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THE POLITICAL ECONOMY OF FOOD

Editors Jody Harris,
Molly Anderson,
Chantal Clément and
Nicholas Nisbett



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Evidence-Based Policymaking in the Food–Health Nexus^{*†}

Cecilia Rocha¹ and Jody Harris²

Abstract This article examines the role of evidence in influencing food and nutrition-related public health policy, and starts to chart a way through the political economy of knowledge and evidence within this nexus. We propose an analytical framework for untangling the influence of food industry interests and public health concerns in the policy process, presenting a guiding structure for how an issue might move between contested and uncontested policy spaces, finding that the inherent uncertainty in public health research on complex food systems presents opportunities for contestation by different interest groups. We then use our framework to understand the political economy of the recent sugar-sweetened beverage tax in Mexico, in which public health policies have been adopted despite going against an apparent interest of elements in the food industry. This kind of evidence, given the right framing, has the potential to break some current deadlocks in creating healthier food systems.

Keywords: evidence-based policy, issue framing, food and nutrition policy, sugar-sweetened beverages, taxation, Mexico.

1 Introduction

Evidence-based policymaking, initially applied in medical policy but increasingly promoted in other social policy fields, is a movement that seeks to place scientific knowledge and its associated epistemological assumptions at the centre of political decision-making (Biesta 2007). Proponents of this approach are aiming for what they identify as the best outcomes, maximising public values such as reducing health impacts or enhancing wellbeing; but there are other approaches to policy processes that prioritise, for example, outcomes favoured by specific interest groups, or that prioritise a participatory process over any particular outcome (Stirling 2012; Clarence 2002). Whichever approach is prioritised, the framing of an issue sits between the evidence that is produced and the political decisions that are taken; the way an issue is framed by different parties at different times is a powerful piece of the policy process, and in a practical field such as nutrition or public health it will determine who gets involved, and how solutions are decided

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(Shiffman 2007; Gillespie *et al.* 2013). Theories of knowledge and the politics of knowledge are therefore key to understanding why certain information is privileged over others in food, nutrition, and health policy.

To this end, this article examines the role of evidence in influencing food system policy, and starts to chart a way through the political economy of knowledge and evidence within this nexus. In Section 2 of this article, we propose an analytical framework for untangling the influence of food industry interests and public health concerns in the policy process. In Section 3, we discuss the issues in establishing enough evidence for action (written policy creation) in an environment of conflicting interests and ideas. In Section 4, we look at an example in which public health policies have been adopted despite going against an apparent interest of, or even active opposition from, elements in the food industry. In the conclusion we summarise our findings in relation to power and the political economy of knowledge and evidence in food system policy. This article is based on the report *Unravelling the Food–Health Nexus* (IPES-Food 2017) and reflections from a subsequent workshop held at the Institute of Development Studies in 2018 to discuss the role of political economy in food systems research.

2 A framework for assessing how evidence impacts policymaking

Generic models of how policy is made and implemented generally start with issue framing (Lasswell 1971), proceeding through a cycle of agenda setting; policy formulation and legitimation; implementation; and evaluation and review. This fairly linear view of evidence-into-policy, where evidence informs agenda setting, has also been adopted in much health sciences reasoning, including within the evidence-based policy world (Fafard 2008). These stages are generally acknowledged to exist in any policy process, even if the order of the process is more iterative than linear; for instance, continued issue framing and agenda setting often accompanies (rather than precedes) each of these stages, as learning is fed back and original policy aims are subverted or changed (Keeley and Scoones 1999). As issues are framed and agendas set and re-set, one piece of the complex puzzle is the role of evidence, and its use to inform policy. The role of evidence varies at different stages in the policymaking cycle, with different coalitions of policy actors (including researchers) creating different narratives around evidence to resonate with policymakers' values and interests in different contexts, and to seek policy influence (Fafard 2008). Policy in the critical tradition is seen through the lens of power, and in particular who has the power to define agendas through defining the language and knowledge used in policy systems (Brock, Cornwall and Gaventa 2001). The relative power of different actors' narratives on a given issue is therefore critical to how evidence is used, and where different issues sit between the different actors involved will determine aspects of the debate. In other words, issue framing and agenda setting is a dynamic process, in which different groups and their chosen issues may change their political prominence over time, and it is this feature that opens opportunities for influencing policymaking.

In attempting to discern the issues shaping this confrontation and its ultimate results in terms of food and nutrition policy, we need to recognise that food systems are complex, and that this complexity makes for a difficult process in the development of accepted evidence. This complexity increases the challenge in evaluating whatever evidence is available, and often delays the adoption and implementation of proposed actions to address health problems associated with food systems. One role of research and evidence practitioners and advocates is therefore to frame an issue in such a way that it increases its legitimacy, moving it up the political agenda. Evidence and the way it is framed into narratives can help different groups and issues reach prominence in political circles (Mitchell, Agle and Wood 1997), and hence be more likely to get a policy response. Groups and issues can also fall off the policy agenda; for example, when a particular piece of scientific evidence is less widely accepted or is successfully refuted, allowing public resources and public attention to be redirected to other goals. Policies can be created but also revoked as evidence emerges or is framed differently.

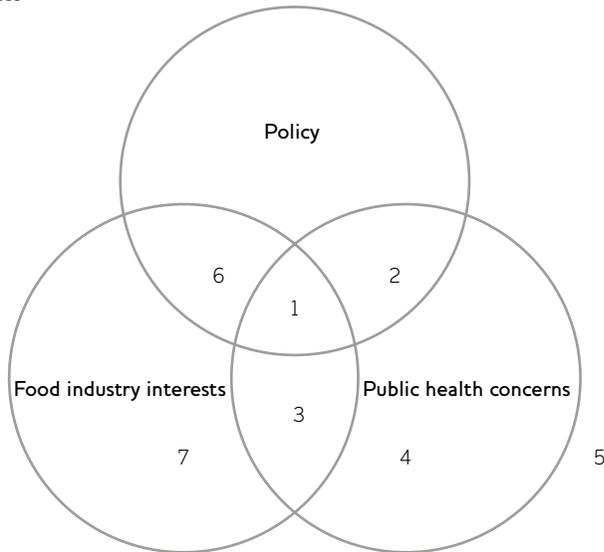
The 2017 report by IPES-Food argues for a systemic approach to look at the health impacts of food systems. It shows that food systems affect health through multiple, interconnected pathways, generating severe human and economic costs. Many of the most severe health impacts can be traced back to some of the core industrial food and farming practices, for example chemical-intensive agriculture; intensive livestock production; the mass production and mass marketing of ultra-processed foods; and the development of long and deregulated global commodity supply chains (IPES-Food 2017). Public policy in these areas, however, does not seem to be developing with the efficacy and urgency that public health practitioners and scientific experts in this field are demanding. The scenario is then set for confrontation between two main camps attempting to influence food and nutrition policy: food industry interests and public health concerns. We present below a framework for understanding these interactions in the policy space.

The Venn diagram in Figure 1 is used to represent different stages of public and political awareness through which a particular health issue might move, before policy on that issue is created. In evidence-based policy theory, the successful creation and framing of evidence will help move an issue into public health concerns (from area 5, outside of the framework, to areas 4 or 3) and then to public policy (areas 2 and 1).

In the diagram (Figure 1), public health concerns associated with evidence-based policymaking are represented in five areas:

- Area 5: Represents issues that are not yet identified as public health concerns (and, thus, are not being considered for policy). Research and information (the accumulation and framing of evidence) can move some of those issues to within the circle of public policy concerns.

Figure 1 A proposed framework to represent different stages of public and political awareness



Source Authors' own, created by Cecilia Rocha.

- Area 4: Represents issues that are of current public health concern, that do not seem to conflict with food industry interests, but are not yet addressed in policy. The pathway for these issues could be to move to area 2 with appropriate advocacy.
- Area 3: Represents public health concerns that are not yet addressed in policy, and openly conflict with food industry interests. Success by public health policy or food industry advocates would move these issues to area 1.
- Area 2: Represents issues that are addressed in policy, which do not have an apparent conflict with food industry interests.
- Area 1: Represents public health concerns that are addressed in policy, which are in explicit conflict with food industry interests. These are either public health policies, which go against food industry interests; or policies favouring food industry interests, which go against public health concerns.

Other areas (6 and 7) indicated in the diagram represent food industry interests that are not in apparent conflict with public health concerns: food industry interests which are favourably supported in policy (area 6); and those that are not yet represented in policy (area 7). Success by food industry policy advocates would move issues from area 7 to area 6.

An example of how a policy issue moves through this framework is illustrated through the public health concern with sugar: 50 years ago sugar was not a predominant public health issue (area 5). Over time,

as scientific evidence about health impacts associated with sugar consumption such as diabetes, obesity, and other metabolic change mounted, excess sugar consumption moved to be a public health concern (area 4). While one could entertain the possibility of public policy being made without conflict with industry (area 2), the reality shows strong industry push-back on advocacy against excess sugar consumption as a health issue, both in contexts where there is no policy (area 3) and in a few cases where there is sugar policy (area 1). The case of sugar in Mexican health policy is explored further in Section 4 as an example.

3 Establishing evidence as a basis for policymaking

When is evidence enough to influence policy? For many food-related health impacts, there are strong associations with food systems practices, but it remains difficult to isolate specific causal channels. This opens up space for confusion and the creation of narratives questioning whether the evidence available is sufficient for creating or enacting policy.

Much of the issue relates to the continuous evolution of the views on establishing causality in epidemiology, the scientific discipline which underpins the majority of public health research (De Vreese 2009; Parascandola 2011). While the goal of epidemiology is to identify causes of disease so that the disease or its consequences might be prevented (informing public health efforts), its definition of ‘cause’ has undergone some significant transformation in the past 60 years (Broadbent 2009). In the classic definition, causation was deterministic, in the sense that the presence of one agent led to a given disease (‘A causes B’). This single-cause view was (and continues to be) very suitable for the study of infectious diseases, in which the presence of an agent is necessary and often sufficient to establish causation (e.g. tubercle bacillus is a necessary cause for tuberculosis).

However, the single-cause model does not work well for the analysis of the complex and multi-causal health issues associated with food systems. Take, for example, the case of chronic diseases (e.g. diabetes). Causation in chronic disease requires a multifactorial analysis of one or more agents (causes), the host (individuals’ characteristics), and the environment. Diseases are attributable to various (sometimes overlapping) causal mechanisms. There is a web of components acting together, no one of which may be sufficient or necessary to cause a given disease (Krieger 1994; McGwin 2010). In modern epidemiology, those different component causes are risk factors affecting the probability of the disease to occur in a population.

In many of the channels through which food systems can impact health, there are clear associations between food systems activities and specific health impacts (IPES-Food 2017). In some cases, studies are still needed to strengthen the suspected risk. This is particularly true for the associations between diets and non-communicable diseases (NCDs). The incidence of NCDs is highly contingent on a person’s genetics

and general health status. Causality at the individual level remains difficult to prove. Indeed, difficulties of this type plague the evidence base on diet-related health impacts. They reflect the dual complexity of nutritional/dietary pathways: difficulties in isolating the effects of different dietary components, and difficulties in isolating diets from a range of other lifestyle-related and socioeconomic drivers of NCDs.

However, the point of a systemic, epidemiological analysis is that these factors need not be isolated. Channels of impact grouped under the umbrella of 'unhealthy dietary patterns', for example, are characterised by the complex and multifactorial nature of all diet-related conditions, with obesity playing an important mediating role in the epidemiology of many NCDs (Butland *et al.* 2007; Grundy 2016; Wang *et al.* 2011). The question of whether and to what extent these causal pathways actually need to be singled out in order to provide a sufficient evidence base for policymaking is misleading and misplaced in the case of public health. The focus is prevention of diseases at the population level, not at the individual level. Risk assessment at the population level (probabilistic account in terms of average effects) does not translate to individual levels (De Vreese 2009). That is to say, even if reduction in the consumption of sugar-sweetened beverages (SSBs), for example, can lead to a decrease in obesity rates at the population level, and a lower rate of diabetes, many individuals in this population may still become obese, and many may develop diabetes, even without consuming SSBs.

The negative health impacts of food systems are multifactorial and at the population level. They are caused by many agents, which often reinforce each other, through various mechanisms. It is thus inappropriate to look for a solitary, unique, and definite cause for these conditions. It is also wrong to extrapolate that the lack of 'proof' on a causal chain between exposure and disease onset at the individual level negates an established risk factor (cause) for the condition at the population level (Laubach 2016). Just because it may not be possible to establish that high sugar consumption caused the diabetes of a particular individual, it does not mean that high sugar consumption is not a risk factor for diabetes. For disease prevention, we need to identify and determine the importance of specific risk factors (not the cause) by the accumulation of evidence from many different studies and study types (Hill 1965; Ioannidis 2016).

It is the collective strength, consistency, plausibility, and coherence of these studies that establishes a given agent as a major risk factor in a disease. What we have then is the probability of an agent affecting the incidence of a disease in a population – but not the certainty of a given agent in a given context. This uncertainty opens the door for contestation and interpretation of evidence, with different groups, with different interests, framing evidence in different ways to influence how it might inform action.

3.1 The role of the food industry in framing evidence

Given the importance not only of the evidence itself, but also of how the evidence is framed, it is unsurprising that both sides of the debate wish to set the narrative. To this end, there is increasing evidence of the role of some corporations in the agri-food industry in influencing debates around nutrition and health through funding their own research (Brownell and Warner 2009; Nestle 2015, 2016). Major discrepancies have been found, for example, between the results of industry-funded and non-industry-funded studies on the health impacts of sugar consumption and SSBs (Bes-Rastrollo *et al.* 2013; Vartanian, Schwartz and Brownell 2007). Explicit attempts from the 1960s onwards to divert attention from sugar onto fat as a heart disease risk factor were recently uncovered, and are seen to have significantly derailed decades of medical research around sugar (Kearns, Schmidt and Glantz 2016; O'Connor 2016). Popkin and Hawkes (2016: 175) conclude that it is only studies funded by the sugar and beverage industries that continue to cast doubt on the evidence – shown through extensive meta-analyses – of substantial weight gain and cardio-metabolic risks from SSBs.

Industry funding of professional associations has also been alleged to heavily influence the framing of prominent public health debates (Nestle 2015; Simon 2013, 2015). For example, the scientific objectivity of the American Society for Nutrition (ASN) and the Academy of Nutrition and Dietetics (AND) has been called into question on the basis of strong ties to the food and beverage industry (Simon 2013, 2015). This has major implications since the ASN is the publisher of three widely read nutrition science journals, the *American Journal of Clinical Nutrition*, the *Journal of Nutrition*, and *Advances in Nutrition*, in which many industry-funded studies are published. Meanwhile, the 'Nutrition Fact Sheets' produced and publicised by the American Dietetic Association (ADA) have been called into question on the grounds of industry partners having paid for the right to co-write them (Brownell and Warner 2009).

Industry influence over the framing of the research agenda and the terms of the broader scientific debate has also been identified through a range of additional practices: employing individual researchers as consultants or inviting them to sit on company boards in order to signal objectivity and legitimacy; publicly critiquing established evidence and sowing doubt about its validity, often through the use of front groups; and, using corporate social responsibility programmes as marketing campaigns (e.g. to shift the focus from obesogenic diets onto the importance of active lifestyles by sponsoring sporting events) (Nestle 2015). These practices have been increasingly identified in relation to nutrition science with major implications for shaping evidence, narratives, and understanding.

4 Tipping the scale towards public health policy: Mexico's tax on SSBs

Parts of the food industry are very powerful, illustrated through the classic 'hourglass' depiction of the food system with a pinch-point of a few thousand transnational input suppliers, processors, and marketers between billions of food producers and consumers (Hossain 2017).

Routinely, these groups fiercely oppose policy that they perceive to go against their economic interests. It therefore may be useful to consider cases in which policy favouring public health has been developed and implemented against those interests (area 1 of our framework). What were the factors tipping the scale against these powerful interests, and hence what can we learn about the role of public health evidence in the political economy of the food–health nexus?

The case of Mexico's tax on SSBs illustrates how the balance of political economy can shift in specific cases in relation to the role of evidence, and how that evidence is framed. The 2013 adoption of an excise tax on SSBs brought Mexico to the forefront of public health policy development. It is also a case study in the successful leverage of scientific evidence, civil society engagement, philanthropy, and public awareness-raising efforts to overcome corporate opposition in a country where private companies (and the soda industry in particular) hold significant political influence (Rosenberg 2015), including through their support of educational and research institutions (Camp 2006).

The path towards governmental action began through an accumulation of evidence concerning the role of sugar consumption in the rise of obesity in the past decades, moving the issue from area 5 in our framework (issues not yet identified) to area 4 (issue of public health concern). Eight years prior to creating the tax, the Mexican National Institute of Public Health (INSP) published the 2006 National Survey on Health and Nutrition (ENSANUT), which revealed that the prevalence of obesity had drastically increased and become one of Mexico's leading health burdens (Bonilla-Chacín *et al.* 2016). According to the survey results from 2012, 34.4 per cent of school-age children, 73 per cent of adult women, and 69.4 per cent of adult men in Mexico were either overweight or obese (Barquera, Campos and Rivera 2013). Furthermore, the INSP documented that caloric beverages represented over 20 per cent of energy intake by Mexicans, and highlighted the stark increase (226 per cent increase among children and 252 per cent among adults) in the consumption of caloric beverages between 1999 and 2006 (*ibid.*). By 2013, Mexico had become the leading country worldwide in both consumption of SSBs (with an estimated intake of 163 litres per person per year) and in obesity rates (*ibid.*). The public health community used this evidence to frame SSBs as a key driver of obesity, and obesity as a major public health challenge in Mexico.

Confronted with this realisation, between 2007 and 2009, the Ministry of Health began to stimulate knowledge generation on possible policy actions to reverse this trend, sparking dialogue among different government branches and other public health institutions, including the INSP (Bonilla-Chacín *et al.* 2016). An early focus was set on recommendations for healthy hydration (Barquera *et al.* 2013). This process of awareness-raising and consensus-building around the need for government intervention culminated in the 2010 National Agreement for Nutritional Health (ANSA), which included a Strategy

against Overweight and Obesity with 117 proposed activities and 249 actions (Bonilla-Chacín *et al.* 2016). However, few of the proposals translated into concrete programmes; pressure by the food industry, insufficient government resources for implementation, and a general lack of accountability have been blamed for relative lack of action at that stage (Barquera *et al.* 2013). This represents a failure to effectively move from area 4 in our framework (issue of public health concern) to area 2 (public health-focused policy). During these early attempts at policy, the issue had moved instead to area 3 (issues contested between public health and industry interests). An explicit dispute between public health concerns and food industry interests was at play, with each framing the evidence differently: the food industry maintaining that SSBs in moderation could be part of a healthy diet; and the public health community insisting that SSBs were significantly contributing to the problem of obesity.

At the same time, the obesity epidemic and a concurrent undernutrition problem had simultaneously started to attract considerable attention from a number of civil society organisations whose core issues ranged from children's rights to food sovereignty to water rights. Leading among those was the advocacy group El Poder del Consumidor (Consumer's Power), which fought against industry pressure and supported pro-consumer policies (Rosenberg 2015). Rallying around the need for better nutrition, these organisations formed a loose coalition called the Alianza por la Salud Alimentaria (Alliance for Healthy Eating), which issued policy proposals, circulated educational information, delivered media campaigns, and lobbied public officials (Bonilla-Chacín *et al.* 2016).

In 2012, general elections loomed and the incoming party of Peña Nieto had one focal policy: tax reform. Politically savvy Alianza leaders identified a unique window of opportunity and swiftly agreed on one policy priority: introducing a tax on SSBs. In the months leading up to the election, they ran a sophisticated media campaign that focused on the health dangers of SSBs. They also found allies within the incoming Senate, including Senator Marcela Torres Peimbert, who had previously worked in the public health sector. Only days after Peña Nieto took office, Torres Peimbert presented a comprehensive proposal drafted by academic and civil society organisations that called for a 20 per cent excise tax on SSBs. Though excluded from the 2013 budget proposal, and despite furious industry opposition, the idea of an SSB tax received increased traction both in the National Development Plan and during civil society fora and events in 2013, and a one-peso-per-litre tax (representing a 10 per cent price increase) was finally included in the Law on the Special Tax on Production and Services (IEPS) in October 2013, along with an 8 per cent *ad valorem* tax increase on high-calorie foods (Bonilla-Chacín *et al.* 2016), moving the issue to area 1 of the framework (public health concerns positively addressed in policy, in explicit conflict with food industry interests).

The availability of robust international and local evidence of links between SSB consumption and obesity, as well as evidence on the effects of an SSB tax on consumption including updated nationally representative data through ENSANUT, were essential in the final success of the tax proposal. Most importantly, the framing of that evidence in terms of the health benefits of SSB taxes by public health advocates led to considerable public support (Rosenberg 2015). A strong intersectoral coalition of medical, governmental, and scientific institutions dedicated to evidence-based policymaking (Barquera *et al.* 2013), together with a powerful civil society umbrella organisation (Alianza por la Salud Alimentaria), provided the support for sophisticated media campaigns, professional lobbying efforts, and extensive public education, spreading that knowledge throughout society.

The battle in Mexico is now in area 1 of our framework, with much of the food industry disputing and/or attempting to reframe the evidence once again. Four years after the Mexican legislation was introduced, more jurisdictions (Chile, France, Hungary, Portugal, South Africa, United Kingdom, Ireland, Saudi Arabia, United Arab Emirates, Thailand, Dominica, Barbados, Belgium, and some cities in the United States) are now or soon will be implementing some form of tax on SSBs (Cornelsen and Smith 2018; Paarlberg, Mozaffarian and Micha 2017). The evidence generated from these experiences so far indicates that the tax does reduce purchases (Redondo, Hernández-Aguado and Lumbreras 2018; Wright, Smith and Hellowell 2017), although the complexity of diets and the interpretation of epidemiological data make it difficult to establish how the reduction in SSB consumption is impacting health. As discussed in Section 3 of this article, this uncertainty opens the door for contestation.

The sugar and SSB industry takes the fact that 'causality cannot be established' to define the tax as a 'smoke and mirrors trick' by governments (American Beverage Association 2016). The industry has mostly given up on contesting the evidence on the links between sugar consumption and obesity, moving its framing instead to questioning the effectiveness of the tax policy or the intentions of governments imposing the tax (which it portrays as a 'tax grab'). It often argues that the tax is regressive since, in many countries, a larger proportion of SSB consumers are at the lowest socioeconomic level, without acknowledging that some of the highest declines in consumption have indeed been among this population (Haskins 2017; Dana and Nadler 2018).

In many ways, keeping the tax on SSBs as a legitimate tool for promotion of public health (and in area 1 of our framework) depends on further evidence and how that evidence is framed; not only on the impact of a reduction in SSB consumption on health, but also on how the tax revenues generated through this policy can be used to achieve health results in a fair way. How this evidence is generated – and how it is framed on different sides of the debate in different contexts – will be an important piece of this policy process going forward.

5 Conclusion: evidence-based policy in the food–health nexus

Knowledge is power; but framing matters. Both classical theories of the policy process and critical theories of knowledge and ideas are important in understanding the role of evidence in the food–health nexus. The existence of credible indicators of a problem (evidence) has been found to be a vital piece of political commitment-building for issues such as nutrition and health in multiple countries (Pelletier *et al.* 2011). But beyond this, the way an issue is framed, and even the types of knowledge held to be valid in policy debates, also underpin policy processes (Leach, Sumner and Waldman 2008).

In the case of sugar and its connection to obesity and NCDs, in the past five decades we have seen growing evidence making this an issue of public health concern, with issue-framing narratives creating a sense of urgency in the past decade as obesity reaches what are framed as crisis levels throughout the world. Food industry opposition has grown as proposed solutions (policies) have gone clearly against industry economic interests. And while evidence and advocacy alone are not sufficient, the strength of evidence and its diffusion through advocacy, public education, and media campaigns have played an important role in counteracting the power of corporations in some cases. This is how taxes on SSBs became a legitimate and supported policy in many jurisdictions, such as in Mexico. The way evidence and data are framed contributes to defining the urgency of competing issues, and framing the policy options for what should be done in response (Harris 2019). It is the strength of further evidence, and its diffusion through society, that can counteract new framings by the food industry as it attempts to discredit progressive food policy.

The 2017 report by IPES-Food draws our attention to how the prevailing power relations and narratives in food systems help to shape our understanding of the impacts they generate. In other words, the report asks why evidence gaps persist, why impacts are systematically reproduced, and why certain problems are not politically prioritised. Power – to achieve visibility, to shape knowledge, to frame narratives, and to influence policy – is at the heart of the food–health nexus, and shapes both which policy options are available and promoted, and what research is undertaken to uncover these issues. Moving forward, research on the nexus between food and health and the intersections between public policy and private interests should explicitly aim to understand the political economy behind policy debates, unpacking the language used and the implicit belief systems and interests promoted. The framework we present above might help to structure this work. It is this type of evidence that is lacking in current debates in many contexts, and it is this kind of evidence that, given the right framing, can break deadlocks in food systems.

Notes

- * Funding for this *IDS Bulletin* was provided by IPES-Food in furtherance of their aim to apply a political economy approach in understanding and reforming food systems.
- † This *IDS Bulletin* represents a collaboration between IDS and IPES-Food. Both organisations are committed to holistic, sustainable, democratic approaches to improving food systems, and to applying excellent research and political economy approaches in working towards these goals. We hope this *IDS Bulletin* represents the breadth of debate at the 2018 workshop we co-sponsored, on 'Political Economies of Sustainable Food Systems: Critical Approaches, Agendas and Challenges', and that it contributes to the sharing of knowledge in the name of sustainable and equitable food systems.
- 1 Cecilia Rocha, Researcher, Centre for Studies in Food Security, Ryerson University, Canada; IPES-Food, Belgium.
- 2 Jody Harris, Postdoctoral Fellow, Institute of Development Studies, Brighton, UK.

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