustainability (e.g., Hopwood et al. 2005; Stevis and Felli 2016; Just Transition Research Collaborative 2018).

2. Method

This section presents the process of inquiry for meeting the two objectives of this paper, viz. a) delineating a political economy perspective on the root causes of unsustainable production-consumption systems and why they persist, and b) proposing a research and action agenda in response. To fulfill the first objective, a multi-disciplinary synthesis outlining the persistence of unsustainable levels and patterns of production and consumption is developed. A distillation of this literature and citations are presented in Section 3. The second objective requires interpreting the dynamics that drive this persistent problem, and

developing a research and action agenda that addresses those dynamics. This agenda is elaborated in Sections 4 and 5. The paper does not intend to present a comprehensive “final word” on these issues but to offer a rigorous articulation of a structural political economy perspective that we hope can invite constructive critique and collaboration from the readers of this journal.

This paper's contribution is to synthesize theory and evidence from multiple disciplines and perspectives through a narrative literature review (Sovacool et al. 2018). This method is well-suited to our goal of deriving qualitative insights. The political economy of production-consumption systems in the context of sustainability is a relatively novel and diverse research area with few quantitative studies, which makes quantitative meta-analysis or narrower systematic reviews of the literature less than ideal.

With training and expertise rooted in several disciplines – chemistry, political science, international environmental politics, environmental theory, environmental governance, international political economy/ecology, engineering, anthropology, sustainable consumption studies, consumer economics, environmental systems analysis, energy and environmental policy, and science, technology and society studies – the authors began by scoping out research from disciplines that pertained to production-consumption systems. During this phase, both decades-old and the most recent theoretical insights offered by Ecological Economics were read side-by-side with recent empirical work from Industrial Ecology based on Material Flow Analysis to study global energy and material flows. The second major body was the Earth System Science literature that identifies and quantifies resilience thresholds and “planetary boundaries” for critical earth systems. The third body was the literature on Sustainable Consumption and Production including both cultural and economic perspectives. The fourth body of literature was from Environmental Sociology and Anthropology focused on the limited ability of Ecological Modernization theory and practice to mitigate environmental degradation. The fifth body of literature reviewed was on international environmental governance and political economy, with particular attention to historical global dynamics. The final body comprised the Ecological Justice literature which demonstrates deep inequalities along axes of class, caste, race and nationality in the probability of being subjected to ecological degradation and its negative consequences.

This scoping of the literature yielded three central insights. First, the material footprint of the macro economy continues to grow and with it the degradation of the earth system, which has now surpassed multiple ecological thresholds. Second, observed rates of energy and material decoupling from economic growth (i.e. efficiency gains at the level of unit processes, products or individual companies), through innovation, investment, green technologies and behavior change, appear not to have broken this trend, in aggregate. Third, the impacts of these processes of ecological degradation are experienced in highly disparate ways mediated by class, caste, race and nationality.

Against this background, the second objective of this paper is to ask why overall growth of production-consumption systems (and consequently their energy and material throughput and associated socio-ecological degradation) persists, and to outline a research and action agenda to address this persistence. In response, our orientation draws from a somewhat marginal tradition in SSCP research emphasizing the role of power and inequality as drivers of unsustainable production-consumption systems. Building on the “politics of productivity” (Maier 1977) from the International Relations literature and the “treadmill of production” (Schnaiberg 1980) from Environmental Sociology, we foreground the position of production in the production-consumption dynamic as the locus of power. This highly skewed accrual of power is engendered by, and is generative of, inequality and, thus, injustice that weakens (or preempts) effective social interrogation of the scope and scale of production-consumptions systems. Consider, for example, trade and investment policies without adequate (or with watered down) socio-ecological safeguards and the

¹ This work was carried out within the Political Economy Working Group of the Future Earth Knowledge-Action-Network on Systems for Sustainable Consumption and Production (KAN SSCP).

² We use the phrase “production-consumption systems” extensively in this paper to identify the focus of the agenda proposed here. This phrase, as opposed to “consumption and production systems,” might appear to some readers as being at odds with the wider political narrative post-Rio+20, when Systems of Sustainable Consumption and Production (SSCP) was inaugurated. Our choice however is a conscious one. Our main intent for this different ordering is to propose the precedence of production in this political economy orientation to SSCP. By doing so we seek to rebalance the post-Rio+20 narrative away from individualism and an excessive emphasis on consumer choice that is common now in sustainability policy discourse and research alike. We hope the paper, when considered in its entirety while keeping this intention in mind, will help the reader critically consider our choice.

deepening financialization that drives them (see [Box 1](#)).

The critical task for developing a research and action agenda is therefore to analyze how such inequalities are produced and reproduced, and, in turn, drive growth in throughput. The centrality of power, inequality and injustice in these production-consumption systems necessitates a structural political economy orientation that is detailed in [Section 4](#). Greater resolution to this orientation is provided by focusing on three key arenas in [Section 5](#): justice, governance and co-produced knowledge and action.

3. Persistent, Structural Problems: Ecological Degradation and Socio-ecological Injustice

Contemporary production-consumption systems have already breached planetary boundaries ([Rockström et al. 2009](#); [Rockström 2015](#)). Of the seven boundaries that have been quantified for earth system processes, four, viz. biosphere integrity, climate change, biogeochemical flow (nitrogen cycle and phosphorus cycle) and land system change, now exceed suggested planetary boundary values ([Hoekstra and Wiedmann 2014](#); [Steffen et al. 2015](#)). Despite technological innovations and efficiency improvements (e.g. [Hoffmann 2016](#)), as well as campaigns encouraging sustainable behaviors on a number of scales (e.g. [European Commission 2012, 2008](#)), the throughput of energy and resources continues to grow at the global level (e.g. [Chitnis et al. 2013](#); [Global Footprint Network 2019](#); also see, [Alfredsson et al. 2018](#); [United Nations Environment Programme 2019](#)). Tellingly, recent research published in this journal identifies the need to situate the circular economy approach within the framework of planetary boundaries and to develop institutional and political arrangements conducive to realizing this objective ([Desing et al. 2020](#)).

A wide range of factors, including access to resources and the socio-cultural construction of demand, shape production-consumption systems ([Baudrillard 1970, 1981](#); [Bourdieu 1984](#)). Consumption is a highly social activity, embedded in the structures of social organization ([Douglas and Isherwood 1996](#); [Christoff and Eckersley 2013](#)). Production is driven by the financial system, the advertisement industry, a

Box 1

Pushing oil gas and plastics: An illustrative case

An investigation by The New York Times published on 30th August 2020, of the US petrochemicals industry's efforts to dilute restrictions on the use of plastic and export-import of plastic waste illustrates the dynamics of production-consumption systems that this research and action agenda seeks to address. Briefly, the facts of the case (see [Tabuchi et al. 2020](#)) involve the US petrochemicals industry strategizing to address the threat it faces from policies to address the climate change crisis. Rather than burn hydrocarbons, the industry is reported to have strategized that diverting more oil and gas to produce and sell more plastics and plastic waste in Africa, is the course forward. Successfully doing this will protect the vast financial investments of the petrochemicals industry; but it requires breaking down far-reaching regulations of plastics that have emerged world over. The petrochemical industry's lobbying efforts, it is reported, is targeting Kenya, and Africa more broadly, for this purpose. The three arenas of the structural political economy orientation we propose, can help research and act on this issue. The first arena focuses on the injustice embedded in this strategy is striking at two levels. The environment and health of Kenyans already suffers from extensive plastic pollution. The recently won regulations that are in place help address that. The industry seeks to dilute them. The global political economy places Kenya (now weakened further by the economic impacts of the pandemic) eager to conclude a trade agreement with a far more powerful US. The industry is lobbying to make the deregulation of plastics trade a precondition for any larger trade deal. The second arena of governance recognizes how (the drafting of an international trade agreement) is the venue of intense lobbying to insert requirements to lower that social justice and environmental standards regulating the use of plastics and international trade of plastic waste. Further, we see that this pressure is due to the falling returns from the fossil fuel business, on the vast financial investments made by the petrochemicals industry. The third arena of co-producing knowledge and action shows us that academics alone cannot produce the knowledge to ameliorate this potential rapid expansion of the plastics production-consumption system into Africa. Rather, it requires the co-production of knowledge and action to produce relevant facts and activate a politics to interrogate the political economy of the plastics production-consumption system.

spark from popular culture, political priorities given to economic expansion and new markets, and by large purchasers ([Gereffi 2014](#); [Vergragt 2017](#)). The dynamics of unsustainable production-consumption systems are, however, fundamentally shaped by capital and its logical imperative of competitive accumulation ([Meadway, 2016](#)) that continually reimagines and produces “Cheap Nature”, viz. cheap “food, labour-power, energy and raw materials” ([Moore 2015](#)). It is through historical examinations of this production of “cheap nature” that the global dynamics of ecological degradation and socio-ecological inequality and injustice become apparent ([Hornborg 2011](#); [Hornborg and Martinez-Alier, 2016](#); [Givens et al. 2019](#)).

Well before planetary boundaries of earth system processes were breached or their thresholds overrun by production-consumption dynamics, research shows that ecosystem degradation has severely undermined socio-ecological justice around the world ([Mohai et al. 2009](#); [Temper et al. 2015](#)). Ecosystem degradation very often proceeds first through the violation of values, access and use rights and ultimately the rights to freedom, life and dignity of many disempowered communities that are rendered incapable of interrogating these consequences of expanding production-consumption systems (see [Figure 2](#)). Examples are plentiful, ranging from ‘People versus the arctic oil litigation’ in Norway mobilizing, among others, indigenous groups or traditional communities, to the undermining of local value systems by payment for ecosystem services schemes (PES) in Mexico ([Doane 2014](#)) and the degradation of local institutions for forest management under externally imposed rules in Zimbabwe ([Campbell et al. 2001](#)) to the loss of livelihoods and increasing corruption due to mining conflicts in Patagonia ([Valiente 2017](#)). The *Global Atlas of Environmental Justice* reports about more than 3000 cases which – not always but remarkably often – list structural causes of the conflicts ([Proyecto EJAtlas 2020](#)). A particularly sobering documentation of such violations is the database maintained by Global Witness that records the murders of environmental defenders around the world ([Global Witness, 2020](#); also see [Watts and Vidal 2017](#); [Butt et al. 2019](#)).

This reading of the relationship between power, inequality, injustice and socio-ecological degradation has tended to be glossed over by Neomalthusians (e.g. [Ehrlich 1968](#); for critical overviews of the population debates see [Egan 2007](#); [Hultgren 2015](#)) who instead ascribe poor communities' experiences of ecological degradation to their ‘overpopulation.’ While aggregate population growth is indeed a multiplier with non-linear impacts on environmental degradation ([Harte 2007](#)), the linkages between poverty and environmental degradation are shown to be complex products of inequality, institutional arrangements, conflicts between and within groups and, crucially, environmental degradation that deepens poverty ([Duraiappah 1998](#); [Macekura 2015](#); [Weiß et al. 2018](#)). We argue that these injustices and inequalities are at the very root of unsustainable production-consumption systems. It is this deep inequality that weakens the interrogation of capital, allowing it to accelerate the treadmill of production and the lifecycle of products. It also enables the more powerful and affluent global citizens to over-consume without internalizing the associated social-ecological costs (degradation, pollution, loss of access to resources). These costs are, instead, imposed on the least powerful in society who are often unable to reject the burden (e.g. electronic wastes dumped in West Africa).

Understanding the role of power and power asymmetries and the resulting inequality and injustice is necessary precisely because commodification and appropriation of social-ecological systems and ecosystem services—the enablers of dominant production-consumption systems—are experienced unequally along axes of race, caste, class, gender, as well as nationality ([Nixon 2011](#); [Malm and Warlenius 2019](#); [Moore 2019](#)). This skewed allocation of costs constitutes what is described as unequal ecological exchange; and many argue this is a significant “ecological debt” owed by the industrialized nations and/or privileged groups within many countries to less industrialized countries and/or less privileged population segments ([Roberts and Parks 2009](#);

Hornborg and Martinez-Alier 2016).

The process of financialization is also a crucial mechanism in the production of such asymmetries. Financialization, Epstein (2015) clarifies, “refers to the increasing importance of financial markets, financial motives, financial institutions, and financial elites in the operation of the economy and its governing institutions, both at the national and international level.” It has further contributed to shifting power away from “human-in-nature relationships” (Sullivan 2013) of underprivileged groups by accelerating and expanding the commodification of society and nature in order to increase the productivity of production-consumption systems.

The financialization of nature and environmental services as a purported means for environmental conservation is but one illustration of this trend (Sullivan 2013). This trend has received critical scrutiny (e.g. Lohmann 2009; Keucheyan 2018). But there is a more basic arena of financialization that precedes this commodification of nature and society which needs more attention. This is the expansion of debt as money—“the virtual production of money from money” (quoted in Sullivan 2013)—and its contradiction with the biophysical basis of social-ecological systems.

Calculating both public and private debt, the International Monetary

Fund estimated global debt in 2016 at \$164 trillion, which is about 225% of global GDP. Within this, the top three borrowers are the US, China and Japan, accounting for more than half of the global debt. Remarkable as well are the growth rates of total debt since the beginning of this millennium. Within the period 2001 to 2016 they rose from US\$ 20 to 48 trillion in the United States, from US\$ 2 to 26 trillion in China, from US\$ 55 to 119 trillion in the (other) advanced economies and from US\$ 6 to 44 trillion in the (other) emerging market economies (Mbaye et al., 2018). This expansion of debt as money has long troubled those who recognized the energy and material basis of all economic production (e.g. Soddy 1921; Martinez-Alier 2013; Melgar-Melgar and Hall 2020).

While in the short-term some of this debt might be invested in speculation, ultimately, the creation of value (goods and services) is necessary; and that necessarily has an energy and materials basis. The rapid acceleration of debt as money, such as presently in the neoliberal phase of globalization, drives the acceleration of production-consumption systems and in turn energy and material throughput. Each dollar of debt, and the interest that it accrues, if it is to be paid back, is a “lien on future energy use” (Melgar-Melgar and Hall 2020). What emerges from this line of analysis is that our debt as capital driven

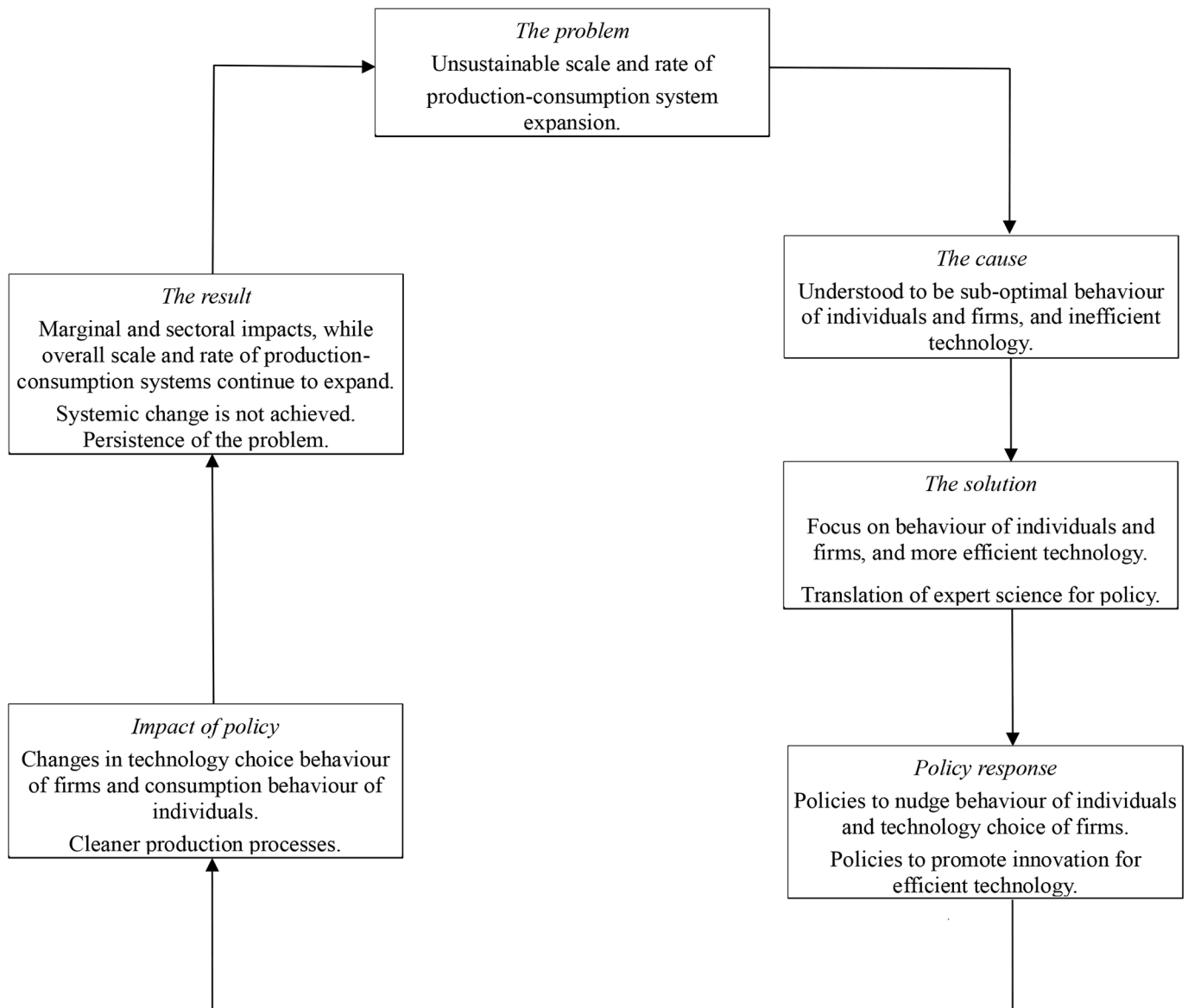


Figure 1. The apolitical economy orientation to unsustainable production-consumption systems

expansion of production-consumption is a fundamental contradiction in the era of planetary boundaries and persistent social-ecological injustice.

Mainstream schools of environmental research and policy (e.g. environmental and resource economics, ecological modernization, socio-technical transitions, and green growth; for discussions see [Fine 1995](#); [Tienhaara 2013](#); [Bengtsson et al. 2018](#)) offer technicized treatments of debt and materiality and are inattentive to the centrality of power, justice and contestations at the core of global political economy. Informed by these frames environmental problems elicit technical and managerial solutions that discount issues of power, justice and contestation (e.g. [Vatn and Bromley 1994](#); [Spangenberg and Settele 2010](#); [Lohmann 2016](#)). The most popular interventions for sustainable consumption, for example, focus on changing consumer behavior through education programs, labelling, economic incentives, and more subtle forms of ‘nudging’. While they can produce marginal improvements at the level of a firm, a product or a region, their ability to curb global resource extraction and corresponding socio-ecological degradation is limited ([Hobson 2002](#); [Isenhour 2010](#); [Dauvergne 2010](#); [Dauvergne, 2016](#); [Csutora 2012](#); [Kirchherr and Van Santen, 2019](#)). These projects overlook the drivers of production and the uneven distribution of opportunities to consume (see [Figure 1](#)). On the other hand, research on sustainable production has focused on design and technical innovation (e.g. [McDonough and Braungart 2002](#); [Ellen MacArthur Foundation 2013](#); [Stahel 2016](#)). This focus on technological innovation tends to obscure the exploitative social relationships inscribed in production-consumption systems that drive socio-ecological degradation ([Ewing 2017](#)). Recent work in this journal has sought to overcome such blindspots and complement circular economy research with a Human Development frame and invite transdisciplinary conversations that this paper also proposes (see [Schröder et al. 2020](#)).

Unsustainable production-consumption systems, and the environmental degradation and social and ecological inequality and injustice that they engender, must remain the objects of study while foregrounding power and contestation ([Fuchs et al. 2016](#)). The accumulated evidence points out that such research is imperative for informing effective actions, necessary to build truly sustainable production-consumption systems ([Lorek and Spangenberg 2014](#)). We therefore propose an agenda for research and action that pays attention to the processes and logics that alienate communities from the commons, commodify nature, institutionalize unequal terms of exchange, enable the externalization of costs and hide the structural sources of environmental degradation and injustice through a “politics of productivity” ([Maier 1977](#), also see [Schnaiberg 1980](#)) that sets up the administration of growth, at the expense of its impacts, as the central concern of policy. In the following section, we outline such a political economy orientation.

4. A Political Economy Orientation to Study Production-Consumption Systems

4.1. A political economy orientation

Political economy, i.e. the intersection of politics and economics broadly construed, is a widely used term. We therefore start this section by clarifying its meaning. There are a variety of political economy frameworks (for overviews see [Stilwell 2011](#); [Clark 2016](#)). What they share is a focus on both economics and politics, rather than treating them as unrelated social realms, as seen for example in neo-classical economics, which remains influential across policy domains. Neo-classical economics’ core assumption is that through the choices of free and rational individuals as buyers and sellers expressed in the market, an optimum valuation and social allocation of commodities is arrived at. Through this invisible hand of the market that pervades (or should pervade, the theory holds) all aspects of social life, conflicts and contradictions are transformed into cooperation and desirable social

change ([Stilwell 2019](#)).

There are two obvious problems here. Many things (certainly environmental values like clean air and fresh water that are essential for a fulfilling life) cannot be effectively commodified for the market ([Sen 1995](#)). And neither are individuals strictly rational buyers and sellers. Human behavior and choices are far too complex to model individuals as a rational-actors ([Sen 1977](#)). More importantly, beyond this complexity, human beings in society are necessarily embedded in social relationships and groups mediated by differences in identities, values and power that structure choices and actions. For example, as feminist structural political economy argues, patriarchy is not simply the gendered attitudes or actions of some individuals ([Bedford and Rai 2013](#); [Bauhardt and Harcourt 2018](#)). Instead, it is also baked into the ways (i.e. identities, values, power and relationships) in which the broader society is organized and operates. Similarly, recent responses to police violence in the USA, for instance, highlight the persistence of structural racism in order to point out that violence mediated by racial identity is built into the way police forces operate, rather than rogue individual officers.

4.2. A political economy orientation to studying production-consumption systems

As pointed out earlier and as captured in [Figure 1](#), a political economy orientation is often lacking in sustainable production-consumption research, which tends toward technological and behavioral interventions. However, even supposedly technical or market-oriented solutions stand on (often implicit) knowledge and normative claims, and are therefore permeated by and raise questions of power, justice and politics ([Laurent 2020](#)). For example, a ‘flexibility mechanism’ embedded in the Kyoto Protocol to trade carbon credits and the carbon markets created to do so, are generally seen as an apolitical, technical and economic policy tool to mitigate greenhouse gas emissions. Yet, the creation and operation of carbon markets is necessarily embedded in social relationships and groups mediated by differences in identities, values and power that structure choices and actions. As [Lohmann \(2009\)](#) points out, at a basic level, “the commodity [i.e. the biosphere’s capacity to regulate carbon] in which the biggest carbon markets trade owes its very existence to government fiat and regulation”. By definition this derives from a particular arrangement of values, power and social relationships. It has been recorded with a great deal of confidence by now that indigenous communities and those similarly disempowered bear the significant environmental injustices of carbon offsetting projects (e.g. [Finley-Brook, 2017](#)). Further, despite these significant concerns about justice, the effectiveness claim is belied by the fact that the ability of carbon trading to produce the radical mitigation in the concentration of carbon dioxide molecules in the atmosphere remains in doubt ([Pearse and Böhm, 2014](#)). In effect, what is essentially a subjective and contested move is claimed and asserted as an objective, value-free market mechanism to capture and allocate costs and benefits of the carbon economy efficiently, and by doing so, to mitigate climate change effectively. Based on this assertion, various carbon intensive aspects of production-consumption systems (e.g. power generation) are absolved of having their impacts on socio-ecological justice interrogated.

4.3. A structural political economy orientation

While all political economy theories explore the intersection of politics and economics, they are diverse and range from those that focus on how political and economic choices shape each other to those that see economics and politics (or sociology, anthropology or other ways of thinking about the world) as part of a more holistic framework towards explaining the worldviews underpinning the production and reproduction of societies.

The structural political economy orientation we propose here draws selectively from, on the one hand, theories such as world-systems and dependency theory that tend toward strong structuralism (e.g.

Hornborg 2011; Moore 2015), and on the other hand, more agentially informed structural theories such as critical political economy (Cox 1987), cultural political economy (Best and Paterson, 2010) and non-essentialist feminist and race/ethnicity based accounts (e.g. Bedford and Rai 2013; Bauhardt and Harcourt 2018). The former emphasizes the importance of existing values, power and relationships as they are materialized as institutions (e.g. rules and norms of production and consumption) in shaping production-consumption systems. The latter provide more room for human agency, derived significantly but not entirely from this structure, to disturb, innovate and change existing structures (see also Giddens 1984; Cox 1987; Marsh et al. 2015; Cardinale 2018). By framing such a political economy orientation for guiding research and action, we seek attention for both structure and agency and their mutual co-creation in producing and reproducing production-consumption systems. The orientation we propose moves beyond practice theory – a popular perspective in sustainable consumption research (Röpke, 2009) to explicitly recognize the importance and influence of power, justice and politics in these interactions between social structures and human agency (Watson 2016). This structural political economy orientation is presently a vibrant and significant research arena, enriched by creative interventions such as cultural political economy (Best and Paterson, 2010).

Such an orientation to mutually co-constituted structural and agential dynamics encourages us to move beyond isolated practices to understand the dynamics driving them: What historical processes shape political arrangements, power and injustice? What networks and relationships of exchange propel production-consumption systems to faster rates of growth? How do these relationships shape specific production and distribution outcomes? What are the roles of social actors in policy-making? How are some subjective positions marginalized while others are empowered? Such questions illustrate the critical areas for the co-production of knowledge and action.

4.4. Elements of the structural political economy orientation to production-consumption systems

The elements of a structural political economy orientation we propose for the study of production-consumption systems include, 1) focusing on power and inequality, 2) recognizing structural and agential drivers, and thus contestation 3) incorporating a systemic approach that connects local and global analyses across geopolitical boundaries.

The structural political economy orientation starts with the need to identify and address the injustices built into global inequality that enable the unsustainable expansion of production-consumption systems. As discussed above, knowledge and action cannot simply be oriented to manage the resulting socio-ecological degradation or compensate for them (Piggot et al., 2019, also see Figure 1) but must also address their causes. Recognizing this inherently political nature of producing and reproducing production-consumption systems, the structural political economy orientation brings an analysis of **power** into the center of inquiry to examine how power shapes the systems we create, the proposed solutions for sustainability, as well as our progress, or lack thereof.

This orientation is **systemic** and recognizes that the global divisions of labour connecting actors are imbued with, and produced by, uneven power relations that operate across varying scales of time and space (Stevs and Assetto 2001). The structural political economy orientation is scalable (Ravenhill, 2014; Dicken 2015; Stilwell 2020). It seeks to understand and map the social and environmental dynamics of local and/or global practices, keeping in mind the power of global divisions of labour and globalized markets. In that sense this orientation avoids methodological nationalism or the tendency to study units, especially countries, independently of the broader political and economic linkages in which they exist and operate (Wimmer and Schiller 2002; Pradella 2014).

This orientation seeks to direct work with empirical material that, while manageable, is cognizant of the need to focus on the

interrelationships between structure and agency across scales of geography and history. This can be done, for example, by focusing on the production and consumption of specific commodities or materials (e.g. grain, coal, crude oil and photovoltaic panels) across sites of extraction, transportation, production, consumption and disposal (e.g. Mintz 1985; Mulvaney 2014; Beckert 2015). Or it could focus on systems of provisioning, like those for energy, food, mobility, housing, clothing and tourism, or on high-tech systems that connect geographies and materials chains, like ICT. Our key point here is that a structural political economy orientation is relevant and applicable at any level – from the supply chain of a single product to the whole global political economy.

Finally, our structural political economy orientation is **‘critical’** in the sense that it is guided by the impetus to not just explain the world, but to change it (Cox 1981). It seeks to explicitly reduce social and environmental inequality and advance environmental justice and, thus, create the conditions for sustainable production-consumption systems. This orientation can help distinguish policy and programmatic proposals into those that promote management and compensation, and those offering transformative structural changes to the dynamics of unsustainable production-consumption systems (Just Transition Research Collaborative 2018).

The next section discusses three arenas of a research and action agenda to study the political economy of (un)sustainable production-consumption systems and identify opportunities for transformative change, guided by this structural political economy orientation. Figure 2 below shows how these arenas derive from a structural political economy orientation and how they can inform transformative change in unsustainable production-consumption systems by allowing the interrogation of injustice and opportunities for transformative change in the relationships that constitute unsustainable-production-consumption systems.

5. Towards a Political Economy of Sustainable Production-Consumption Systems: A Multidisciplinary Research and Action Agenda

Our review of the literature highlights 1) Justice, 2) Governance, and 3) Knowledge and Action as important interconnected arenas that are particularly useful to explore how power embedded in global economic structures produce and reproduce inequality, and thus unsustainable production-consumption systems. Notably, these arenas have received less than adequate attention in sustainable consumption and production literature to date.³ In Box 1, we illustrate the use of these arenas as entry points for research and action toward sustainable production-consumption systems. We use a recent development wherein the petrochemicals industry is targeting regulations to tackle the widely recognized and persistent problem of plastic pollution.

5.1. Justice: Beyond the Symptoms of Inequality

Many prominent views on justice address the symptom of inequality but not the structures that produce them. For example, for most liberals economic growth produces more for everyone, thus promising a ‘fair share’ for all and political stability (Beckerman and Pasek 2001; Breakthrough Institute 2015; for a comparison of liberal views to those of others see Clark 2016). For social liberals, such as those associated with the Human Development and Capability Approach, economic

³ Other arenas that could be discussed in the context of sustainable production and consumption research and action include cultural production, international relations and the recent shifts toward authoritarian and populist politics in many countries. However, we start with these three arenas that are broad and can allow researchers to address a range of additional arenas that can bring the links between political economy and expanding production-consumption systems to light.

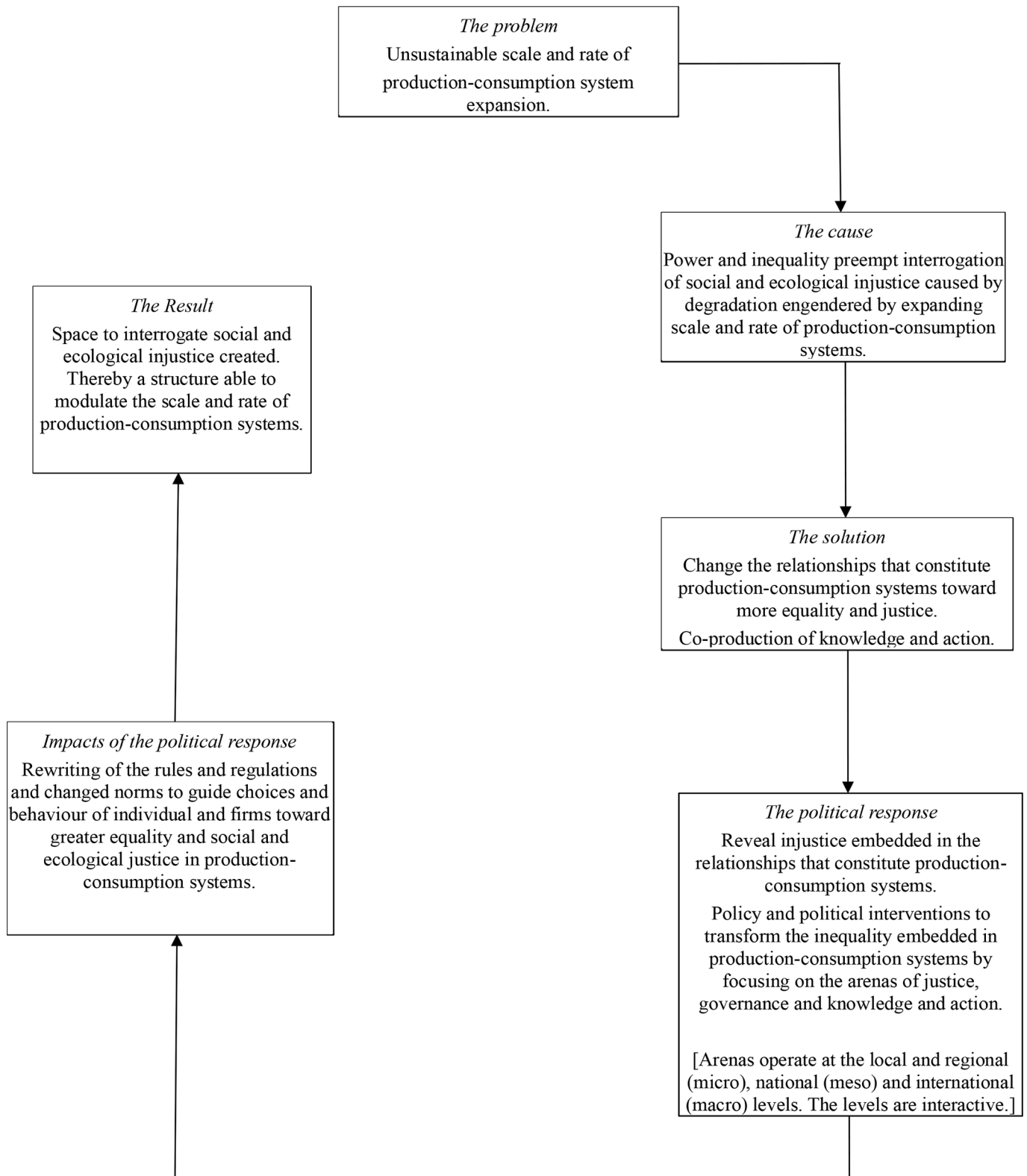


Figure 2. A structural political economy orientation to unsustainable production-consumption systems

growth is an important means to enhance valuable freedoms for all (Sen 1999; Robeyns 2016). For state capitalist and developmentalist worldviews, expanding production-consumption systems is seen as a response to address inequality and thereby legitimize the market or the state, respectively (see Hopwood et al. 2005). The social, political and economic relationships that produce and reproduce inequality tend to

remain outside such frames (Temper et al. 2015; Menton et al. 2020). By doing so they preempt interrogation of the drivers of injustice.

Across this variety of mainstream political philosophies, the expansion of production-consumption systems is considered as an enabler of justice. Some have suggested this is a strategy—a form of “governmentality” (Burchell et al. 1991)—that skirts political conflicts

engendered by inequality and injustice. This “politics of productivity” centred on “[subordinating] domestic and international conflicts for the sake of higher steel tonnage or kilowatt hours precisely because agreement on production and efficiency” were more easily achieved than resolving political differences between races and classes engaged in contestations over the just allocation of the costs and benefits of political and economic change (Maier 1977). Guided by this economic ideology, techniques for accelerating productivity and economic growth were constructed as strategies for social and political stability (Rupert 1990; Mathai 2013). One example of such a focus on productivity, in lieu of justice, is the normalized violation of individual and community rights. This can be as mundane as driving a personal car and thereby polluting the air and diminishing others’ life chances, even if ever so minimally, without means to account for any of those impacts. At the other end of the spectrum is the blatant and violent displacement of disempowered individuals and communities to build infrastructure (e.g. dams), to mine ores and minerals (e.g. lithium for batteries) or to dispose of waste products (e.g. municipal landfills, export of e-waste and plastics). The resulting socio-ecological degradation, and ultimately, the violent displacement and destitution of communities, produces or reproduces inequality (Nixon 2011). How is such violence normalized within production-consumption systems? In this context, deepening the understanding of individual and community rights and norms as they intersect with production-consumption systems from local to the global, is important (e.g. Pellow 2000; Smith et al. 2006; Healy et al. 2019).

In line with the rejection of methodological nationalism, a critical task for a structural political economy oriented research and action agenda is the generation of insights into the production and reproduction of inequality and injustice at various spatial and temporal scales of production-consumption systems embedded in global divisions of labor and, as a result, are deeply interconnected (Holifield et al. 2010; Temper et al. 2015; Lenschow et al. 2016). Research must take place at the empirically appropriate scale, which is more often than not trans-local and global. Studies that are limited to particular cases and places, even if those are large like the European Union, USA, South Asia or East Asia, must not exclude transnational processes driving socio-ecological injustice. This does not require that every single research and practice initiative must cover all or both local and transnational processes. It does require, however, that it be open to the significance of multi-scalar analysis. They must not leave the impression that a jurisdiction’s emissions result from political and economic dynamics operating only within it or that the effects of its policies are similarly constrained. For example, a study of national low-carbon transitions may well focus on policies the country implements with respect to activities within its jurisdictional boundaries. However, a structural political economic orientation that considers issues of justice and multi-scalar interactions, can show that the impacts of measures adopted by a country extends beyond its boundaries. These impacts, unjustly, become another community’s burden (Sovacool et al. 2019).

The proliferation of Just Transition proposals (Stavis and Felli 2016; ILO 2018; ITUC 2017; Robins, 2018; Morena et al., 2020) offers another illustrative research arena for investigating the purpose of engaging inequality, as a number of analysts have suggested (e.g. Newell and Mulvaney, 2013; Felli 2014). There is a need to differentiate between Just Transition proposals (Just Transition Research Collaborative 2018) or *alternatives* more generally, that address the symptom of inequality and not the drivers of inequality itself (e.g. Geels et al., 2015), from those that focus on identifying and transforming the drivers of inequality to promote equality and justice.

5.2. Governance: Enabling Sustainable Production-Consumption

As discussed, politics, broadly construed, is central to the structural political economy orientation to production-consumption systems. At a general level, governance can be defined as the ‘processes of decision making and ruling throughout society’ (Bevir 2012). Governance,

therefore, in this context can be defined as the broad arena of processes of political contestations and negotiation leading to decision making and ruling as pertains to the goal of sustainability in production-consumption systems. Governance here is seen as a wide arena that permeates the production and reproduction of (in)equality and (in)justice in society and calls for us to directly address political choices (Clapp 2014; Burch et al., 2019). The study of environmental governance is one of the most significant areas of environmental politics, increasingly informed by attention to political economy and environmental justice (Burch et al., 2019; Biermann and Kalfagianni 2020). Given that production-consumption systems are at the heart of socio-ecological justice their governance is central to environmental governance and, in fact, enriches this growing field of research and action (Hayward and Roy 2019).

For many analysts, global governance involves formal processes of negotiation and handling of disagreements amongst countries, often manifested as geopolitics (e.g. Regilme and Hartmann 2018). However, the conceptualization of international relations and global governance in terms of countries or nation-states alone obscures a great deal. The contemporary global political economy is characterized by complex dynamics of global and local processes (Stephen 2014; Prandya 2016). The world is connected through value chains and production networks which are governed by a combination of public and private actors (Levy 2008; Gereffi 2014; Dicken 2015). Closer attention to the organization and dynamics of these networks and their impacts on production-consumption systems, as well as to subnational dynamics at the level of states or provinces as well as cities, is necessary.

Whether at the level of countries or subnational jurisdictions, solutions from the Global North often point to more efficient and less polluting domestic economies. Routinely, however, such claims are possible due to shifts in the global political economy that outsource material-, carbon-, and pollution-intensive production and waste to countries where labor is cheaper and environmental protections are less stringent (Isenhour and Feng 2014; Pan et al. 2017; Mi et al. 2017). This calls for scrutiny of global governance that asks whether it is being reimagined and practiced to better balance the global common good and national or local interests (Burch et al. 2019; on international relations and environmental governance see Stevis 2010; Dalby 2015).

Resource frontiers (often called ‘zones of sacrifice’) such as mining regions, new agricultural lands, hydropower sites and rainforests across the world illustrate the impacts of distant national and international priorities and policies as well as a deep history of colonial and post-colonial exploitation (Dicken 2015; Lenschow et al. 2016). For example, the knowledge of lithium as a critical material for the renewable energy industry, has set in motion complex debates, in Bolivia, Chile and Argentina about the nature of their relationship with global markets (Barandiarán 2019; Taffel 2018; Prashad and Bejarano, 2020). This tells us that production-consumption systems insert places and their governance into the global political economy and influence the distributional and economic circumstances of localities and whole countries. This positioning is crucially shaped by the dynamics of power between sub-national regions, nation-states and globally integrated capital flows (Prandya 2016).

Existing global governance does not temper these dynamics but, rather, accentuates them by prioritizing the liberalization trade and investment policies to promote economic growth while retaining increasingly limited influence over finance (Tooze 2018). More and more countries and subnational jurisdictions have changed their policies on property rights, commercial secrets and repatriation of profits to attract foreign investment (Hameiri and Jones 2016; Mayer and Phillips 2017) and to create a global downward harmonization of governance around foundational neoliberal rules that some have referred to as “authoritarian liberalism” (Rodrik 2017; Wilkinson 2018).

Financialization has become a central driver of this downward harmonization of global governance (Svartzman et al. 2019) and is foundational to the dynamics of production-consumption systems and

their socio-ecological outcomes (Melgar-Melgar and Hall 2020). Recent literature has sought to underscore for ecologists and finance scholars the imperative of learning from each other (e.g. Galaz et al. 2015; Scholtens 2017) and exploring the intersections between ecological theory and finance (e.g. Walters et al. 2016). Efforts are afoot to formulate a radical alternative to neoclassical monetary theory and its concepts related to money supply (Saad-Filho 2019). Svartzman et al. (2019) explicitly discuss a ‘theory of endogenous money for a finite planet.’ Outside of efforts at reforming mainstream finance, research and advocacy around production-consumption systems that intersect with non-western formulations of finance, like Islamic banking (Hassan and Lewis 2007) or Buddhist economics (Schumacher 1973; Drechsler 2019) can be beneficial. For example, Islamic banking in principle considers interest to be in violation of Shariah law. What is the status of such alternate approaches to finance? Can the absence of interest on debt, for instance, dilute the expansionary impulse of production-consumption systems?

Crucially this downward harmonization, whether due to financialization, direct investment, or trade, rests on the easing out, or absence of social regulation with respect to the environment, labour, gender or human rights that could drive upward harmonization (Ajam et al. 2007; Eckersley 2006; Mortensen and Petersen 2017) – the very regulations that are essential to create sustainable production-consumption systems. In fact, when social movements—environmental, labor, gender and others—or governments have sought to insert social standards, rights and responsibilities into global or international trade and investment agreements their proposals have been largely rejected in favor of ‘logics of capital accumulation, marketization and economic rationality’ (Wilkinson 2018). This prioritization is even more apparent with respect to finance which is the least regulated and the most potent driver of contemporary inequality (Clapp 2014).

A number of pressing questions emerge when considering production-consumption systems against this background. For instance, can rich countries scale down their production-consumption systems so that ecological space is allowed for fulfilling the unmet needs of developing countries (Jackson 2011; Christoff and Eckersley 2013)? Can poorer countries craft alternative development paths that advance socio-ecological goals rather than reproduce social inequality and ecological degradation (Satgar 2018; Ciplet and Harrison 2019)? How should poorer countries and geographies limit the demands of the powerful policy and political elites aligned with the current world political economy, while simultaneously expanding the role in production-consumption systems for the hitherto excluded majority to pursue more clearly articulated human well-being outcomes? Engaging governance at multiple levels, as spaces constituted for political contestation, is crucial to responding to such questions. This does not simply mean identifying promising forms of governance that will allow us to turn ‘zones of sacrifice’ into ‘zones of hope’ but, also, identifying how current forms of governance promote unsustainable production-consumption systems.

Finally, rather than approaching governance in terms of the state or non-state actors, we will be better served to explore whether governance promotes the common good—in this case sustainable production-consumption systems—or makes it more difficult to do so. As we asked above in the section on justice, an important research task is to differentiate amongst forms of governance that compensate for or manage unsustainable production-consumption systems from those that aim at structural changes of those systems.

5.3. Co-producing Knowledge and Action: Changing Unsustainable Production-Consumption Systems

As discussed above, political action is necessary to address inequality and injustice and promote the kinds of governance that is necessary for this. Such governance cannot be the result of technocratic insights and superior knowledge given to vulnerable communities whether by rich

governments, northern NGOs or scientists insensitive to their own positionality. Further, the production of knowledge that identifies structural inequalities and the kinds of justice and governance that can undo them is necessary but not sufficient in the absence of commensurate action. In short, we are calling for a co-production of knowledge and action (Temper and del Bene, 2016), rather than a ‘translation’ of research for policy makers or activists. Knowledge and action need to be co-produced by those affected through deliberate, if contested processes, that allow those affected to shape the research questions and political goals (David-Chavez and Gavin 2018; Wyborn et al. 2019; Burkhardt et al. 2020). As noted by Cox (1981: 128-129) we need to choose between ‘problem solving theories’ and ‘critical theories’. The former ‘takes the world as it finds it, with the prevailing social and power relationships and the institutions into which they are organized, as the given framework for action’. Critical theory, on the other hand, ‘is critical in the sense that it stands apart from the prevailing order of the world and asks how that order came about’.

In response to the crises of unsustainable production-consumption systems, there are hundreds of public and private initiatives, as well as promising policies around the world attempting alternative ecological, political, socio-cultural and economic imaginaries (e.g. Kothari and Joy 2017; Escobar et al. 2019; Barkin and Sánchez, 2019). It is apparent from our review that the scholarship on sustainable production-consumption systems is yet to substantively engage with such alternatives to appreciate their scope, direction and potential. This section maps an agenda to research such alternatives at multiple scales, and to foster the co-production of knowledge and action.

Alternatives, for example—stories recorded under the banner of *Vikalp Sangam* (Alternatives Confluence) (Vikalp Sangam 2019a)—provide a growing set of experiences in need of systematic engagement. They span the spectrum from ideological and intellectual critique and innovation to practical projects, to programmatic and policy entrepreneurship. What lessons are offered by such ‘alternatives’ that may be scaled out and up? Alternatives exist not only at the grassroots level, but also within large organizations and movements, e.g. trade unions or cities addressing climate change (e.g. C40), organizations (whether public or private) and governments (e.g. Green New Deal). However, not all alternatives are equal in terms of their ambition (Carroll 2007) and potential for transformative change. There is need therefore to differentiate actions that pursue a transformation of production-consumption systems (i.e. structural change) from those that polish and re-legitimize the status quo. Developing analytic schemes for this purpose (e.g. Just Transition Research Collaborative, 2018; Temper et al. 2018; Vikalp Sangam 2019b) is an important stepping-stone to co-producing knowledge and action to change unsustainable production-consumption systems.

A crucial part of action for sustainability, as originally articulated by the Save the Narmada Movement, is the idea of *sangharsh aur navirman* (translates from Hindi as Struggle and Reconstruction⁴). Efforts to transform the status quo toward greater justice often takes the form of resisting its policies and practice. In this context this effort to map a research and action agenda must acknowledge the violence against activists who interrogate production-consumption systems and intervene on behalf of the communities being made destitute. In addition to the Global Atlas of Environmental Justice (Martinez-Alier et al. 2016; Temper et al. 2015) the NGO Global Witness maintains a database of environmental activists who have been murdered (Global Witness, 2020; also see Watts and Vidal 2017; Butt et al. 2019). A global research and action agenda—one that is intent on building a sustainable future—needs to learn how to build solidarity social movements, activists and

⁴ See Friends of River Narmada, a website maintained by the network of activists, campaigners and researchers, where the idea is elaborated upon further with examples. Available at: <http://www.narmada.org/ALTERNATIVES/>

academics.

Our effort to map a research agenda therefore proposes learning from and partnering with activist and advocacy initiatives promoting environmental and climate justice, a process that requires reflection and willingness to co-produce, rather than impose or translate knowledge (Inoue 2018; Rodriguez-Labajos et al., 2019). Partnerships beyond episodic alliances between social and environmental justice activists, labor rights activists and academics are critical (Hultgren and Stevis 2020). To do this, we can learn from the importance of discursive formulations and political platforms that are inclusive of the interests of diverse constituencies. For instance, Dreiling (1998), deploying the idea of ‘inter-movement solidarity’ illustrates an effort to understand political platforms and their shaping of discursive formulations that can transcend narrow sectoral interests or remain hostage to such forces. Early discussions questioned the absence of ‘class’ in environmentalism (e.g. Foster 1993). More recent work by Masson et al., 2016, using the idea of ‘food sovereignty’, trace the vicissitudes of discursive formulations through their diffusion and transformation. And applying regression analysis to understand the association between labor and environment, Alvarez et al. (2019) underscore that unionization (an exercise in political economic solidarity) can positively impact environmental goals at a national level.

What methodologies are available for such an effort? Evidently, such research cannot be formulated solely by academics or government bureaucrats. Nor can it be the product of the researcher interpreting the experiences shared by activists and advocates (Inoue 2018; David-Chavez and Gavin 2018). As noted, knowledge needs to be co-produced, where stakeholders participate in defining the problem and the research and action agenda. Doing so presupposes political choices on the part of researchers. These do not compromise research, which can be objective or systematic and transparent without being neutral. Engaged research can be a first step towards identifying stakeholders who are invested in transforming the political economy of production-consumption systems and building knowledge and action networks for that purpose (Temper et al. 2018).

Not all grassroots organizations, just as not all academics or public agencies, want to pursue structural change as a route for building sustainable production-consumption systems. The engaged researcher therefore needs to choose actors to partner with those that share these interests. A corollary of this agenda is exploring how partnerships for the co-production of knowledge and action can be fostered. This is a difficult issue since funding priorities in sustainability research often shy away from structural change, which is politically sensitive, and focus instead on managerial optimization or compensatory philanthropy as the preferred means to build sustainable production-consumption systems.

6. Conclusion

The two objectives pursued by this paper are to, a) delineate a political economy perspective on the root causes of unsustainable production-consumption systems and why they persist, and, b) outline an agenda to shape knowledge and action (policy and practice) for building systems of sustainable production and consumption. This paper is based on our narrative literature review that provides a multidisciplinary synthesis of the unsustainability of production-consumption systems. In response to the first objective, the paper’s point of departure is the persistence of unsustainable production-consumption systems—as seen in the relations between breached planetary boundaries and deeply seated ecological injustice—despite decades of environmental research and policy efforts. We find that mainstream sustainability research avoids or downplays questions of power and political contestation while overemphasizing the techno-economic and behavioral tools derived from an ideological commitment to managerialism. In contrast, we find that unsustainable production-consumption systems derive from a global political economy, including systems of finance, that renders nature and labor “cheap”, thus accelerating productivity

and making consumer goods affordable to a sufficiently large global consumer class. Such arrangements are based, at their root, in inequalities that increase corporate profits and boost a hegemonic order centered around an ideology of productivity and growth while reproducing injustice and the degradation of socio-ecological systems.

The research and action agenda outlined in this article, in response to the second objective, outlines a structural political economy orientation to unravel and change this hegemonic order. It is informed by the idea that ‘[a]ctions and outcomes depend on the encounter between economic structures and actors’ structures of cognition and action, which originate in the former but are relatively autonomous from them at any given moment’ (Cardinale 2018). In this sense our proposal is close to the critical political economy framework developed by Robert Cox (1987; Buch-Hansen 2018) and the political ecology framework developed by (Martinez-Alier, 2002; Tetreault, 2017).

From this approach, the paper identifies three arenas of the global political-economy that we believe are both central and can serve as entry points for research and action to help understand and change production-consumption systems toward sustainability. These are: justice, governance; and co-production of knowledge and action. Each of these arenas allow the analysis of micro-processes, such as specific commodity or value chains or systems of provisioning (Fuchs et al. 2016), meso processes, such as production networks (Levy 2008; Dicken 2015) or the connections between regions of the world (Leschow et al. 2016), or macro levels, such as whole economic sectors or North-South relations (Givens et al. 2019).

Attention to inequality and injustice are constitutive concerns of this structural political economy orientation, and a research agenda is mapped to address how it drives economic growth through the promotion and management of productivity, as practice and ideology. Two intersections between justice and production-consumption systems are discussed. First, we consider the role of the expansion of production-consumption systems as a managerial means for addressing inequality – i.e the “politics of productivity”. Secondly, we consider the impacts of expanding production-consumption systems on individual and community rights to natural resources (e.g. forests), where the latter are often trampled—thus leading to the production or reproduction of injustice and a politically expedient legitimization of productivity.

Our agenda next considers governance as it relates to production-consumption systems. How do current forms of governance promote unsustainable production-consumption systems? The creation of unequal geographies through the liberalization of trade, investment and even more so of finance, the rise of private governance at the expense of social priorities and the influence of geopolitics are among the arenas considered. A crucial question to research in this context is how governance innovation would enable us to scale down production and consumption in rich countries, particularly amongst the richest groups, so that ecological space is allowed for fulfilling the unmet needs of developing countries, particularly the poor within them. This includes contesting the power of dominant private actors who are often, but not exclusively, located in the wealthier countries. Within this context of often authoritarian “harmonization of governance”, the role of financialization in accelerating production-consumption systems is considered.

We also highlight efforts to fundamentally reform the financial system from within mainstream knowledge traditions, as well as Buddhist economics and Islamic finance principles as important areas for research and action. We also highlight the need to differentiate amongst forms of governance that compensate for or manage unsustainable production-consumption systems from those that aim at structural changes.

Finally, the need for effective integration of knowledge and action to facilitate necessary structural transformations is highlighted. We acknowledge the vast body of work that already has been accomplished by activists, and many policy makers, but exists outside the sustainable production and consumption literature. This section also highlighted the role of overt violence and the need for solidarity with those suffering such violence, as an essential aspect of this research and action agenda.

In this context, a critical need we highlight is the co-production of knowledge involving academia, development practitioners and activists to nurture a civil society for transitioning production-consumption systems toward sustainability.

A structural political economy orientation is necessary for a holistic engagement with (un)sustainable production-consumption systems. We do not offer this orientation as a normative response to the more technical or empirical mainstream research on the subject because we believe that the latter are equally normative – although often tacitly so. We have attempted to outline an orientation that we believe is necessary for both understanding and transforming production-consumption systems to ensure sustainability. We invite readers to consider this political economy orientation and the arenas we propose, so that we might all better understand the structural dynamics of (un)sustainable and persistent levels and patterns of production-consumption systems. Moreover, beyond the mere translation of knowledge to action, we call for the fusion of knowledge and action towards structural change that, in our view, carries more promise in terms of addressing the two persistent, structural and interconnected problems that we identified at the beginning – ecological degradation and socio-ecological injustice.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Acknowledgements

We thank the two anonymous reviewers for comments that greatly helped improve the article.

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