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A comparative assessment of local municipal food policy integration in the Netherlands

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ABSTRACT

Local governments around the world increasingly engage in food governance, aiming to address food system challenges such as obesity, food waste, or food insecurity. However, the extent to which municipalities have actually integrated food across their policies remains unknown. This study addresses this question by conducting a medium-*n* systematic content analysis of local food policy outputs of 31 Dutch municipalities. Policy outputs were coded for the food goals and instruments adopted by local governments. Our analysis shows that most municipalities integrate food to a limited extent only, predominantly addressing health and local food production or consumption. Furthermore, municipalities seem hesitant to use coercive instruments and predominantly employ informative and organizational instruments. Nonetheless, a small number of municipalities have developed more holistic approaches to address food challenges. These cities may prove to be a leading group in the development of system-based approaches in Dutch local food policy.

KEYWORDS

Urban food policy; food systems; policy integration; policy analysis; local government



1. Introduction

Food systems around the world face severe challenges, such as obesity, environmental degradation, food price volatility, and food insecurity. Following on the observation that food is a policy field that transcends the boundaries of existing jurisdictions and policy domains, scholars have advocated better integrated food governance to address these challenges more effectively (Barling, Lang, and Caraher 2002; Lang, Barling, and Caraher 2009; MacRae 2011; IPES-Food 2017a). Integrated or holistic food governance approaches stress the multifaceted and interrelated nature of food challenges and address them in a concerted manner (Mendes 2007).

Local governments have emerged as prominent actors in food governance, as well described by Roberta Sonnino (2009, 429):

City-governments are trying to achieve what global and national policies have not been able to achieve by establishing new links and new relationships between different stages and actors of the food chain.

A clear example of these emerging local efforts is provided by the Milan Urban Food Policy Pact (MUFPF) of 2015, in which 184 cities from across the world have committed themselves to ‘work to develop sustainable food systems that are inclusive, resilient, safe, and diverse’ (MUFPF 2015, 2).

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Although the emergence of local food policy is promising, integrated food policy is a relatively new concept with fuzzy boundaries and without a clear blueprint (Candel and Pereira 2017). For that reason, we expect considerable variety in municipalities' choices with regard to addressing and integrating food challenges. So far, relatively few empirical studies have been conducted on food policy integration at local government level (but see MacRae et al. 2013; Landert et al. 2017). Moreover, the existing food policy scholarship has focused predominantly on efforts at national and supranational levels (e.g. Lang 1999; Pinstrup-Andersen 2000; Drimie and Ruysenaar 2010; Marsden 2010; IPES-Food 2016; Moragues-Faus, Sonnino, and Marsden 2017; Candel and Biesbroek 2018; Termeer et al. 2018). Moreover, most studies that *do* focus on food governance at local level are small-*n* case studies that are conceptual or normative in nature (see for example Blay-Palmer 2009; Rocha and Lessa 2009; Moragues-Faus and Morgan 2015; Cretella and Buenger 2016; Hawkes and Halliday 2017); very few comparative and systematic assessments of local food policies have been performed.

With this study, we aim to address this gap, thereby responding to the call for more comparative and comprehensive studies of emerging urban food strategies (Sonnino 2009). We do so by presenting one of the first medium-*n* systematic comparisons of policy outputs. We focus our analysis on the Netherlands, which is a good example of a country in which local governments have become more active in local food policymaking in recent years. For example, eight Dutch municipalities have signed the MUFPP, and 12 municipalities have established a network called 'City Deal Food on the Urban Agenda' (2017), which may be considered one of the first national networks in continental Europe in which local governments actively collaborate on food policy issues. The Netherlands therefore serves as a fitting case to explore whether the recent popularity of food policy has been accompanied by actual policy change.

The Netherlands is a decentralized unitary state. Although Dutch municipalities do not have many explicit food related competences, they are responsible for a broad range of issues that have a considerable impact on food systems, including zoning, local initiatives and events, social policy, youth care, housing, infrastructure, and local environmental protection. What is more, municipalities are governed through the 'open housekeeping' principle, which means that a municipality is allowed to address any topic it wishes to.

The study is guided by the question: *to what extent has food become integrated across municipal policies in the Netherlands?* To answer this question, we conducted a systematic content analysis of policy documents for 31 large Dutch municipalities (100,000+ inhabitants in April 2017). This analysis was performed by adopting a policy integration perspective, which is further elaborated in the next section.

After elaborating our conceptual point of departure, the paper proceeds by setting out the methodological approach. Subsequently, our findings are structured along three sections: a description of the dataset, policy goals, and policy instruments. We end with a theoretical reflection, including suggestions for follow-up research, as well as various policy recommendations in our discussion and conclusion.

2. Theoretical framework

Our theoretical point of departure is the concept of *policy integration*. Integrated policy approaches have been developed in response to the shortcomings of traditional forms of organizing government along specialized entities (Tosun and Lang 2017). In the case of problems that crosscut the boundaries of these specialized entities, such forms of governance may result in high degrees of fragmentation and even in policy failure. For that reason, mitigating the risks of fragmented governance through strengthened policy integration became a key concern for many policymakers (Candel and Biesbroek 2016). This concern especially grew in importance after the emergence of New Public Management reforms – which tended to magnify pillarization – and increased recognition of the 'wicked' nature of many of society's most pressing problems, which could not be solved through

the actions of individual policy sectors (Peters 2018). The interest in policy integration thus followed the understanding that sectoral policy in itself is insufficient for addressing crosscutting problems and that these problems instead need to be taken on board by other relevant sectors to address externalities and, possibly, create synergies (Lafferty and Hovden 2003). Food security and associated food system challenges are good examples of such cross-cutting problems (Candel and Biesbroek 2018). Scientists and policymakers increasingly recognize food as a policy field that transcends the boundaries of existing jurisdictions and for that reason requires integrated governance approaches (Lang, Barling, and Caraher 2009; MacRae 2011; Candel 2016). The common assumption in the Public Policy literature is that policy integration can contribute to overcoming various governance challenges that result from pillarization, including duplications and contradictions between programmes, displacement of problems from one organization to another, an over-emphasis on vertical management, and disabilities to provide integrated services to client groups (Peters 2015, 8–9; Peters 2018). Ultimately, realizing more concerted efforts is expected to result in interventions that are more effective in achieving desired objectives (Jordan and Lenschow 2010; Peters 2015).

The emerging scholarly interest in policy integration has resulted in a variety of conceptualizations (Candel and Biesbroek 2016; Cejudo and Michel 2017; Tosun and Lang 2017). In this study, we conceptualize food policy integration (FPI) as the integration of food challenges across a government's policy sectors (Lafferty and Hovden 2003), an approach that is also referred to as 'mainstreaming' (Nunan, Campbell, and Foster 2012; Tosun and Lang 2017). This approach is commonly used in the Environmental Policy Integration (Lafferty and Hovden 2003; Jordan and Lenschow 2009), the Climate Policy Integration (Runhaar et al. 2017), and the Health in all Policies literatures (Ollila 2011). The policy integration principle is the same for each of these policy fields: the goal is to incorporate, and, arguably, to prioritize, concerns about issue x (e.g. environment) in non-x policy domains (such as economics, health or spatial planning), with the purpose of enhancing policy outcomes in domain x (Lafferty and Hovden 2003; Candel and Biesbroek 2016). In our study we focus on the outcomes of the policy integration or 'mainstreaming' process, by assessing the degree of food policy integration across municipal *policy outputs*. We hence look at the degree of policy integration at one point in time and do not study policy integration as a process during a longer time period. Policy outputs are the formally adopted decisions of a municipality. They are 'the direct result of a decision-making process, usually in the form of programs, strategies, or vision documents' (Knill and Tosun 2012, 29). These outputs are typically designed and adopted in specialized substantive domains or sectors.

To define the boundaries of *what* is being integrated, we start from Ericksen's (2008) definition of a food system. Following this definition, we speak of FPI in a policy when the policy explicitly targets the functioning of the food system, i.e. at least one of the food system's activities or outcomes (Figure 1).

We study FPI in policy outputs along two key dimensions: *policy goals* and *policy instruments* (see Howlett and Rayner 2007). The *policy goals* a municipality sets inform us about the course the municipality aims to follow and the issues that dominate its political agenda. A policy goal is a government's basic aim or expectation in deciding to pursue (or not) some course of action (Walsh 1994) or 'the desired outcome that a government aims to achieve' (Henstra 2016, 497). Goals can be analyzed for their *content* and the *degree of targeting*. The content involves the substantive issues that a goal addresses. The degree of targeting, or the 'level of concreteness' is commonly conceptualized along three degrees: general abstract policy aims, operationalizable policy objectives, and specific policy targets (Howlett 2011, 17). Our approach to the degree of targeting differs from Howlett's typology on two points. First, we reduced the levels to two: general abstract policy aims and specific policy targets, as it proved difficult to distinguish the intermediate level. Second, we added the category 'main priority' to be able to distinguish the overarching food goal(s) of a policy output, if present. In this study, we hence divided goals into main priorities and additional goals. For the latter category we distinguished between general abstract policy aims and specific policy targets.

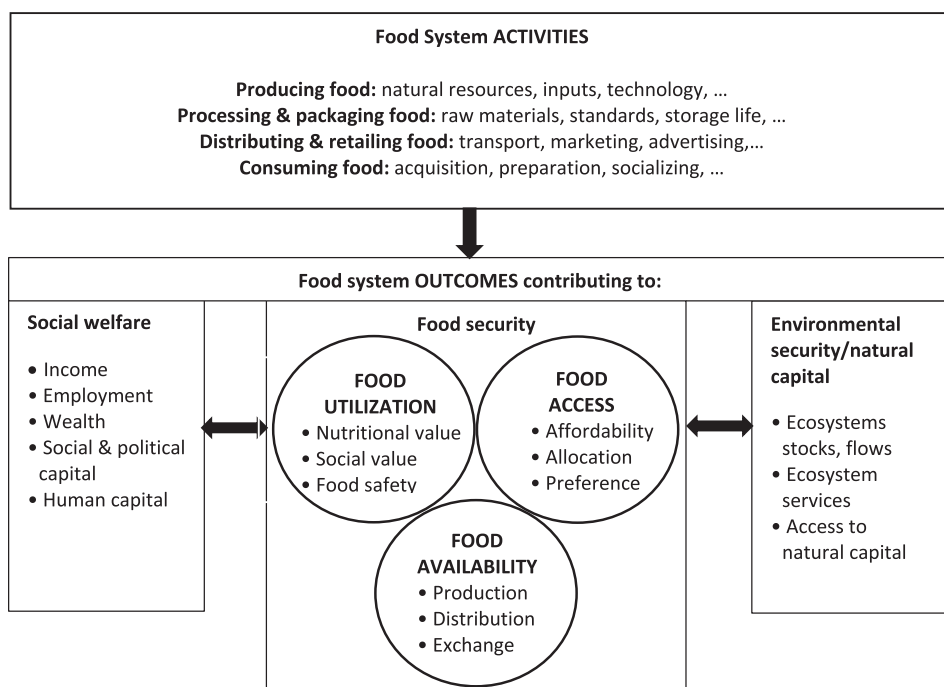


Figure 1. The food system concept (Ericksen 2008)

Policy instruments refer to the interventions employed by municipalities to achieve their food goals. Policy instruments are the recognized tools of government that, one way or another, involve the use of state authority or its conscious limitation (Howlett 1991; Howlett 2005, 31). In this research, we inductively explore the types of instruments that municipalities employ or intend to employ. Importantly, our study is restricted to instruments included in policy outputs; we did not study whether these were actually *implemented*. We subsequently analyze the instrument types using Hood's (1983) NATO model. The NATO model distinguishes four types of policy instruments based on the governing resources on which governments can draw: the information they possess as a central policy actor (nodality), their legal powers (authority), their financial resources (treasure), and the organizational capacities available to them (organization).

3. Methods

3.1. Data collection

To assess how Dutch municipalities address food, we conducted a qualitative content analysis of municipal policy outputs. We retrieved documents for all Dutch municipalities with over 100,000 inhabitants ($n = 31$, based on number of inhabitants in April 2017) from municipal councils' web-based information systems. In the municipal information system, a municipality displays all its publicly available documents, such as adopted policies, press releases, letters from the municipal board to the council, and municipal council minutes.

We included documents in the data analysis if they: (i) were formally adopted by the municipal council (policy outputs such as policies, strategies, or programmes) and (ii) addressed the functioning of the food system, i.e. at least one activity or outcome as defined by Ericksen (2008). Food challenges had to be explicitly addressed as such (i.e. not as health or economic issues). The assumption underlying document selection through the municipal council's information system is that, to be

formally adopted (and thus qualify as policy output), any decision has to pass the municipal council and will subsequently be made publicly available. Appendix A provides more detailed information about the inclusion criteria and the list of municipalities reviewed.

We used the exact query: [Food OR Voedsel OR Voeding] to search the municipal councils' information systems. For each municipality, we reviewed the first 100 results, which were sorted on relevance by the system. We reviewed these documents and included them in the dataset if they met the inclusion criteria. All documents were in Dutch. The data were collected in November 2017.

3.2. Data analysis

To analyze our data, we developed a codebook (see Appendix A) and coded all documents for policy goals and policy instruments with the programme *Atlas.ti* 7. For goals, we coded: (i) the issue(s) and (ii) degree of targeting. Issues were coded inductively, and multiple issues could be assigned to the same goal. A quote was considered a goal if the municipality expressed a clear intention to achieve it. Instruments were coded only if the municipality clearly stated the intention to employ them or had already employed them. Consequently, when an intervention was referred to as a possible course of action, it was not coded as an instrument.

3.3. Limitations

Our methodological choices entail a number of limitations. A first limitation is a possible reporting bias, as the analysis depended on the self-reporting of municipalities about policies adopted. Documents not published in the municipal information system were not included, resulting in a possible under-representation of policy outputs. Second, it was sometimes difficult to determine whether documents had been formally adopted. Wherever possible, we have tried to overcome this challenge by conducting an additional web search for documents with an unclear status and/or by contacting the registry of the relevant municipality. Third, we searched relevant documents for the word 'food', as we presumed that those policy outputs explicitly addressing food challenges would include this term at least once throughout the document. However, there may be policies that target the functioning of the food system although they do not contain the key term food. This could have resulted in a small under-representation of documents from policy domains where food is commonly referred to by other terms. Most notably, agricultural policies might address 'food production', while referring to it as 'agriculture'. Fourth, documents uploaded as PDFs without text recognition (such as scanned documents) and documents without a time indexation were not included.

4. Results

4.1. Description of the dataset

We retrieved 738 policy outputs from 31 municipalities. The final dataset consisted of 93 policy outputs that met the inclusion criteria. This dataset contained outputs from 25 municipalities; this means that the majority (81%) of large (> 100,000 inhabitants) Dutch municipalities set food goals in their policy outputs. Health strategies accounted for the largest share of policy outputs (30%). Other recurring outputs were policies on sustainability, the environment, spatial planning, the economy, and poverty alleviation. Between 2011 and 2014, four municipalities published an integrated municipal food strategy (Gemeente Groningen 2012; Gemeente Den Haag 2013; Gemeente Amsterdam 2014; Gemeente Ede 2015). All policy outputs were published between 2007 and 2017 (Figure 2). Between 2007 and 2011, relatively few policy outputs (16%) addressed food. From 2012 onwards, municipalities increasingly addressed food in their outputs; 80% of the policy outputs were published between 2012 and 2017. However, it is difficult to ascertain whether this is a continuing trend, as the number of policy outputs per year kept fluctuating between 2012 and 2017.

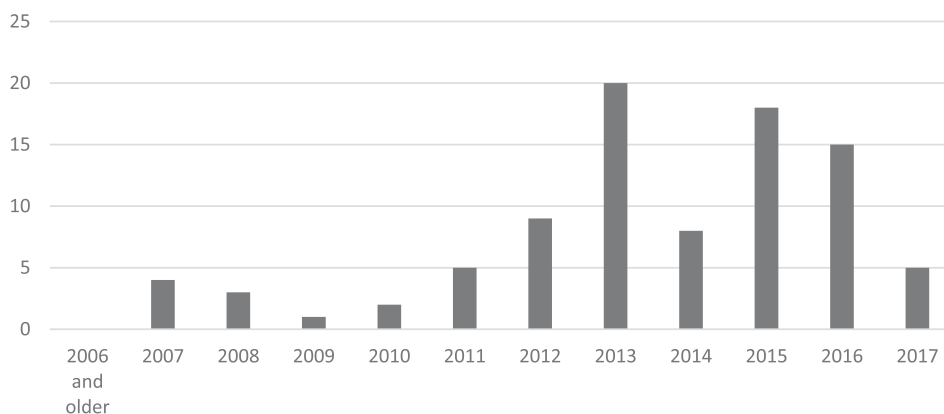


Figure 2. Total number of policy outputs published per year.

This fluctuation might be partly explained by election cycles: governments often publish more outputs in the years after elections (2007, 2011, and 2015 in this case). It should also be noted that the number of outputs for 2017 exclude those published in November and December.

The majority of municipalities addressed food in one or two policy outputs only (median = 2). However, various municipalities addressed food in relatively many policy outputs: Ede ($n = 14$), Almere ($n = 12$), and Amsterdam ($n = 12$) having most outputs. Overall, municipalities with relatively many policy outputs also addressed many issues and employed many instruments. Zaanstad,

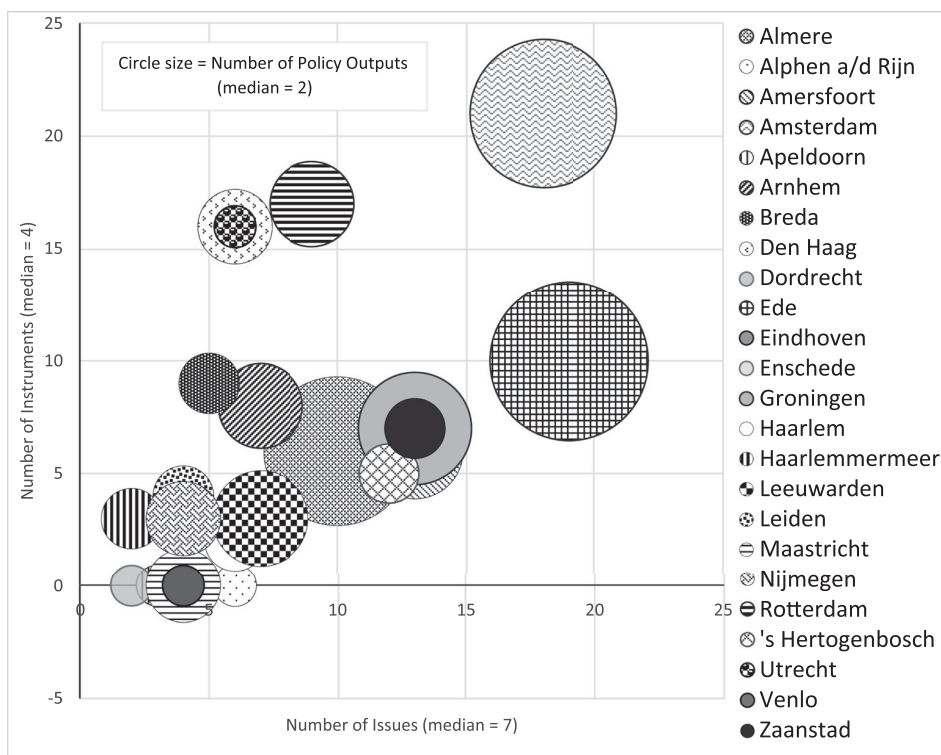


Figure 3. Number of food issues and instruments in number of policy outputs per municipality.

Utrecht, and 's Hertogenbosch are exceptions. On average, municipalities addressed nine issues (median = 7). Amsterdam and Ede addressed the most issues ($n = 22$) and Dordrecht the least ($n = 2$). On average, municipalities employed six instruments (median = 4). Again, we found a large variety, with Amsterdam employing the most instruments ($n = 21$) and seven municipalities not employing any instruments at all.

Figure 3 shows the data aggregated per municipality (see Appendix B). Municipalities that did not address any food issues were excluded from this figure. About half of the municipalities that employed instruments employed fewer than five instruments *and* addressed fewer than seven issues (Figure 3). This means that the other half employed more than five instruments *and* addressed more than seven issues (Figure 3).

4.2. Policy goals

Figure 4 presents issues and the number of municipalities that addressed them.

Clearly, health can be recognized as the overarching issue that practically all municipalities addressed, focusing both on individuals and on securing a healthy environment. Creating a healthy food environment ($n = 18$, 72%), fighting overweight and obesity ($n = 17$, 86%), and stimulating the consumption of healthy food ($n = 14$, 56%) were addressed by the highest number of municipalities. For example, one of Amsterdam's objectives was to ensure that 'in 2012 the number of overweight and obese children is no longer increasing' (Gemeente Amsterdam 2012). Most municipalities that aimed for a healthy food environment focused on introducing more edible plants in public spaces ($n = 11$, 44%). Rotterdam, for example, aimed for 'more edible greenery in neighbourhoods' (Gemeente Rotterdam 2012). Municipalities that aimed to fight

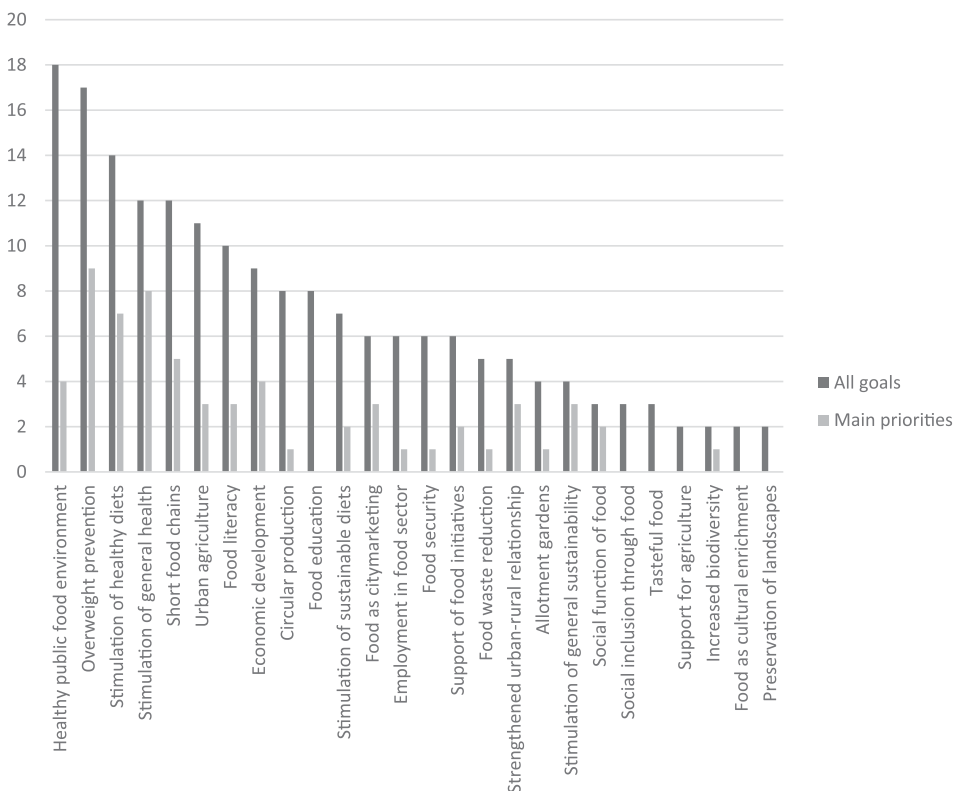


Figure 4. Food issues addressed by number of municipalities.

overweight and obesity focused most often on children ($n = 14$) and on fighting overweight in combination with addressing a change in lifestyle ($n = 14$). A second frequently addressed issue was enhancing the production and consumption of local or regional food: 12 municipalities aimed to shorten food chains, and 11 municipalities aimed to promote or stimulate urban agriculture in and around the city.

The least addressed, on the other hand, were issues with a link to the social or cultural value of food or a link to the environment. Only three municipalities aimed to strengthen social cohesion or to stimulate social inclusion by using the social function of food, and to promote tasty and enjoyable food. Only two municipalities aimed to improve the agricultural sector, the biodiversity, or the landscape in their municipality and use food to culturally enrich their society. Except for social functions of food and biodiversity, municipalities never addressed these issues their main priorities either, another indication that these issues are not top priority in the policy outputs of Dutch municipalities.

The number of main priorities largely follows the same trend as the total of policy goals, though the number of main priorities is consistently lower as they comprise a fraction of the goal total. This explains why six issues were not addressed in any main priorities at all. For example, no municipality had education as a main priority, while it was addressed by eight municipalities when *all* goal types are considered. Remarkably too, all municipalities that addressed the general relationship between food and health did this (at least) in their main priorities.

With regard to the degree of targeting of goals, we found relatively few specific policy targets (26%) as compared to abstractly formulated goals (49%) and main priorities (25%). This means that municipalities state that they ‘are going for a certain issue’, without setting specific targets. The goal to be achieved often remained vague, as can be observed in an Amsterdam example: ‘Healthy food environment’ (Gemeente Amsterdam 2015). A specific policy target on the other hand is for instance: ‘All Almere children aged 0–12 have breakfast and have a healthy 10 o’clock snack (fruit and water)’ (Gemeente Almere 2016).

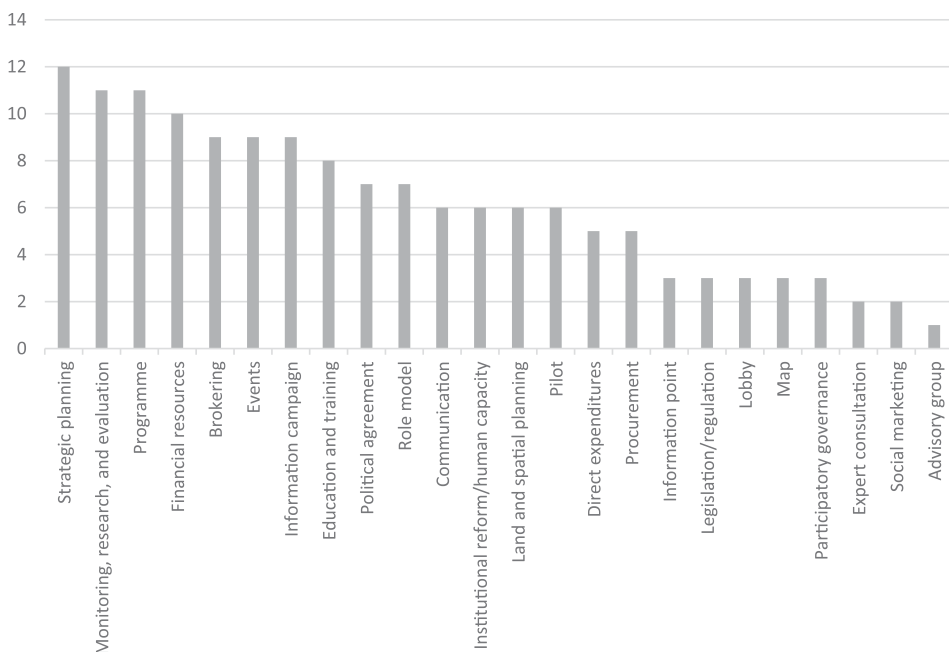


Figure 5. Instrument types used by number of municipalities.

4.3. Policy instruments

Municipalities employed a wide range of instrument types (Figure 5). At the same time, more than a quarter of municipalities (7 of 25) did not mention any instruments at all for achieving their food goals.

This means that, although a considerable number of municipalities did aim to achieve certain goals, they failed to state *how* they intend to achieve them. Those municipalities that did not employ any instruments were also the ones with extremely few policy outputs ($n = 1$), while addressing few issues (<7). An exception was Maastricht, addressing seven issues in a total of three policy outputs without employing any instruments.

Municipalities seem to use mostly non-legally binding, soft instruments. The most often employed instrument was strategic planning (Figure 5). This means that two thirds of the municipalities adopted (new) policies on food challenges or adopted (new) food goals in other policy documents. The municipality of Utrecht, for instance, worked on: 'Policy on nutrition and exercise at all pre-schools and playgroups: from the urban direction, what has been started and is now in progress will be continued and strengthened' (Gemeente Utrecht 2012). Second, the majority of municipalities employed the instruments of monitoring, research & evaluation ($n = 11$, 61%), programmes ($n = 11$, 61%), and the allocation of financial resources ($n = 10$, 55%). Municipalities that employed monitoring and research & evaluation conducted research or tracked their progress in policy implementation, and they might have reported back to the municipal council. The Hague, for example, stated that it evaluated its offer of environmental education for children and incorporated food and local agriculture in this education (Gemeente Den Haag 2013), whereas Almere stated that it conducted research into the possibilities of a central registry for overweight children (Gemeente Almere 2007). Intervention programmes are specifically designed (by health NGOs for instance) with a determined start and end. The Hague, for example, developed the 'What is your style?' programme for youngsters between 8 and 16 years of age who are overweight and not (yet) motivated to do something about their obesity (Gemeente Den Haag 2012).

Half of the municipalities brokered between citizens, entrepreneurs, and other external organizations ($n = 18$); organized food events ($n = 18$); or organized information campaigns on certain food issues ($n = 18$). Rotterdam, for instance, stated that the municipality brokers by organizing network meetings for producers and (potential) customers (Gemeente Rotterdam 2012). Instruments that were employed less, but still by a considerable number of municipalities, were: providing education and training in the form of courses, conferences, or workshops ($n = 8$); signing political agreements such as treaties ($n = 7$); and using role models to inspire people ($n = 7$). The same holds for using municipal communication channels ($n = 6$); conducting institutional reform or allocating/increasing human capacity in the municipal organization ($n = 6$); applying or changing land and spatial planning ($n = 6$); conducting pilot projects ($n = 6$); making any direct expenditures on physical items such as buildings or materials ($n = 5$); or adapting/using public procurement ($n = 5$).

Of the instruments coded, 8 out of 24 were employed by fewer than three municipalities. The adaptation of legislation and regulation with regard to food challenges for example, or the development of a map with food initiatives or an information point for citizens, were rare instruments. Least employed instruments included consulting external experts ($n = 2$), using social marketing ($n = 2$), or creating advisory groups ($n = 1$).

5. Discussion

Four main points of discussion emerge from the results presented in the previous section. First, our results show that the majority of Dutch municipalities do not address a wide range of food challenges in their policy outputs and have therefore integrated food challenges to a limited extent only. This finding suggests that most Dutch municipalities probably do not approach food challenges from a systems perspective (see Sonnino, Tegoni, and De Cunto 2018). The low degree of FPI is supported by the finding that high-level political documents, such as coalition agreements and general

municipal vision statements or strategies, hardly ever address food challenges. This means that food challenges are not (yet) mainstreamed across a wide range of policy domains, that challenges are not addressed in a holistic way, and that they are probably low on the political agenda in general. Although few similar studies on food challenges in policy documents have been performed so far, these insights correspond with earlier observations about food policy in Switzerland. In Switzerland, food was found not to be a major topic in most of the potentially relevant local policy documents, indicating that food is not integrated well in municipalities' main local policy documents (Moschitz 2017).

Second, our findings demonstrate that, although municipalities do not integrate the full spectrum of food challenges, some challenges, most notably public health and local food, are more addressed than others. Regarding the food system activities in Ericksen's (2008) food system conceptualization, municipalities focus mostly on production (but only small scale, urban) and consumption, while hardly addressing processing & packaging and distribution & retailing. Other authors too found that local governments predominantly address the two ends of the food chain, rather than activities in between (Sonnino, Tegoni, and De Cunto 2018). Why this is the case should be further investigated. A plausible explanation is that the ends of the food chain are more salient policy areas for local governments. With regard to food system outcomes, municipalities addressed food security in a broad way. Examples of food security outcomes addressed (as defined in Ericksen's 2008 model) are: production – through urban agriculture –, allocation – through a healthy food environment –, and nutritional value – through healthy consumption. Other challenges addressed were food system outcomes contributing to social welfare (for example literacy, education, and employment). Issues that were addressed the least were food system outcomes contributing to environmental security (for example biodiversity, the landscape, and environmental sustainability). Moreover, municipalities in this study did not have a strong focus on food sovereignty and food justice. To conclude, Dutch municipalities address mostly health and wellbeing, the economy, learning/empowerment, and urban–rural linkages; they do not address community development, the environment, social and cultural aspects, and food-security/social justice. There are several explanations as to why public health and local food are frequently addressed issues. Firstly, health is a well-established local jurisdiction and urban agriculture is one of the traditional urban food issues (Sonnino 2009). Public health and local food production are hence found to be prominent issues in many integrated food policy frameworks (Moschitz 2017). There are also explanations as to why certain issues were not addressed. Sonnino (2009) gives two reasons why municipalities do not address agricultural issues (other than urban agriculture and local food): first, agriculture is usually seen as an issue that needs to be addressed at higher (national and supranational) governance levels – in policies such as the EU Common Agricultural Policy (CAP) – and, second, the conventional definition of 'urban' as 'non-agricultural' has conceptually distanced food as an urban issue (Pothukuchi and Kaufman 1999; Sonnino 2009). Others have also found this rural–urban divide tendency (Sonnino 2009) in which food production and urban areas are still widely framed as separate spheres (Mendes 2007; Moschitz 2017). Urban areas are conceived of as 'productive and dynamic places of economic development, innovation, and culture' whereas rural areas are places of 'food production, landscape preservation, and energy production' (Moschitz 2017, 9).

Third, our findings demonstrate that municipalities aim primarily to achieve their goals with soft measures that are non-coercive. We see three possible explanations for this tendency. First, the lack and abstract nature of instruments may indicate that many policies are symbolic, referring to decisions that are never intended to be (fully) implemented and therefore have little or no impact (Edelman 1964). At the same time, symbolic policies can have an important agenda-setting function. This observation is further supported by the high prevalence of abstract goal statements. An alternative explanation for these abstract goals is that many municipalities may not (yet) have any civil service expertise on food systems; a deficiency that potentially results in vague goal statements and few instruments. Second, municipalities may be hesitant to use coercive instruments for fear of allegations of paternalism. Food choices are perceived to be personal, and citizens are believed to

interpret government interventions as threatening their freedom of choice. Third, municipalities may simply lack the jurisdictional powers to use legally binding instruments, or they might think of the food policy arena as a national and supranational one. As Mansfield and Mendes (2013, 38) remind us: ‘until recently, food policies have typically been understood to fall within national or global jurisdictions (e.g. agricultural policies, food aid or food safety)’. The use of – mostly informative – soft instruments in Dutch food governance is confirmed by other authors’ findings. For example, also on national level, healthy eating and sustainability measures in the Netherlands are based on information provision (National Institute for Public Health and the Environment (RIVM) 2017; de Krom and Muilwijk 2018). This does not mean that non-coercive instruments are better than coercive ones though. Non-coercive instruments such as nudging can be very effective in achieving food goals and in reinforcing the effect of other instruments. Empirically, indications of more government intervention (authority) on food can already be witnessed. In the UK for instance, the Soft Drinks Industry Levy (commonly known as the sugar tax) came into effect in 2018 (HM Treasury of the UK 2018). This is a promising development for the Netherlands as well. At local level, a potential authority instrument could be the use of spatial planning measures, by adjusting zoning plans to foster a healthy food environment.

Fourth, although local FPI in the Netherlands is relatively limited, a couple of efforts seem promising. Although the majority of Dutch municipalities have not integrated food challenges across most of their policies, a small group of municipalities (Amsterdam, Den Haag, Ede, Groningen, Rotterdam) have adopted more comprehensive integrated approaches. Our results therefore suggest that we might be dealing with a group of early FPI adopters. In general, these are the municipalities that also engage in food policy networks: except for one (Venlo), all municipalities in the national network ‘City Deal Food on the Urban Agenda’ (of which about half also signed the MUFPP) are among the municipalities that address most issues and employ most instruments (Figure 3). Several of these cities, such as Amsterdam, provide interesting examples of what is possible in terms of food policy at local level. Amsterdam has adopted an integrated food strategy and has recently employed a relatively hard instrument: a ban throughout the metro system on fast food advertising targeting children (Pieters 2017). With its exemplary role as a capital city, it is imaginable that the more intervening role that Amsterdam is starting to take on will, with time, be adopted by other cities.

6. Conclusion

This paper has been a start to explore the current extent of local FPI in the Netherlands, starting from the question: *to what extent has food become integrated across municipal policies in the Netherlands?* We conclude with three final reflections. First, we have shown that, although not ubiquitous and often not in a holistic way, various food challenges have been integrated across municipal policies. At the same time, it remains to be seen whether FPI in the Netherlands will prove a continuing trend, or a passing fad. It would for that reason be worthwhile to repeat our study in the future. The emergence of local food system approaches in other countries may prove an important development in this respect; allowing for policy diffusion in the coming years (Sonnino, Tegoni, and De Cunto 2018). Second, although we clearly see signs of FPI *on paper* in the Netherlands, it remains unclear whether integrated approaches are also implemented *in practice*; i.e. whether these efforts have moved beyond paper realities. Third, although policy integration has the premise of strengthening the effectiveness of interventions, this assumption remains under studied. Consequently, we do not yet know the potential contributions of improved governance arrangements for addressing food challenges.

To better judge the potential of local governments in the transition towards healthier and more sustainable food systems, more research is necessary. A crucial step would be to complement the research on FPI in outputs with research on FPI in the informal sphere prior to policy adoption as well as the mechanisms contributing to FPI. Secondly, to better understand the results of food policy integration at local level, research needs to be extended from outputs to outcomes to evaluate the actual effects of food policy in society.

To tackle challenges in the food system effectively, we recommend that local governments address food issues holistically, applying a food systems approach. To achieve this, we suggest that municipalities address food issues across a broader range of policy domains. We argue that municipalities need to address the following issues better: socio-cultural issues, environmental issues, issues related to food system activities prior to consumption. Only then can true FPI occur. For municipalities to achieve this, embedding a systemic approach to food in policy entails two fundamental changes: cross-sectoral integration and practical consideration of the ways in which the different components of a food system are interconnected (Candel and Pereira 2017; Sonnino, Tegoni, and De Cunto 2018). In addition to symbolic policies, policymakers should develop more substantive policies that generate real impact. To develop these, better targeted goals and concrete mixes of policy instruments are key. Municipalities have to employ more authority-based and treasure-based instruments to advance the policy, as using mostly information and organization instruments limits the degree of intervention a government can apply. For municipalities that want to engage in integrated food governance, municipalities that already apply this approach can serve as a source of inspiration. We therefore recommend starting municipalities to learn from early adapters, as past successes and failures in other municipalities can provide valuable information on how to improve local food governance effectively.

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