Democratizing food systems: A scoping review of deliberative mini-publics in the context of food policy

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Abstract

Deliberative mini-publics (DMPs) have attracted growing attention from both researchers and practitioners in recent years. Their purpose is to assemble random groups of citizens, representing a cross section of society, in order to engage in discussions about policy issues and formulate recommendations. During these sessions, participants are exposed to contrasting perspectives from experts and engage in respectful internal delibera-

tions, facilitated by organizers, before arriving at a carefully considered joint policy position on the topic at hand. DMPs are grounded in the belief that citizen involvement and input are essential if policy reforms are to be perceived as legitimate by the public. In the agri-food domain, they represent an innovative way to rebuild public trust in the food system, allowing citizens to reshape food policy in alignment with their values and concerns. In this study, we conducted a scoping review of the literature to assess the contexts in which foodrelated DMPs emerge, as well as their organizational characteristics, procedural qualities, and results. We identified a total of 24 case studies, revealing significant diversity between DMPs in terms of their policy themes, formats, and recruitment and decision-making procedures. In terms of results, participants reported that attending the DMP had been a positive experience and had increased their awareness of, and ability to engage in, food policy debates. However, only a handful of DMPs led to documented policy reforms. We argue that greater emphasis should be placed on post-deliberation activities and dialogues

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if DMPs are to make a meaningful impact and contribute to the democratization of food systems.

Keywords

deliberative mini-public, scoping review, food policy, food system, democracy

Introduction and Literature Review

As a universal need that shapes our daily lives and is deeply anchored in personal and cultural identities, food matters to people in a way that other issues do not. Food has a direct impact on our well-being and that of those around us, which means that it is often the focal point of debates and controversies in modern democratic societies (Ankeny, 2016). In today's world, consumers are forced to navigate the complexities of the global food system, with its array of options and associated risks. At the same time, there is growing distrust in this system and mounting criticism of its detrimental effects on human health, workers, farmers, communities, and the environment (Berglund et al., 2021; Thompson et al., 2020). As a result, the current orientation of the food system, which prioritizes productivist goals over community and social values, has fueled citizen discontent with the way food is produced, marketed, and sold (Albrecht et al., 2013; Mundler, 2022).

Food systems encompass a range of activities, from production and processing to distribution and consumption. Consequently, food policy inherently involves intricate technical considerations and complex trade-offs. This often results in decisions being made by experts and government regulators, leaving little room for citizens' voices and opinions to be heard (Ramos-Gerena, 2023). Fundamentally, such an arrangement assumes that citizens are incapable, under the right conditions, of understanding complex subjects and engaging in meaningful, well-informed dialogues, despite evidence to the contrary (Burgess, 2012). Furthermore, it overlooks the fact that "ordinary" citizens often assess and evaluate risks differently than experts and regulatory officials (Houghton et al.,

2008). Therefore, incorporating the viewpoints of citizens is crucial when formulating policies so that decisions align with public preferences (Ankeny, 2016).

Scholars have emphasized the importance of creating new spaces that can preserve or rebuild public trust in the food system by giving people a greater say in policymaking (Ankeny, 2016; Candel, 2022; Thompson et al., 2020). It is argued that such mechanisms can facilitate the democratization of food governance by allowing citizens to deliberate and formulate policy recommendations that reflect their values and priorities. The growing interest in citizen-centric spaces reflects a broader movement among theorists and practitioners seeking solutions to the "democratic malaise" endemic in modern societies. As researchers have noted, this malaise can be attributed to governance systems, both in the food sector and elsewhere, that contribute to apathy, depoliticization, and a disconnect between citizens and power centers (Harris, 2019).

In response to this phenomenon, various innovations have been proposed to enhance deliberative democracy, which rests on the notion that involving citizens in policymaking is essential for decisions to be perceived as legitimate by society (Goodin & Dryzek, 2006). Among the proposals put forward, deliberative mini-publics (DMPs) are perhaps the most celebrated and have received the most attention (Dryzek, 2002; Jacquet & van der Does, 2021). DMPs explore citizens' perspectives by creating spaces in which laypeople can engage in structured deliberations on a particular topic and issue recommendations. By establishing a two-way dialogue between policymakers and the public, DMPs have the potential to deepen societal involvement and interest in policymaking and generate innovative solutions. They can also enhance political legitimacy because they allow those most affected by the decisions—the citizens themselves—to provide their input (Harris, 2019).

Real-life DMPs are diverse, ranging from citizens' juries to consensus conferences and deliberative polls. They also differ in certain organizational

¹ Deliberative mini-publics (also sometimes called deliberative processes) is the umbrella term used to describe various citizen-centric forums that follow the main organizing principles outlined in this introduction. The full list of forums that fall within this category is presented in the methodology section.

aspects, such as the number of participating citizens, their duration, and the decision-making protocols used. However, despite these variations, all DMPs share two common features (Burgess, 2012; Curato et al., 2021). First, as their name suggests, they function as mini-publics, meaning that a group of citizens is randomly selected to represent a microcosm of society. Second, they involve a process of deliberation, defined by Fearon (1998, p. 63) as a "particular sort of discussion, one that involves the careful and serious weighing of reasons for and against some proposition." Within this framework, participants reach their conclusions after listening to differing viewpoints from experts and engaging in reasoned and open discussions on the issues presented (Curato et al., 2021). This requires participants to consider opposing perspectives, justify their preferences to others, evaluate the arguments presented by experts, and remain open to changing their positions after moments of group deliberation and personal reflection (Dryzek, 2002; Harris, 2019).

DMPs also differentiate themselves through their emphasis on inclusivity and reasonableness (Burgess, 2012). Inclusivity is promoted because each citizen has the same opportunity to be selected for participation. Put differently, DMPs are open to anyone potentially affected by an issue and do not favor those who are politically engaged, better educated, or wealthy. Furthermore, each participant is expected to have the same opportunities and resources to influence the proceedings and recommendations (Burgess, 2012). DMPs also prioritize public "reasonableness," which is achieved when citizens justify their views, listen respectfully to others, and demonstrate a willingness to alter their preferences when presented with stronger arguments or new information (Dryzek, 2002). The focus on reasonableness aligns with the primary objective of DMPs, which is to elucidate the "right" preferences of citizens (Burgess, 2012). These are preferences that have withstood the rigors of deliberation and dialogue and were formulated within a "context of good information" (Offe, 2014, p. 435).

Researchers have argued that food policy could benefit from the use of novel, democratic approaches, such as DMPs (Ankeny, 2016;

Thompson et al., 2020). In recent years, literature reviews have been conducted that provide an overview of research on DMPs (Curato et al., 2021; Jacquet & van der Does, 2021; Organisation for Economic Co-operation and Development [OECD], 2020) or that focus on case studies of DMPs from a single country or the field of healthcare (Safaei, 2015; Street et al., 2014). However, no effort has been made to consolidate the literature on DMPs specifically related to food policy. Our study addresses this gap by examining the characteristics and results of such forums. In doing so, we hope to generate insights that can inform the organization of future food-related DMPs and strengthen food democracy. To this end, we conducted a scoping review of the literature, guided by the following four research questions:

RQ1: Where and how frequently have DMPs on food policy been organized?

RQ2: How and why were these DMPs convened? This question addresses the policy issues discussed, the profiles of organizing stakeholders, and the methods for recruiting citizens and experts, as well as the decision-making protocols, among other factors.

RQ3: Do DMPs effectively capture and disseminate citizens' views on food policy, and do they result in documented policy changes or other outcomes?

RQ4: What were the strengths and weaknesses of each DMP and what lessons were learned that could improve the organization of future food-related DMPs? This question looks at the quality of the proceedings.

The rest of the article is organized as follows. We describe our research methodology, after which we present and discuss our results. Lastly, we draw conclusions from the findings, explore the implications and limits of our study, and offer suggestions for future research on citizen participation in food policymaking.

Applied Research Methods

Based on insights from Munn et al. (2018) and Arksey and O'Malley (2005), we opted for a scoping review as the most suitable search protocol. A relatively novel type of knowledge synthesis, scoping reviews are useful for determining the nature

and extent of research on a particular topic (Peters et al., 2015; Tricco et al., 2018). They differ from systematic reviews because they do not formally assess the methodological quality of the included studies or the risk of bias (Munn et al., 2018). Scoping reviews are a valuable tool for exploring research topics that have not been extensively reviewed or for integrating studies from various disciplines (Peters et al., 2015; Terstappen et al., 2013). This was appropriate for our purposes, given the absence of prior literature reviews on food-related DMPs and the numerous fields that food policy covers, including health, nutrition, science, the environment, and economics. Our choice was also motivated by the fact that scoping reviews are well suited for investigating open-ended research questions (Peters et al., 2015), such as the ones we posed in the preceding section.

To be considered for inclusion, a study had to present primary research and meet the following criteria:

- The study addressed DMPs related to food policy.
- The study was published between 2002 and 2022. This timeframe was chosen after reviewing OECD data on the number of DMPs (not just those specific to food policy) conducted annually in member countries since 1979 (OECD, 2022). The data indicated a sharp and sustained increase in the frequency of such forums since the mid-2000s. Although our scoping review was not limited to OECD member countries, the trend provided a useful indication of the relevant search period.
- The study was written in English or French. We considered studies in French because literature reviews should ideally consider publications in languages other than English (Lefebvre et al., 2022).²
- The results were published in a peerreviewed article or the gray literature (work-

ing/conference papers, theses, and reports). We chose to include gray literature under the assumption that not all DMPs resulted in the publication of peer-reviewed articles.

We did not limit our search to a particular geographic area, since such a restriction could lead to the omission of critical findings. In total, six databases were searched: Web of Science, CAB Abstracts, Business Source Premier, Sociological Abstracts, ABI/Inform Global, and CAIRN. These databases were chosen following consultations with a university librarian and were selected for their multidisciplinary coverage and ability to generate broad search results.

The keywords used in our search query referenced various types of DMPs. Not all citizen gatherings can be classified as DMPs, which involve randomly recruiting participants, the use of structured deliberations, and the formulation of policy recommendations. Therefore, it was crucial that the search terms be limited to forums that adhere to these key organizing principles of DMPs. To this end, we conducted an initial literature search in order to compile a list of forums previously identified by researchers as falling under the umbrella term DMP (Ankeny, 2016; Harris, 2019; Jacquet & van der Does, 2021; OECD, 2020). The full list included: "citizens' assembly," "citizens' jury," "citizens' panel," "reference panel," "community panel," "consensus conference," "planning cell," "citizen deliberation meeting," "G1000," "citizens' council," "citizens' summit," "citizens' forum," "citizens' dialogue," "citizens' workshop," "citizens' hearing," "worldwide view," "Europe wide view," "citizens' initiative review," "permanent deliberative body," "permanent deliberative forum," "deliberative event," "deliberative poll," and "deliberative survey." Each term was separated by the Boolean operator OR and truncated to account for alternative endings. We then combined these terms (using the Boolean operator AND) with the following truncated keywords to narrow

² French was included because all authors are fluent in the language. Furthermore, as members of a French-language university, we were able to access a specialized database of French publications through the university library system.

³ For the last three terms, "Deliberative" was used on its own to account for other possible terms, such as "deliberative workshop" or "deliberative meeting."

the search to DMPs addressing food policy: "food*" OR "agri*" OR "agro*" OR "farm*."

Before starting the scoping review, we tested the search terms using the Web of Science database. Subsequently, we removed two keywords that were initially included, "consum*" (for "consumption," "consumers," etc.) and "produc*" (for "production," "producers," etc.), as their inclusion led to a significant increase in search results without yielding any relevant studies. Additionally, we searched for gray literature using Google Scholar and a modified search query⁴ and, based on the recommendations of Haddaway et al. (2015), imported the first 200 results from Google Scholar for screening.

A total of 1,130 search results⁵ were obtained, downloaded to EndNote, and subsequently exported to the Covidence software program for screening and analysis. The flow chart in Figure 1 illustrates the identification and sorting process. Covidence automatically identified and eliminated most duplicates (n = 305), and we manually removed any remaining duplicates (n = 45). The titles and abstracts of the remaining 780 records were then reviewed to exclude obviously irrelevant studies that did not meet our inclusion criteria. This procedure reduced the pool of potential studies to 191, each of which then underwent a full-text review. Following this step, 23 studies were added to the final sample.

We then reviewed the reference sections of the 23 studies to identify any relevant publications that might have been missed in the previous database search. This led to the inclusion of eight additional studies. As a final check, we browsed the project archives of 11 institutes that organize DMPs and identified one more publication that met our inclusion criteria.

Upon reviewing the 32 retained studies (comprising 23 from database searches and nine from reference and project archive searches), we identified eight instances where two separate studies reported on the same DMP (in all cases by the

same author). To avoid biasing the results, we merged these studies, designating one as the primary reference. This consolidation yielded a final count of 24 distinct case studies.

Guided by our four research questions, we created a data extraction template in Covidence (see Appendix A). Template headings were structured to collect information on each DMP's (a) context, (b) organizational characteristics, (c) outcomes, and (d) procedural qualities. We extracted information by manually transcribing relevant passages from the study into the text field under each heading⁶ and then transferred the extracted data to an Excel spreadsheet for content analysis. The information collected for each heading was thematically evaluated, and codes were developed using an inductive approach. The results of this analysis are presented in the following section.

Results and Discussion

Context and Trends

We begin by exploring the main temporal and geographic trends found in the final sample. Figure 2 charts the number of publications since 2002 and highlights a growing literature on DMPs in the context of food policy. The increase in studies since 2016 is particularly notable compared to the previous two time periods. This pattern mirrors the broader surge of interest in DMPs as a way of engaging citizens in policymaking, including on topics unrelated to food and agriculture.

However, the case studies were geographically concentrated in certain regions and countries (see Table 1). Europe hosted a total of 10 DMPs, while Australia hosted six. On the other hand, North America hosted only one, while Asia and Africa organized four and three, respectively. Of those that took place in Africa and Asia, only four occurred in developing countries. Certain organizational activities are typically associated with DMPs (designing citizen recruitment strategies, hiring experts and trained facilitators, publishing reports

⁴ Since Google Scholar does not support truncation, we used exact search terms. Google Scholar also has a word limit, which required the use of a shorter search query.

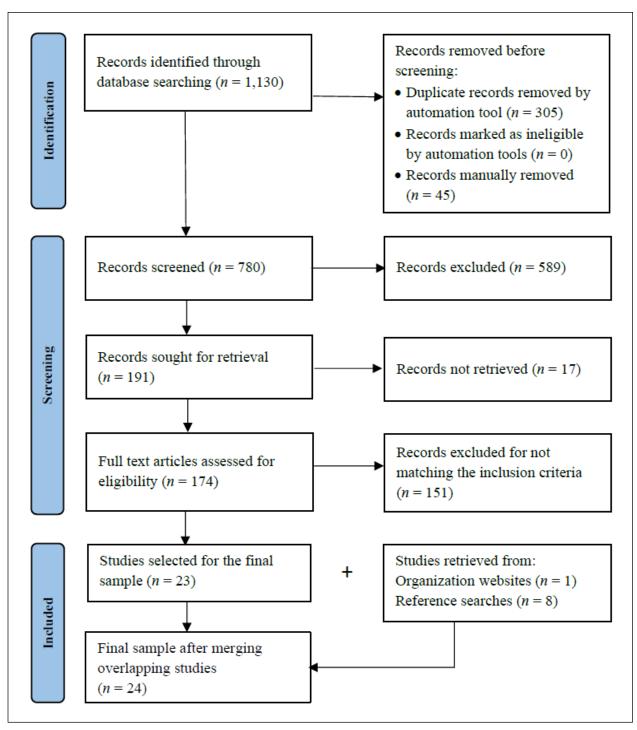
⁵ The last search was conducted on July 30, 2022.

⁶ If a study lacked information related to a specific heading, the corresponding text field was left empty.

outlining citizens' recommendations, etc.). While these activities are intended to protect the quality and legitimacy of the proceedings, they make it difficult to organize and fund such forums in low-income countries (Ross, 2022).

Composition of DMPs and Policy Themes
Appendix B provides information on each DMP, specifically the organizational format adopted, the number of participants, the policy theme addressed, and the country and administrative level

Figure 1. Sorting and Identification Process



concerned. In most cases (n = 15), DMPs were organized as citizens' juries. These forums typically consist of 10 to 25 participants who meet over a

Figure 2. Frequency of Publications (2002-2022)

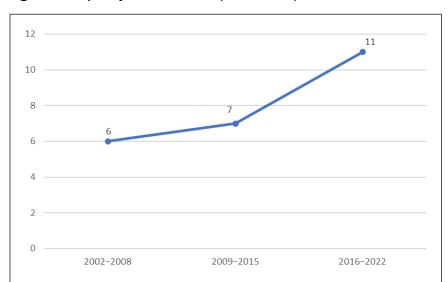


Table 1. Breakdown of Deliberative Mini-Publics (DMPs) by Region and Country

Country/Region	Frequencya
Europe	
United Kingdom	4
Germany	1
France	2
The Netherlands	1
Ireland	1
Switzerland	1
Norway	1
Italy	1
Africa	
Ghana	1
Mali	2
Asia	
Taiwan	1
India	1
Japan	2
North America	
Canada	1
Oceania	
Australia	6

^a The total number of DMPs (26) exceeds the number of studies (24) because, in one article (Miele et al., 2011), DMPs were conducted in three countries.

short period (often one or two weekends) for deliberation and decision-making (Ankeny, 2016). Another five studies featured consensus confer-

> ences, which are similar to citizens' juries in terms of duration and number of participants, but often incorporate preparatory workshops before the main event. Three additional studies focused on citizens' assemblies, which tend to be longer and involve more participants than citizens' juries and consensus conferences. Finally, in one study, the DMP was described as a deliberative polling exercise. Unlike other formats, where participants formulate recommendations at the end of the event, deliberative polls

capture the opinions of citizens at different stages of the proceedings in order to track changes in viewpoints after key moments of deliberation or when new information is presented. From an administrative standpoint, most of the DMPs (n = 17) addressed food-related issues under the jurisdiction of national policymakers.

In practice, there was some overlap between organizational formats. For example, three citizens' juries incorporated deliberative polling techniques (Henderson et al., 2013; Moretto et al., 2014; Withall et al., 2016). Additionally, while citizens' juries are typically designed for smaller groups of participants, four of the citizens' juries in our sample recruited 45 or more citizens.

Most DMPs involved the same group of individuals gathering at a single location, except in two cases where sessions were organized across multiple regions or countries (Miele et al., 2011; Van Lieshout et al., 2017). Typically, the DMPs assembled fewer than 20 people, mainly because most were organized as citizens' juries or consensus conferences. However, even in smaller DMPs (≤ 20 participants), organizers often divided attendees into groups to facilitate deliberations before reconvening for a plenary session. On average, the dura-

tion of a DMP was four days,⁷ although some included preparatory sessions before the main event.

Based on the policy topic(s) discussed, we organized DMPs into six thematic categories:
(a) food technology and research, (b) agriculture and the environment, (c) health and nutrition, (d) food security, (e) farming methods and land policy, and (f) food marketing (see Table 2).

When a study could be grouped into more than one category, we determined the best fit. Although most of the DMPs focused primarily on food and agriculture-related topics, in certain instances, the food policy issues debated were part of broader discussion themes, such as combating climate change (Devaney et al., 2020; Giraudet et al., 2022; Schol, 2021).

The first theme, food technology and research, emerged as the most prominent category in terms of the number of case studies. Citizens' recommendations on this topic varied. Some called for the prohibition or imposition of a moratorium on genetically modified organisms (GMOs) or nanofoods (Policy, Ethics and Life Sciences Research Centre [PEALS], 2003; Pimbert & Barry, 2021; Schol, 2021; Skorupinski et al., 2007). In contrast, other DMPs rejected GMO bans but advocated for mandatory labeling systems on food packages (Joly et al., 2003; Yamaguchi, 2010). Many of the recommendations called for greater accountability from regulatory agencies and scientists and for more research on the health and environmental impacts of GMOs (Joly et al., 2003; Nishizawa, 2005;

Table 2. Breakdown of Deliberative Mini-Publics (DMPs) by Thematic Area

Theme	Publication	
Food Technology and Research Key themes: assessing the risks and benefits associated with genetically modified organisms (GMOs) and nanofoods; regulating food technology research; public oversight and accountability; GMO and nanofood labeling systems	PEALS (2003) Nishizawa (2005) Joly et al. (2003) Schol (2021) Yamaguchi (2010) Skorupinski et al. (2007) Pimbert and Barry (2021) Pimbert et al. (2010) Fan (2015)	
Agriculture and the Environment	Giraudet et al. (2022)	
Key themes: impact of agriculture on climate change; taxing greenhouse gas emissions from farming; promoting local agriculture; minimizing food waste	Devaney et al. (2020)	
Health and Nutrition	VicHealth (2016)	
Key themes: taxing unhealthy foods; combating childhood obesity; comparing government and industry health rating systems for food packages; regulating food advertising	Street et al. (2017) Moretto et al. (2014) Henderson et al. (2013) Anaf et al. (2018)	
Food Security	Timotijevic and Raats (2007)	
Key themes: Improving food access for marginalized populations; exploring livelihood strategies and trade-offs between food production and environmental goals	Chen (2021)	
Farming Methods and Land Policy	Hanson (2018)	
Key themes: animal welfare; urban food planning; evaluating the merits of intensive agriculture; comparison of organic and conventional agriculture	Van Lieshout et al. (2017) Pimbert and Wakeford (2002) Miele et al. (2011) Barnes et al. (2009)	
Food Marketing	Withall et al. (2016)	
Key themes: country-of-origin labeling; empowering consumers to make informed food choices; food marketing strategies		

⁷ In some studies, citizens met for the entire day; in others, the meetings lasted half a day.

PEALS, 2003; Yamaguchi, 2010). In some DMPs, participants favored agroecological practices over GMO use and emphasized the importance of involving farmers in setting agricultural research priorities (Nishizawa, 2005; PEALS, 2003; Pimbert et al., 2010; Schol, 2021).

The second category, agriculture and the environment, covers two DMPs, conducted in France (Giraudet et al., 2022) and Ireland (Devaney et al., 2020), both of which focused on mitigating greenhouse gas emissions. In the Irish DMP, attendees overwhelmingly approved a proposal to tax greenhouse gas emissions from agriculture. Meanwhile, in the French DMP, citizens recommended shortening food chains, minimizing food waste, reforming agricultural education, regulating food additives, and promoting organic farming. However, unlike in Ireland, citizens in the French DMP (who had a say in the discussion topics) decided to remove carbon taxes from the agenda, as it was considered too politically controversial.

In the third category, health and nutrition, DMPs explored strategies to promote healthy eating. In most cases, participants recommended increasing taxes on obesogenic foods (Anaf et al., 2018; Moretto et al., 2014; VicHealth, 2016). However, in one DMP, there was disagreement among participants about which product categories, other than sugar-sweetened drinks, should be subject to increased taxation (Moretto et al., 2014). Some DMPs supported a ban on "junk food" advertising (Street et al., 2017; VicHealth, 2016), while others advocated for stricter marketing regulations (Anaf et al., 2018; Henderson et al., 2013). Nevertheless, a strong consensus emerged across all DMPs on the need for a mandatory health rating system on food packages (Anaf et al., 2018; Moretto et al., 2014; Street et al., 2017; VicHealth, 2016). Additional recommendations included offering financial incentives to encourage healthy food purchases among low-income households (VicHealth, 2016) and reforming zoning laws to improve access to healthy foods (or restrict access to unhealthy foods), particularly around schools (Street et al., 2017; VicHealth, 2016). Citizens also proposed incentivizing farmers to improve community access to healthy foods (Street et al., 2017) and developing programs to educate children and the general

public about nutrition and healthy food choices (Anaf et al., 2018; Street et al., 2017; VicHealth, 2016).

Fourthly, two DMPs sought ways to promote *food security* by increasing the availability of nutritious food for vulnerable populations. The first DMP, conducted in the United Kingdom and focused on the needs of seniors, concluded that food security could be improved through stricter enforcement of existing standards, as well as regulatory changes to align food retail practices with public health goals (Timotijevic & Raats, 2007). In the second DMP, organized in rural Ghana, citizens decided that increasing the supply of food safe for human consumption (i.e., free from water and soil contaminants) required the introduction of new municipal policies to promote environmentally friendly agriculture (Chen, 2021).

In the fifth category of DMPs, centered on agricultural methods and land policy, citizens explored their preferences for various land use systems. Overall, the recommendations emphasized the importance of conserving farmland and promoting agricultural sustainability. In one DMP, participants proposed amending municipal laws to protect fertile land in peri-urban areas and to maximize spaces for urban food production (Hanson, 2018). In other instances, citizens favored small-scale and environmentally friendly livestock farming (Van Lieshout et al., 2017), advocated for stricter welfare standards for farm animals (Miele et al., 2011), or supported farming systems that combined aspects of conventional and organic agriculture (Barnes et al., 2009).

In the final category, *food marketing*, we identified a single case study (Withall et al., 2016) in which citizens discussed ways to improve the effectiveness of a country-of-origin labeling system so that consumers could make more informed food choices.

In terms of funding, most of the DMPs (n = 15) received financial support from a government or quasi-government agency. Other funding sources included academic/research institutes (n = 3) and nonprofit organizations (n = 3). In four cases, the funder could not be identified, and two DMPs were jointly funded by two entities. None of the studies provided a

detailed breakdown of how the funds were spent. However, in some cases, participating citizens received a per-diem allowance.

In most DMPs (n = 15), multiple stakeholder groups participated in organizing the proceedings. Researchers were the group of organizers most frequently cited (n = 16), followed by public agency officials (n = 12), nonprofit or civil society associations (n = 11), independent consultants or consultancy firms (n = 5), and food industry representatives (n = 3). Although 10 studies did not provide details on the experts recruited to make presentations, the remaining sample indicates that DMP organizers engaged a wide range of specialists to present opposing viewpoints on the policy issue discussed. These experts were drawn from public agencies (n = 10), academia (n = 10), organizations representing the food industry (n = 9), and nonprofit associations (n = 11).

Stratified random sampling was used by all DMPs that described their citizen recruitment methods (n = 20). Although DMPs are not intended to be statistically representative of the population, this sampling strategy serves to ensure a diverse representation of citizens from various backgrounds. Among the recruitment criteria applied were age (n = 15), sex (n = 18), employment status or type of occupation (n = 10), geographic location (n = 9), income or socioeconomic status (n = 6), education (n = 3), and political affiliation (n = 2). Furthermore, some organizers considered factors such as urban and rural residency (n = 2), consumer profiles (e.g., vegetarians, health-conscious consumers; n = 1), or family status (e.g., parents with young children; n = 1).

Rather than being organized as isolated events, the DMPs were often part of broader consultations with citizens and stakeholders. These parallel societal dialogues took various forms, such as focus groups or public meetings, and frequently involved a larger number of participants than the DMP itself (Giraudet et al., 2022; Hanson, 2018; Miele et al., 2011; Pimbert et al., 2010; Yamaguchi, 2010). Other forms of consultation included conferences and informational workshops (Miele et al., 2011; Timotijevic & Raats, 2007; Van Lieshout et al., 2017), as well as the use of consumer surveys (Schol, 2021) and newspaper polls (VicHealth,

2016). These outreach measures were designed to generate public interest in the DMP.

Interestingly, some DMP organizers gave the citizens a say in the organization of the proceedings. This usually occurred during preparatory sessions, during which participants were tasked with formulating questions for the experts. In some cases, participants were consulted on which experts they wanted to hear from (Fan, 2015; Joly et al., 2003; Schol, 2021; Skorupinski et al., 2007; VicHealth, 2016) or were allowed to decide how the policy issue would be framed (Hanson, 2018; Joly et al., 2003; Pimbert & Barry, 2021; Skorupinski et al., 2007). In three DMPs, members of the public were also invited to submit proposals, ideas, or opinions through an online portal, which were then compiled and presented to DMP participants for consideration (Devaney et al., 2020; Giraudet et al., 2022; VicHealth, 2016).

In total, 16 studies described the decision-making protocol that was followed. The protocol adopted the most frequently was the majority vote (*n*=13), which often involved multiple rounds of voting that culminated in a final decision. In other cases, participants ranked policy proposals according to their perceived importance rather than voting on each item separately (Chen, 2021; PEALS, 2003; Street et al., 2017). Some DMPs also included minority statements along with the majority opinion (Anaf et al., 2018; Skorupinski et al., 2007; VicHealth, 2016).

Post-Deliberation Outcomes and Activities Most of the studies (n = 17) described the activities that took place after the DMP was completed. Organizers used various means to disseminate the DMP's recommendations to food policymakers and the public. The method most frequently cited was the publication of a report summarizing the citizens' proposals (n = 9). In six cases, the organizers communicated the proposals to government representatives, but it was not clear whether a report was written. Two DMPs went beyond policymakers and shared their recommendations with other stakeholders, including food industry representatives, community leaders, and scientists (Schol, 2021; VicHealth, 2016). In some instances (n = 7), organizers also held press conferences or

published news articles to increase public awareness of the DMP and its verdict.

Most studies did not specify whether food policymakers responded to the recommendations or reported no response (n = 16). In this subset, a median of two years had transpired between the conclusion of the DMP and the publication of the study. This suggests that, in many cases, not enough time had elapsed for policy reforms to have been officially documented. Regardless of the reason, only eight studies reported receiving an official government response. Of these, five indicated that policymakers had committed to either fully or partially implementing the citizens' recommendations (see Table 3).

However, as shown in Table 3, several studies described additional results. For instance, post-surveys indicated that citizens in some DMPs reported a better understanding of the topic discussed or increased confidence in their ability to engage in food policy debates. The participants also mentioned that the presentations by scientists had made them less distrustful of experts. Likewise, interactions with citizens provided invited experts with valuable information on how to communicate with the public on potentially contentious food

issues. Lastly, two DMPs conducted in the Global South galvanized civil society groups to collaborate and initiate policy dialogues aimed at reshaping food sovereignty and agricultural research priorities.

Quality of the Proceedings

In the following subsection, we evaluate the strengths and weaknesses of the DMPs as documented in the literature. We also explore the lessons learned from these proceedings that could inform the organization of future DMPs on food policy.

Measures to Safeguard the Proceedings

DMPs are meant to enable citizens to hear from experts with contrasting viewpoints, a practice observed in all case studies that described their expert recruitment strategy. Some organizers introduced additional mechanisms to guarantee fairness and transparency, such as establishing planning committees composed of stakeholders representing various professional interests (Nishizawa, 2005; PEALS, 2003; Pimbert & Barry, 2021; VicHealth, 2016). In two DMPs, experts were requested to leave the room, either by participants or organizers,

Table 3. Documented Outcomes of the Deliberative Mini-Publics (DMPs)

Type of documented outcome	Description	Publication	
Policy Reforms	Ban on GMOs; improved monitoring of the long-term impacts of GMO crops	Nishizawa (2005) Pimbert and Barry (2021)	
	Regulatory adjustments in livestock management; implementation of herd size caps	Van Lieshout et al. (2017)	
	Enactment of legislation or government action plan to curb greenhouse gas emissions from agriculture	Devaney et al. (2020) Giraudet et al. (2022)	
Other Outcomes	Improved citizen awareness and understanding of food policy issues	Timotijevic and Raats (2007) Barnes et al. (2009) Henderson et al. (2013) Fan (2015) Hanson (2018) Schol (2021)	
	Greater self-confidence and ability to participate in food policy discussions	Timotijevic and Raats (2007) Fan (2015) Pimbert and Barry (2021)	
	Establishment of trust between citizens and experts	Miele et al. (2011) Schol (2021)	
	Enhanced collective organization	Pimbert et al. (2010) Pimbert and Barry (2021)	

during key moments of deliberation in order to create a space where citizens could express themselves freely (PEALS, 2003; VicHealth, 2016). Additionally, 10 DMPs divided participants into subgroups so that marginalized or less vocal members could engage more openly in discussions. Some also promoted transparency by arranging for media observers to be present during the proceedings (Devaney et al., 2020; Pimbert & Barry, 2021) or by live streaming or videotaping the event (Devaney et al., 2020; Fan, 2015).

Evaluation of Participants' Experiences

However, in other procedural aspects, the results were mixed. During post-surveys, which not all DMPs conducted, a majority of participants reported that the DMP had been a positive experience (Anaf et al., 2018; Fan, 2015; Hanson, 2018; Henderson et al., 2013; Nishizawa, 2005; Timotijevic & Raats, 2007) or mentioned that interactions with other participants had been constructive and respectful (Chen, 2021; Timotijevic & Raats, 2007). On the other hand, observer testimonials highlighted instances of conflict, such as interruptions or power imbalances among participating citizens, with certain individuals or groups, such as men, dominating the discussions (Fan, 2015; Giraudet et al., 2022; Pimbert et al., 2010; Timotijevic & Raats, 2007; Yamaguchi, 2010). The proceedings could also be affected by unequal relationships between experts and citizens or between organizers and citizens. For example, in some DMPs, participants were observed deferring to the invited experts, or the experts themselves displayed patronizing attitudes (Pimbert & Barry, 2021; Skorupinski et al., 2007; Yamaguchi, 2010).

Clarity of the Information

Post-surveys (or post-evaluations) indicate that many DMPs were successful in ensuring that the information presented by experts was clear and jargon-free and that participants had ample time to familiarize themselves with the issues (Anaf et al., 2018; Fan, 2015; PEALS, 2003; Pimbert & Barry, 2021; Timotijevic & Raats, 2007; VicHealth, 2016). However, other studies concluded that insufficient time had been allocated for presentations and deliberations (Henderson et al., 2013; Moretto et

al., 2014; Street et al., 2017; Timotijevic & Raats, 2007) or that citizens should have received prior instruction on the difference between advocacy and academic viewpoints (Giraudet et al., 2022).

Citizen Representation

Some studies also highlighted instances of unbalanced representation among recruited citizens. Self-selection bias can manifest during DMP recruitment since participation is voluntary. As a consequence, certain events attracted citizens who were already well-informed about the topic (Hanson, 2018) or who had higher levels of educational attainment (Fan, 2015; Timotijevic & Raats, 2007). These findings suggest that, without inclusive outreach strategies, DMPs run the risk of recruiting participants who are wealthier or more politically engaged, potentially excluding "average" citizens or those of lower socioeconomic status. In some cases, the composition of the participants also suffered from a lack of ethnic diversity (Henderson et al., 2013; Timotijevic & Raats, 2007).

Impartiality

Most surveyed participants agreed that the proceedings had been fair, that the organizers were trustworthy, and/or that the panel of experts was balanced (Fan, 2015; Giraudet et al., 2022; Henderson et al., 2013; Nishizawa, 2005; Skorupinski et al., 2007; Timotijevic & Raats, 2007). However, some DMPs were targeted by outside interference or discrediting campaigns (Hanson, 2018; Pimbert & Barry, 2021) or struggled to attract certain types of experts-scientists, food industry representatives, and so forth—despite having sent out invitations (Giraudet et al., 2022; Moretto et al., 2014; Nishizawa, 2005; PEALS, 2003; Pimbert & Barry, 2021; Schol, 2021). In some instances, this led to speculation that the final verdict could have been different had certain stakeholders not been absent, either during the entire process or at critical moments (Anaf et al., 2018; Schol, 2021).

Documented Lessons

The evidence suggests that, for citizens to provide informed and meaningful verdicts, the food policy theme or question presented should be clearly defined, using neutral terms and plain language (Moretto et al., 2014; VicHealth, 2016). Some studies also stressed the importance of allowing citizens to explore more than one policy question rather than limiting deliberations to a single question (Joly et al., 2003; PEALS, 2003). Ultimately, the number of questions presented will depend on the duration of the DMP and the nature and complexity of the topic. Organizers should also understand that the choice to use single or multiple questions, by shaping the discussions, is likely to influence the overall verdict and the number of recommendations made (Moretto et al., 2014). Similarly, the nature of the recommendations will depend on whether the food policy topic was framed as a problem or whether organizers used unbiased terms (Timotijevic & Raats, 2007; Van Lieshout et al., 2017).

When recruiting citizens, it is important to include underrepresented groups, such as youth and seniors (Devaney et al., 2020; Henderson et al., 2013). However, the use of stratified random sampling may not be enough to achieve inclusivity, especially if certain groups, even after being identified and selected, are more likely to withdraw (Timotijevic & Raats, 2007). Organizers should also consider gender when recruiting experts, as the delivery of, and response to, presentations can vary depending on the presenter's gender. Equitable gender representation in this regard could help reduce irrelevant differences between presentations that could unduly influence the verdict, allowing participants to focus on the arguments made (Henderson et al., 2013).

According to Moretto et al. (2014), DMP organizers should also ensure that enough time is available for experts to make their presentations and for citizens to ask follow-up questions and engage in discussions. When DMPs take place over multiple days, citizens have reported gathering their own evidence between meetings from friends or newspapers, for example, and these "private" deliberations enhance the quality of subsequent sessions (PEALS, 2003; Schol, 2021). On the other hand, Henderson et al. (2013) argue that DMPs should not continue for longer than is necessary for citizens to reach an informed verdict.

A consistent theme across many of the studies was the need to establish safeguards to protect the integrity of the DMP. Indeed, organizers should

never perceive themselves as so independent that they can forgo the creation of an arms-length, multistakeholder oversight panel (PEALS, 2003; Pimbert & Wakeford, 2002). Ultimately, for foodrelated DMPs to gain acceptance, the proceedings must be viewed as credible, fair, representative, and not influenced by interest groups (Giraudet et al., 2022; Pimbert et al., 2010). The organizers should also engage with representatives from the food industry, civil society groups, and the media to communicate the purpose of the DMP in advance and address any negative perceptions. This is important since a DMP can be derailed if potential detractors view the event as ideologically driven or doubt the ability of citizens to understand complex food policy issues. Through outreach, organizers can increase the likelihood that hesitant groups or institutions will agree to participate as experts, thus ensuring a balanced panel of presenters. For Pimbert et al. (2010), inviting skeptical groups to participate as observers can also be an effective way to address concerns.

Other findings suggest ways in which future DMPs could have a greater impact on food policy. For instance, Devaney et al. (2020) highlight the importance of securing a clear, agreed-upon commitment from the government to follow up on the proposals made. In the absence of such guarantees, the implementation of citizens' recommendations can become marred by uncertainty and confusion (Giraudet et al., 2022). Concrete outreach strategies are needed to prevent this from happening and to generate trust and buy-in among policymakers and the general public (Devaney et al., 2020). Organizers should also consider keeping participants engaged once the DMP has concluded, for instance, by communicating the results of their work (Devaney et al., 2020; Giraudet et al., 2022).

A final point to consider is that food-related DMPs are embedded within broader political, cultural, and social contexts. In other words, the environment in which a DMP takes place can significantly influence the types of proposals put forward, as well as the response of policymakers (Nishizawa, 2005). For example, the DMPs conducted in East Asia issued recommendations that did not overtly challenge the government's position on GMOs and nanofoods. This outcome was attributed to cultural

taboos around publicly expressing strong opinions and a technocratic decision-making style that leaves little room for bottom-up policy initiatives (Fan, 2015; Nishizawa, 2005; Yamaguchi, 2010). Consequently, as a tool for bringing about reforms in food policy, DMPs may be more successful in certain cultural settings than in others.

Conclusion

DMPs have received increasing attention as a way to involve citizens in food policymaking. Our review found that such forums cover a wide range of topics, from agricultural biotechnology to healthy eating and land use planning. From a governance perspective, most of the DMPs addressed national policy issues, with only a few focusing on local or regional food concerns. Most of the DMPs were publicly funded, although in most cases it is unclear whether the impetus to organize the DMP originated from the authors of the study or the funding agency. Organizing stakeholders included academics, nonprofits, government officials, and, to a lesser extent, representatives of the food industry.

Our findings highlight the importance of equitable citizen and expert recruitment methods in upholding the legitimacy of DMPs. Many organizers used stratified sampling techniques to include citizens with diverse life experiences, profiles, and values. Some DMPs also incorporated preparatory sessions, workshops, and public consultations, allowing citizens to prepare questions for the experts or determine the framing of issues. We argue that such measures help generate buy-in from participants and prevent DMPs from becoming venues in which citizens are simply passive recipients of information. The DMP organizers also made concerted efforts to ensure that the invited experts reflected different perspectives on the topic in question. At the same time, there was limited discussion of the content of the presentations. Consequently, we cannot determine the extent to which these contrasting viewpoints were evidence-based.

The DMPs enhanced the awareness and capacity of citizens to participate in food policy debates. However, only 20% of the studies indicated that policymakers followed up with the recommenda-

tions. Various factors might explain this. Firstly, as previously mentioned, some studies might have been published before any policy changes occurred. Secondly, there is the difficulty of establishing whether reforms can be attributed to a DMP or larger societal or stakeholder dialogues. Thirdly, many of the DMPs were organized early in the policymaking cycle and primarily aimed at exploring whether a particular topic should be put on the political agenda. In other words, none of the DMPs asked participants to provide input on upcoming legislation, such as proposals for new taxes, certification standards, or regulations. Lastly, it appears that some DMPs were conducted as academic exercises to understand citizens' preferences rather than to engage in post-deliberation dialogues with public authorities about the findings.

Whatever the underlying reasons, the general lack of results raises questions about the ability of DMPs to democratize food systems through policy reforms that reflect citizens' values and priorities. It also echoes larger criticisms about the divide between deliberative civic engagement and the world of policymaking (Collingwood & Reedy, 2012). Based on the limited number of case studies that reported policy changes, we argue that in the future, DMP organizers should proactively develop a well-structured plan to communicate the recommendations made to relevant stakeholders. Equally important is the need for policymakers to publicly commit to reviewing the recommendations before deliberations even begin.

The results of our study have certain limitations that should be noted. Firstly, the scoping review was restricted to case studies of DMPs published in English or French. As a result, we may have missed findings from food-related DMPs published in other languages. Future research could potentially expand our sample size by including additional languages. Also, there may be DMPs that we did not account for because the proceedings were not published in the scientific or gray literature. Finally, the studies found were mainly intended for researchers rather than practitioners, which means that they often do not offer specific guidelines on how to organize DMPs. However, practitioners interested in launching future foodrelated DMPs should consult two studies,

VicHealth (2016) and Pimbert and Barry (2021), as both provided a highly detailed explanation of their methodology.

Ultimately, given the limited policy impact observed, future research should focus on strategies to bridge the gap between DMPs and food policymaking. Consideration should also be given to organizing DMPs later in the policymaking cycle

when different solutions are being debated rather than convening citizens to discuss whether an issue should be put on the agenda. Finally, since most of the DMPs were held in industrialized countries, researchers should examine the barriers that prevent the more widespread use of such forums in developing countries and propose solutions.

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Appendix A.

Table A1. Factors Considered for Analyzing Deliberative Mini-Publics (DMPs)

1. Context

- Publication year
- Year the DMP took place
- DMP location

2. Composition and Theme of the DMP

- Organizational format
- Policy theme addressed
- Administrative level concerned (municipal, regional, national, supranational, etc.)
- Commissioning (funding) authority
- Stakeholder(s) involved in organizing the DMP
- Recruitment and profile of expert witnesses
- Recruitment and profile of citizens
- Total number of participating citizens
- Duration of the proceedings
- Parallel public consultation(s)
- · Citizen involvement in organizing the DMP
- Decision-making protocol(s)
- Recommendations or decisions reached

3. Post-Deliberation Outcomes and Activities

- Dissemination of recommendations to policymakers and the public
- Public authorities' response to recommendations
- Additional reported outcomes (impacts other than policy reforms)

4. Quality of the Proceedings

- · Documented strengths of the DMP
- · Reported challenges or weaknesses of the DMP
- Documented lessons learned

Appendix B.

Table B1. Deliberative Mini-Publics (DMPs) Categorized by Number of Participants, Format, Policy Theme, Country, and Administrative Level

Publication	Number of Citizen Participants	Deliberative Model	Policy Theme	Country	Policy Level
Pimbert and Wakeford (2002)	19	Citizens' Jury	Eliciting citizens' preferences for different food system scenarios; small-scale agriculture; use of GMO crops and pesticides	India	Regional
PEALS (2003)	N/A	Citizens' Jury	Evaluating the merits of GMO crops and research; regulatory oversight	United Kingdom	National
Joly et al. (2003)	14	Citizens' Assembly	Regulating sales of GMO foods; GMO labeling; institutional oversight and responsibility	France	National
Nishizawa (2005)	18	Consensus Conference	Government oversight of biotechnology; identification of future GMO research priorities	Japan	National
Timotijevic and Raats (2007)	10	Citizens' Jury	Modifying food retail practices to support seniors; improving food access; nutrition	United Kingdom	National
Skorupinski et al. (2007)	28	Consensus Conference	Assessing the production and marketing of GMO foods; deciding the future of biotechnology research	Switzerland	National
Barnes et al. (2009)	12	Citizens' Jury	Evaluating preferences for organic vs. conventional agriculture; regulating organic farming	United Kingdom	National
Yamaguchi (2010)	10	Consensus Conference	Nanofood applications and risks; labeling standards; worker safety; fostering openness and transparency in nanofood development	Japan	National
Pimbert et al. (2010)	42	Citizens' Jury	Identifying agricultural research priorities; democratizing the governance of food and agricultural research	Mali	Supranational
Miele et al. (2011)	11	Citizens' Jury	Exploring citizens' views on farm animal welfare; organic and conventional livestock farming; designing animal welfare assessment protocols	Italy; United Kingdom; Norway	Supranational
Henderson et al. (2013)	17	Citizens' Jury	Regulating food and drink advertising aimed at children; combating childhood obesity	Australia	National

Moretto et al. (2014)	13	Citizens' Jury	Assessing the merits of taxation on obesogenic foods and drinks; creating a health rating system for food packaging; improving nutritional information	Australia	National
Fan (2015)	20	Consensus Conference	Evaluating GMO practices; protecting consumer interests; labeling policies	Taiwan	National
VicHealth (2016)	78	Citizens' Jury	Prioritizing government, industry, and community responses to obesity; financial incentives; taxation on obesogenic foods; health rating system for food packages	Australia	Regional
Withall et al. (2016)	14	Citizens' Jury	Country-of-origin labeling; informed consumer choice; promoting local food	Australia	National
Van Lieshout et al. (2017)	7	Citizens' Jury	Evaluating the future of intensive agriculture; livestock production; animal welfare; landscape and environmental conservation	The Netherlands	National
Street et al. (2017)	20	Citizens' Jury	Fighting childhood obesity; taxation of unhealthy foods; health labeling; nutrition education; advertising bans; farm subsidies; zoning laws for fast food outlets	Australia	National
Hanson (2018)	58	Citizens' Jury	Developing urban food production; land use planning	Canada	Municipal
Anaf et al. (2018)	15	Citizens' Jury	Government regulation of the fast-food industry; taxation of obesogenic foods and drinks; consumer information standards; fast-food advertising	Australia	National
Devaney et al. (2020)	99	Citizens' Assembly	Combating climate change; taxing agricultural greenhouse gas emissions; land use diversification; organic agriculture	Ireland	National
Schol (2021)	16	Consensus Conference	Nanofood applications; risk appraisals; adoption of nanofood labels and standards	Germany	National
Pimbert and Barry (2021)	45	Citizens' Jury	Evaluating the risks and merits of GMO foods; identifying agricultural research priorities; use of local seed varieties	Mali	National
Chen (2021)	208	Deliberative Poll	Improving food security for marginalized populations; livelihood strategies; environmentally friendly agriculture	Ghana	Municipal
Giraudet et al. (2022)	159	Citizens' Assembly	Reducing greenhouse gas emissions; shortening supply food chains; reducing food waste; promoting agroecological practices	France	National