Policy integration in the EU governance of global food security

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Received: 1 February 2017 / Accepted: 22 November 2017 / Published online: 11 January 2018

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Abstract

The global food price spikes of 2007–8 and 2010 led to increased awareness of the complexity of food (in)security as a policy problem that crosscuts traditional sectoral, spatial and temporal scales. At the European Union (EU) level, this awareness resulted in calls for better integrated approaches to govern food security. This paper addresses the question of to what extent these calls were followed by an actual shift towards better integrated EU food security governance. We address this question by applying a processual policy integration framework that distinguishes four integration dimensions: (i) the policy frame, (ii) subsystem involvement, (iii) policy goals, and (iv) policy instruments. The empirical body of evidence for assessing shifts in these dimensions draws upon an extensive analysis of EU documents complemented with interview data. We find that policy integration advanced to at least some degree: the policy frame expanded towards new dimensions of food security; a wider array of subsystems started discussing food security concerns; food security goals diversified somewhat and there was an increased awareness of coherence and linkages with other issues; existing instruments, including internal procedural instruments, were expanded and made more consistent; and new types of instruments were developed. At the same time, significant differences exist between policy domains and policy integration efforts seem to have come to a halt in recent years. We conclude with various policy recommendations and suggestions for follow-up research.

Keywords Food security · European Union · European Commission · Policy integration · Governance · Policy change

1 Introduction

Since the 2007–8 and 2010 global food price spikes, global food security has received increasing political attention in policy arenas at the European Union (EU) level (Zahrnt 2011; Grant 2012; Kirwan et al. 2017). The food price spikes showed that states of food security¹ are affected by a broad

range of determinants and associated policies, the precise influences of which are not yet fully understood (Piesse and Thirtle 2009; Headey and Fan 2010; Rapsomanikis and Sarris 2010). Consequently, the peak of attention has been accompanied by rising awareness of the ‘crosscutting’ or ‘wicked’ problem nature of food security (Misselhorn et al. 2012; Brooks 2014; Candel 2014). At the EU level, this awareness has been reflected by two developments. First, food security concerns have been raised in a wide array of policy debates, such as those on the Common Agricultural Policy (CAP), the Common Fisheries Policy (CFP), biofuels targets, and the Doha trade round negotiations. Although these debates have been characterized by a plurality of meanings attached to ‘food security’, they resulted in increased recognition of interactions between food security levels and dimensions (Candel et al. 2016). Second, as a result of this recognition, new ideas have emerged about how food security *ought* to be governed, including calls for more ‘coherence’ (e.g., Council of the European Union 2013; Piebalgs 2013), ‘integration’ (e.g., European Commission 2010; Red Cross EU Office 2013), and a ‘holistic’ approach (Caritas Europa 2014). These emerging governance principles led various

¹ We follow the FAO (1996) definition of food security as ‘all people, at all times, having physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life.’

Electronic supplementary material The online version of this article (<https://doi.org/10.1007/s12571-017-0752-5>) contains supplementary material, which is available to authorized users.

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high-level decision-makers to make pleas for a change of EU food security governance²:

[D]evelopment aid alone is not sufficient to effectively fight hunger. We need to look at all the available options and PCD [Policy Coherence for Development] [which is] is one critical tool to improve global food security. [...] I will personally pay [a] strong attention to the impact of EU policies on the rest of the world to ensure [a] maximum coherence between its internal and development policies. Andris Piebalgs (2013), then EU Commissioner for Development

The Council stresses that good governance for food and nutrition security at all levels is essential, and that coherence between policies should be pursued in cases of negative effects on food and nutrition security. Council of the European Union (2013)

Despite the recognition of the need for better integrated EU food security governance, it is unclear whether an actual change of governance has occurred. This question is particularly pertinent as public policy scholars have observed that political commitments to enhanced policy integration often do not proceed beyond discursive levels (Mickwitz and Kivimaa 2007; Jacob et al. 2008; Jordan and Lenschow 2010). For that reason, this paper aims to assess to what extent political awareness of and aspirations for strengthened policy integration were accompanied by an actual change of the EU governance of food security in the aftermath of the food price spikes.

Until recently, there was no agreed-upon approach for systematically conducting such a policy integration assessment. In earlier work, we addressed this omission by developing a conceptual framework for studying policy integration (Candel and Biesbroek 2016). In this paper, to assess changes in degrees of policy integration in EU food security governance, we operationalize this framework into specific indicators and perform a quantitative content analysis of EU legislation and preparatory acts covering the period 2000–2016, as well as twenty complementary interviews with Commission officials working on food security-related issues. Importantly, we focus on EU governance of *global* food security, restricting the analysis to policy targeted at food security in general or in third (non-EU) countries. Although *European* food security has reappeared on political agendas in recent years, we have not (yet) observed explicit integrative attempts towards it as an objective.³

² The EU governance of food security is here understood as all policy efforts at the EU level that either positively or negatively affect food security outcomes, i.e. food availability, access, utilization, and stability.

³ It will be interesting to follow the outcomes of recent calls for an European integrated food policy in this respect (see: EESC 2016; Fresco and Poppe 2016; iPES Food 2016).

The paper proceeds with setting out a policy integration framework followed by a methodological approach to the study. The results of our analysis are presented in Section 4. The paper ends with a discussion of the findings and the implications for future research and EU food security governance in Section 5.

2 A policy integration framework for assessing EU food security governance

The policy integration framework used here synthesizes insights from various fragmented literatures about integration and coordination, such as discussions of environmental policy integration (e.g., Lafferty and Hovden 2003; Jacob and Volkery 2004; Jordan and Lenschow 2010), boundary-spanning policy regimes (Jochim and May 2010), and integrated policy strategies (Rayner and Howlett 2009). The framework departs from a number of specific assumptions. First, the framework conceptualizes policy integration as a *process* over time (cf. United Nations 2015), rather than as a static desirable outcome or governing principle as most policy integration studies assume. Policy integration is here understood as a process of policy and institutional change and design in which actors play a pivotal role, as interactions between (political) actors constitute the mechanisms through which shifts of policy integration occur (Biesbroek and Candel 2016). Second, assessing integration is as much about increasing integration as it is about *disintegration*. Third, the framework consists of four distinct but connected *dimensions* of policy integration, which may move at different paces or even in opposite directions. These four dimensions are: (i) policy frame, (ii) subsystem involvement, (iii) policy goals, and (iv) policy instruments. A good example of a policy integration process in which these dimensions move at different paces is provided by Jacob et al. (2008), who show that although many governments have designed overarching sustainable development strategies, they often lag behind in developing supportive instrument mixes. Of course, mutual dependencies exist and interactions take place between the four dimensions of policy integration; a change in one dimension of policy integration can result in a change in another dimension. However, these influences may work in various directions and under different mechanisms that are not yet well understood.

For each of the four policy integration dimensions we distinguish between one and three specific sub-dimensions, see Table 1. The table operationalizes the sub-dimensions by setting ideal-type values (bold and italicized) that allow us to assess whether the EU governance of food security changed during and following the food price spikes (Sections 3 and 4).

Table 1 Dimensions of policy integration (adopted from Candel and Biesbroek 2016; Candel 2017a)

	Lack of policy integration	←—————→		Full policy integration
Policy frame	<p>Problem is defined in narrow terms; the problem's crosscutting nature is not recognized and the problem is considered to fall within the boundaries of a specific subsystem. Efforts of other subsystems are not understood to be part of the governance of the problem. There is no push for integration.</p> <p><i>Food security is defined in narrow terms, for example as solely an issue of development cooperation. Efforts of other domains, e.g., agricultural or fisheries policy, are not understood in terms of food security.</i></p>	<p>Awareness that the policy outputs of different subsystems shape policy outcomes; emerging notion of externalities and do-no-harm. The problem is predominantly perceived of as falling within the boundaries of a specific subsystem. There is no strong push for integration.</p> <p><i>Realization that externalities of policies of various domains influence food security outcomes. Food security considered to fall within the boundaries of one domain, but some attention to potential contributions of other domains.</i></p>	<p>Understanding that the governance of the problem should not be restricted to a single domain as well as agreement that some coordination and coherence is desirable. Integration is encouraged.</p> <p><i>Awareness that food (in)security is affected by a broad range of factors and influences. Food security is viewed as a policy problem that spans the boundaries of various policy domains, which therefore need to co-ordinate their policy efforts.</i></p>	<p>Recognition that the problem is and should not solely be governed by individual subsystems, but by governance system as a whole. Subsystems are required to work according to a shared, holistic approach. Integration is advocated and adopted as dominant steering philosophy.</p> <p><i>All potentially relevant subsystems^a have developed ideas about their role in the governance of food security. Achieving food security, across all its levels and dimensions, is considered to be a challenge to the EU as a whole</i></p>
Subsystem involvement: Subsystems involved	<p>One dominant subsystem, which governs the issue independently. Formally no other subsystems are involved, although they may be in terms of substantial, non-intentional policymaking</p> <p><i>Food security falls within jurisdiction of a dominant subsystems, e.g. development cooperation.</i></p>	<p>Concerns emerge in one or more additional subsystems.</p> <p><i>Idem, but one or more additional subsystems may touch upon food security concerns.</i></p>	<p>Two or more subsystems have formal responsibility for dealing with the problem.</p> <p><i>Food security (in a broader sense) embedded within more domains, e.g. trade or agriculture.</i></p>	<p>Number of subsystems that are formally involved is equal to or higher than at previous manifestation, but complemented with loosely coupled set of alternative subsystems.</p> <p><i>Food security is embedded within all potentially relevant subsystems.</i></p>
Density of interactions	<p>No interactions</p>	<p>Infrequent information exchange between dominant subsystem and one or more alternative subsystems.</p> <p><i>Some interaction with other subsystems. For example between development cooperation and trade.</i></p>	<p>More regular and formal exchange of information and coordination, possibly through coordinative instruments at system-level.</p> <p><i>Interactions among various subsystems, whereby some interactions occur more frequently than others.</i></p>	<p>High level of interactions between formally involved subsystems, that maintain infrequent interactions with loosely coupled set of subsystems.</p> <p><i>All possibly relevant subsystems interact with each other to a greater or lesser degree about food security efforts.</i></p>
Policy goals: Range of policies in which problem is embedded Policy coherence	<p>Concerns only embedded within the goals of a dominant subsystem's policies.</p> <p><i>Sector-specific food security goals in one specific subsystem. For example: food security as priority in development cooperation policy.</i></p> <p>Very low or no coherence.</p>	<p>Concerns adopted in policy goals of one or more additional subsystems.</p> <p><i>Idem, though in addition food security concerns may be embedded to some extent in other subsystems' policies.</i></p> <p>Because of rising awareness of externalities and mutual concerns, subsystems may address these to some extent in their goals.</p> <p><i>Externalities of some policies may be addressed to some extent.</i></p>	<p>Possible further diversification across policy goals of additional subsystems.</p> <p><i>Various subsystems adopt food security concerns in their policy goals, some subsystems may develop comprehensive sectoral food security strategies.</i></p> <p>Coordinated sectoral goals, which are judged in the light of coherence. Subsystems attempt to develop synergies.</p> <p><i>Food security efforts come to be viewed in terms of coherence and potential synergies.</i></p>	<p>Concerns embedded within all potentially relevant policy goals.</p> <p><i>All potentially relevant subsystems have adopted food security concerns in their policy goals.</i></p> <p>Shared policy goals embedded within an overarching strategy.</p> <p><i>An overarching comprehensive EU food security strategy.</i></p>

Table 1 (continued)

	Lack of policy integration ←			→ Full policy integration
Policy instruments: Range of subsystems' policies that contain policy instruments	Problem only addressed by the substantive and/or procedural instruments of a dominant subsystem. Impacts of other subsystems' instruments not reflected upon. <i>Sector-specific food security instruments in one specific subsystem. For example: food aid or a food security budgeting line in development cooperation</i>	One or more additional subsystems (partially) adapt their instruments to mitigate negative effects. <i>Idem, though some subsystems may adjust their instruments to address food security concerns.</i>	Possible further diversification of instruments addressing the problem across subsystems. <i>Introduction of and/or adjustment of sectoral instruments and instrument mixes to address food security concerns.</i>	Full reconsideration of subsystem instrument mixes, resulting in a comprehensive, cross-subsystem instrument mix that is designed to meet a set of coherent goals. <i>Previous instruments of subsystems are replaced by or aligned towards a comprehensive mix.</i>
Procedural instruments at system-level	No relevant procedural instruments at system-level.	Some procedural information sharing instruments at system-level. <i>Some information sharing instruments, such as inter-service consultations or impact assessments, may be initiated.</i>	Increasing number of system-level procedural instruments that facilitate subsystems to jointly address the problem. <i>Range of cross-sectoral instruments, such as impact assessments or coherence mechanisms.</i>	Broad range of procedural instruments at system-level, including boundary-spanning structures that coordinate, steer and monitor subsystems' efforts. <i>Coordinative food security structure(s) at system-level, e.g. inter-institutional or inter-sectoral taskforce(s).</i>
Consistency	No consistency between instruments.	Subsystems consider externalities of sectoral instrument mixes in light of internal and inter-sectoral consistency. <i>Some obvious externalities, e.g. of agricultural or trade policies, may be reduced.</i>	Subsystems seek to jointly address the problem by adjusting and attuning their instruments. Consistency becomes an explicit aim. <i>Attempts to reduce all externalities and to realize synergies and positive food security spin-offs.</i>	Full consistency between instruments. <i>Full consistency between policy instruments that explicitly (i.e. within mix) or implicitly (aligned towards mix) impact food security.</i>

^a For the EU governance of global food security we consider the following subsystems potentially relevant (based on mandates of the Commission's directorate-generals): development cooperation, external affairs, humanitarian aid, agriculture, fisheries, energy, trade, health, environment and climate, budget, research, competition, information and technology, economic and financial affairs, internal market and industry, justice, migration, and transport

The first dimension of policy integration consists of the *policy frame* within a governance system. Policy frame is a frequently used concept in public policy studies and generally refers to policy stakeholders' competing or dominant problem definitions of a particular societal issue (e.g., Schön and Rein 1994; Roggeband and Verloo 2007). The framework follows a narrower interpretation by concentrating on whether a cross-cutting policy problem – here food security – is recognized as such and, if so, to what extent it is perceived to require a holistic governance approach (Peters 2005). Of course, different perceptions can prevail within a governance system's various subsystems; here it is understood as the dominant frame amongst high-level decision-makers (e.g., European Commissioners). These frames have been shown to have explanatory value over the eventual policy decisions that are made (Lau and Schlesinger 2005).

The second dimension, *subsystem involvement*, revolves around the range of subsystems involved in the governance of food security. Subsystems refer to relatively stable and closed configurations of actors and institutions that govern a specific policy problem or domain within a

broader governance system (cf. Howlett and Ramesh 2003). Apart from subsystems that are actively involved, the dimension also includes those that are not but could be in the future because their actions affect policy outcomes (Dupuis and Biesbroek 2013). The degree of subsystem involvement is thus relative to the number of potentially relevant subsystems for food security. Additionally, this dimension also covers the density of interactions between subsystems in food security. The assumption is that higher amounts of policy integration are characterized by a number of subsystems that frequently interact with each other and that maintain relatively more infrequent interactions with a wider set of 'loosely coupled' subsystems (cf. Orton and Weick 1990). As argued in the introduction, food security's many levels and dimensions make them a potentially broad range of EU subsystems, which could be involved in its governance, see Table 1.

The dimension *policy goals* refers to: (i) the range of policies across subsystems in which (concerns about) food security are explicitly adopted as a goal, and (ii) the coherence between these goals. These goals are pursued through a mix of *policy*

instruments, which constitutes the fourth dimension. Policy instruments can be deployed within subsystem policy efforts, but also at the level of the governance system, for example in the case of interdepartmental working groups. We make a distinction between substantive and procedural policy instruments. Substantive instruments allocate (financial, informational, regulative or organizational) resources to directly affect the ‘nature, types, quantities and distribution of the goods and services provided in society’ (Howlett 2000: 415); procedural instruments are designed to ‘indirectly affect outcomes through the manipulation of policy processes’ (ibid.: 413), e.g., through the creation of new institutions. This dimensions encompasses three sub-dimensions: (i) the range of policies that adopt or adjust policy instruments to address food security concerns, (ii) the deployment of procedural instruments to facilitate co-ordination between subsystems, and (iii) the consistency of the policy instrument mix as a whole. An important further distinction for the first sub-dimension is between policy instruments that are explicitly targeted at food security concerns, e.g., development cooperation or research programs, and instruments that are adjusted to accommodate such concerns without necessarily being framed in terms of food security (cf. Dupuis and Biesbroek 2013).

3 Methodological approach

To study the development of policy integration in the EU governance of food security, we operationalized each of the four dimensions into specific indicators. Our primary source of data for studying these indicators were EU documents, which we retrieved by systematically searching the EU online search engines (for search criteria, see [Online Resource \(OR\) I](#)). Subsequently, data was coded by using the coding program *Atlas.ti*, resulting in the data extraction tables and figures presented in Section 4 and [OR III](#). Table 2 presents the specific indicators and modes of data collection and analysis for each of the four dimensions. The analysis covers the period from 2000 through 2016, which allows comparison of the governance of food security in the period before the food price spikes (up to mid-2007) with that in the period of the spikes (2007–10) and post-spikes (2011–16). The analysis was performed by comparing the different sources of extracted data with the dimensions’ ideal-type manifestations in Table 1. Importantly, we included (sections of) documents referring to *global* food security and food security in general; references with an explicit focus on European food security were excluded.

As information and documents about the internal EU policy process are difficult to systematically access and analyse, we used publicly available proxy data for most dimensions. Limited access to quantifiable data also forced us to complement the dimension of (procedural) policy instruments with qualitative data collected through interviews with twenty

senior policymakers involved in the EU governance of food security. Interview data were collected in Spring 2014, coded and analyzed, see Candel et al. (2016).⁴ Furthermore, because the operationalization and measurement of policy coherence and consistency is understudied at best and highly controversial at worst (Nilsson et al. 2012), these were not measured directly. Instead, they were included by looking for explicit references to linkages among goals and instruments.

It should be noted that we studied the development of policy integration by focusing on the number and types of goals and instruments, without differentiating on quality or potential impact of specific goals and instruments. Hence, our findings only allow us to make statements about how policy integration within the policy process advanced, not about the success of these more or less integrated policy processes in addressing levels or dimensions of food security. This is further reflected on in Section 6. In addition, most indicators consist of *explicit* references to food security (or similar concepts). The analysis of policy goals and instruments that were adjusted to accommodate food security concerns without explicitly referring to these is very challenging as virtually all policies may be argued to affect or accommodate food security to some extent, resulting in a dependent variable problem (cf. Dupuis and Biesbroek 2013). To overcome this challenge we used the proxy that food security concerns should at the least be mentioned in preparatory acts (which discuss the underlying rationales of proposed changes) or be put forward by interviewees as playing an important role in order to conclude that at least some level of integration occurred.

4 Results: Policy integration in the EU governance of food security

This section presents the main findings of the analysis. Each subsection first summarizes the main findings for the dimension, followed by a more detailed presentation of the results.

4.1 Policy frame

The policy frame was studied by analyzing the amount and content of attention to food security in European Commissioners’ speeches. In summary, the results show that food security became increasingly perceived as a multi-dimensional issue (or a problem deserving attention in the first place) but it goes too far to speak of a *shared* or comprehensive policy frame, as linkages

⁴ For this study, 20 Commission officials were interviewed in Spring 2014 about whether and how the Commission is capable of dealing with the ‘wick-edness’ of food security. Respondents worked in a range of directorate-generals and thus dealt with a variety of food security levels and dimensions. See the original paper for more information about the scope of this study and the selection criteria that were used.

Table 2 Methodological approach

	Indicators	Data collection	Data analysis	Explanation
Policy frame ^a	i) References to food (in)security in EU Commissioners' speeches;	Speeches ($n = 290$) were collected by searching the Commission's press releases database RAPID (see OR I for search terms);	Paragraphs of speeches that contained references to 'food (in)security' were inductively coded in Atlas.ti for eligibility, year, Commissioner, and the context in which a reference was made (see OR II for codes);	The policy frame regarding food (in)security was distilled from how (often) Commissioners communicated about the issue. Of course, communication about food security towards an external audience may differ from internal views (cf. Schmidt 2008). However, lacking the access to such internal communication, we believe these speeches to be a good proxy.
Subsystem involvement	i) Configuration of European Parliament (EP) committees that refer to food security in EP committee reports ^b ; ii) Configuration of Commission directorate-generals (DGs) that refer to food security in COM- and JOIN-documents ^c .	i) EP reports ($n = 351$ after coding for eligibility) were retrieved by using the EP search engine (OR I); ii) COM- and JOIN-documents ($n = 366$ after coding for eligibility) were retrieved by using the search engine EUR-Lex (OR I).	i) For each report we noted which committee(s) referred to food security. They also allowed for identifying interactions between committees by reporting the number of times in which an opinion-giving committee and lead committee both referred to food security within a report ^d (cf. Hartlapp et al. 2012); ii) COM- and JOIN-documents were coded for the service(s) that were responsible. Because for most documents only the lead service was given, it proved impossible to identify interactions between services.	Determining the parliamentary committees and directorate-generals that are responsible for drafting preparatory legislative documents containing food security ideas provides an indication of the subsystems involved in food security governance in both EU institutions. For studying interactions between subsystems (in the EP), we assume that an interaction takes place when different committees refer to food security ideas in a single report.
Policy goals	Food security goals in EU hard and soft law.	i) Hard law: three main types of legislation, retrieved via EUR-Lex: regulations ($n = 115$ after coding for eligibility), directives ($n = 2$) and decisions ($n = 39$); ii) Soft law: same COM-documents as in analysis of subsystem involvement.	Both hard and soft law were coded for the types of goals, any comments about the coherence and/or coordination of goals, and for mentioned linkages with other policies or domains.	Legislation and preparatory acts were analysed for explicit food security goals. Goals can be linked to a whole policy or piece of legislation, but also to specific elements.
Policy instruments	i) Policy instruments explicitly linked to food security in EU hard and soft law; ii) Internal procedural instruments deployed to facilitate integration regarding food security.	Same data as for the analysis of policy goals, complemented with interview data to provide insights about adjustments of instruments and internal procedural instruments.	Hard and soft law were coded for any instruments that were explicitly linked to food security concerns. The periods over which instruments were actively used was determined by searching official EU web pages.	Legislation and preparatory acts were analysed for instruments that were explicitly linked to food security. Because internal instruments are not necessarily embedded within such documents, complementary interview data were used.

^a We limited the analysis of policy frame to the European Commission. The Commission has the right of initiative for proposing new policies and is responsible for managing and implementing existing policies. As such, a change in the Commission's policy frame is a prerequisite for a general change at the EU level

^b EP reports are the result of a process of deliberations regarding a specific policy or issue within a parliamentary committee and can be considered the final opinion of a committee on the issue at hand. They typically include a motion for a European Parliament resolution, an explanatory statement, and, often, opinions of other parliamentary committees that did not have the lead on the issue

^c COM-documents are all the preparatory legislative documents that are communicated by the European Commission (hence COM). JOIN-documents are joint-declarations, written together with other states or organizations. The majority of COM-documents consists of communications from the Commission to the European Parliament, the Council, the European Economic and Social Council, and the Committee of the Regions. In addition, COM-documents include green and white papers, reports, and budgetary documents. Henceforth, when we refer to COM-documents, we mean both COM- and JOIN-documents

^d For example, when the Committee on Development gives an opinion on a draft resolution of the Committee on Agriculture and Rural Development and both committees refer to food security, this indicates a tie between both committees in the governance of food security

between policy efforts and associated effects on different dimensions and levels of food security remained largely unspoken or implicit. Moreover, food security continued to be primarily framed in the context of external assistance; aspects related to access, (global) health, or environmental sustainability, remained largely untouched. Recent years have shown a steep drop in the number of Commissioners referring to food security.

Looking more closely at the findings, Fig. 1 shows that the overall number of references to food (in)security in Commissioners' speeches increased considerably during the first food price spike of 2007–8 and especially in the years following the second price spike of 2010. On the contrary, the years immediately preceding the spikes were characterized by very little high-level attention to food security. What is more, the figure shows that this increase can be largely explained through the increase of attention from 'new' policy domains. Whereas before, the spikes' most attention originated from the 'traditional' directorate-generals (DGs) of Development Cooperation and Humanitarian Aid and, to a lesser extent, Agriculture; these were complemented with the Commission's presidency and the DGs of Science and Research and Environment in later years. However, after the 'peak year' 2013, attention dropped again to levels similar or lower than prior to the spikes. For the years 2015–16 only one speech with references to food (in)security was found (by Commissioner Hogan of Agriculture).

In terms of the *content* of references to food security, we found a diversification from an almost entire focus on external assistance and some multilateral trade considerations in the early 2000s towards the inclusion of global food security as a function of (European) agriculture, climate change and environmental concerns, scientific cooperation and research, and global governance. Thus, food security not only attracted attention from a broader range of domains, but was also considered from a broader perspective by the Commission as a whole, including the presidency. Relatively few explicit references were made to

the need for integrative policy or linkages between policy domains. In cases where reference was made, this related mainly to the need for aligning development efforts with humanitarian aid and, to a lesser extent, to other domains. The Commission's Policy Coherence for Development program, for example, was only mentioned rarely.

When it comes to the individual EU policy domains, some interesting observations about the quantity and content of food (in)security can be made. To start with *Development Cooperation and Humanitarian Affairs*, the Commissioner(s) of which made most references during the period of analysis, a clear increase of attention can be observed in the period 2010–13. This spike of attention can partially be explained by the separation of the DG into two new DGs, one for Development Cooperation and the other for Humanitarian Aid. Commissioners Michel and De Gucht, who led the DG just before and during the first price spike, paid hardly any attention to the issue (at least in their speeches). Explicit consideration of the need for coherence or coordination was clearest under Commissioner Nielson (2000–4), though subsequent Commissioners continued subscribing to the importance of aligning short-term humanitarian aid and longer-term development assistance. In addition, Commissioner Piebalgs (2010–14) regularly linked food security to concerns about climate change and environmental degradation around the Rio + 20 Sustainable Development conference in 2012.

Commissioners of *Agriculture* also paid attention to food security over the whole period of analysis, whereby Commissioners Fischler (2000–4) and Fischer Boel (2004–9) touched upon the topic more often than Commissioner Ciolos (2010–14). All Commissioners invoked food security particularly in the context of the Common Agricultural Policy and in food security exemption clauses in (agricultural) trade agreements. A recurring argument in these speeches was that a productive (European) agriculture and agricultural trade are key to

Fig. 1 Number of paragraphs containing references to food (in)security in Commissioners' speeches, clustered per domain

eradicating hunger across the world. Commissioner Fischler already underlined the need for policy coherence to some extent; Ciolos did so less explicitly, but repeatedly stressed the food security linkages between agriculture and environmental sustainability, research and innovation, and trade. In more recent years, Commissioner Hogan (2014–present) has been the only Commissioner of the Juncker Commission who referred to food security in one of his speeches. *Fisheries* was touched upon only very infrequently across the whole period.

Two domains to which the Commissioners paid increasing attention to food security after the food price spikes were *Research* and *Environment*. For Research this was due to the various food security research calls and programs as well as the emphasis on international scientific cooperation to address food insecurity. For Environment, Commissioner Potočník (2010–14) started referring to food security in the context of the Rio + 20 conference and in relation to agriculture's effects on the global long-term potential to produce food. Our findings also show increased attention of the Commission's *presidency* after president Prodi (1999–2004) was succeeded by Barroso (2004–14), and within the Barroso presidency during and following the food price spikes. This suggests that the presidency and Secretariat-General came to view food security as a relatively more important EU concern after the spikes. Barroso particularly referred to food security as an important global challenge and priority for EU development assistance, while also making links with other terrains, such as biofuels, fisheries, climate change, environmental degradation, science, and agriculture. Juncker (2014–present) did not refer to food security in any speech.

Trade and *External Relations* are two domains in which the Commissioners regularly touched upon food security over the whole period, but where attention was more frequent before compared to during and after the food price spikes. The

Commissioners of Trade made these references primarily in the context of exemption clauses on food security in trade agreements and with respect to the importance of agriculture. The Commissioners and High Representative of External Relations mainly referred to existing assistance programs.

In addition to these domains, there are a number of domains in which the Commissioners referred to food security only a couple of times, the most notable being *Inter-Institutional Relations* under Commissioner Wallström (2004–9), who repeatedly stressed the role of women for (global) food security. For some domains, Commissioners started mentioning food security only during and after the food price spikes, but did so (very) infrequently.

4.2 Subsystem involvement

By analyzing the policy preparation by EP committees and the Commission's DGs, we were able to assess the involvement of different subsystems in food security governance over time. In summary, our findings show that before the food price spikes, the subsystem Development was clearly the most dominant subsystem in the EU governance of food security. Other subsystems only made infrequent references to food security. During and after the food price spikes, and particularly after the spike of 2010, 'new' subsystems became involved more structurally, particularly the External Affairs, Agriculture, Trade, and Environment subsystems. In recent years, the level of subsystem involvement dropped and Development came to play a relatively larger role again.

Looking more closely at the results, they show both an increase and diversification of references to food security across committees in the EP, see Fig. 2. Before 2008, only the Committee on Development frequently addressed food

Fig. 2 Parliamentary committees that invoked food security in parliamentary reports five or more times within a year. (note: all committees that referred to food security less than five times within a year are under 'Other')

security. All other committees invoking food security, such as those on Foreign Affairs, Environment, and Agriculture, did so fewer than 5 times per year. From 2008 onwards, more committees started referring to global food security (concerns) on a regular basis, including the committees on Agriculture and Rural Development, Environment and International Trade. The year 2013 shows a clear peak in the number of references. Part of this peak can be explained by an increase in the number of references by the ‘traditional’ Committee on Development, but most of the increase follows from the involvement of new subsystems. The years 2009 and 2014 are remarkable for their relatively low numbers of referrals, which could be explained by the EP elections held in these years. Involvement continued to be low in 2015, but increased again in 2016.

In terms of the interactions between subsystems, Fig. 3a-d show that in the years during and following the food price spikes the constellation of parliamentary committees developed into a relatively more complex network. Whereas in the years up to 2007, the Committee on Development was the dominant subsystem with no or hardly any interactions with other subsystems, a whole range of committees became involved in the seventh term of the EP. Most of these newly involved committees primarily interacted about food security with the Committee on Development (except for the Committee on Agriculture and Rural Development). Many of these interactions diminished again in the 8th term of the EP.

Similar patterns can be observed when looking at the directorate-generals of the Commission. Figure 4 shows an increase in references to food security in COM-documents, particularly in the years following the 2010 food price spike. Here too, diversification toward new domains is visible, albeit to fewer than in the case of the EP, and at a later stage.⁵ The results show that the increase in references is almost exclusively the result of ‘new’ DGs starting to invoke food security, whereas references by DG Development, even in combination with DG Humanitarian Affairs and Civil Protection, remained at roughly the same level. Two DGs that became particularly active were DG Agriculture and Rural Development and the European External Action Service (EEAS). For DG Agri this was primarily related to the CAP reform (and its interactions with global food security), whereas most references by the EEAS were made in the context of foreign affairs and international cooperation. Apart from these DGs, the group “Other” is relatively big, both before and after the spikes. This indicates that there was a whole range of DGs that infrequently mentioned food (in)security concerns. Here too, the number of references decreased in 2015 and increased again in 2016.

⁵ Note that because of the lower overall number of references, Figure 4 mentions those DGs that refer to FS 4 (instead of 5) or more times in a year.

4.3 Policy goals

Online Resource III (Table 2) provides an overview of the policies and programs that explicitly mentioned food security as one of their policy goals. In summary, our findings show that the inclusion of food security policy goals cautiously diversified across ‘new’ policies from the 2007–8 food price crisis onwards. A parallel development is the increase in notions of coherence of policy goals. However, policy goals were often restricted to incidental issues and concerns and did not include all potentially relevant domains.

Looking more closely at the results shows that before 2010 almost all key policies were related to development cooperation, humanitarian aid, and external assistance to neighbouring or partner countries and regions. A major policy in this respect was the 2008–10 Food Facility,⁶ which was set up to help countries and populations adapt to spiking food prices. Although food security goals were linked to a wide array of concerns, such as water, climate and health, this was principally done in the context of external assistance. Two exceptions to this observation were several bans on the import of various fish species,⁷ which were justified by the argument that they were important for global food security, and the Treaty on Plant Genetic Resources intended to safeguard future food security.⁸ Additionally, food security clauses were included in a number of trade and fisheries treaties.

From 2010 onwards, food security policy goals were defined and included in a wide array of other policy processes, most notably the CAP and the Common Fisheries Policy,⁹ soil¹⁰ and bio-economy¹¹ strategies, the Horizon2020 research framework,¹² and the Novel Foods regulation.¹³ Combined with additional development and humanitarian aid goals, this resulted in an overall increase of the number of policies with food security as an objective. It is important to note that for several of these ‘new’ policies, such as the CAP, (global) food security was mentioned as a policy goal in soft laws, green and white papers, but did not recur as such in final legislation.

Before 2007–8 notions of the coherence and coordination of policy goals in hard and soft laws were mostly restricted to the mutual coherence of development aid instruments and to attuning development and humanitarian aid efforts. From then onwards, references to coherence of policy goals increased and food security concerns came to be linked, albeit incidentally, to a more varied range of issues, such as the development of biofuels, health, climate change, and trade.

⁶ Regulation 1337/2008

⁷ e.g., Regulations 826/2004, 827/2004, and 828/2004

⁸ Decision 869/2004

⁹ Regulation 1380/2013

¹⁰ COM 46/2012

¹¹ COM 60/2012

¹² Regulation 1291/2013; Decision 743/2013

¹³ Regulation 2283/2015

Fig. 3 Subsystems interactions in the European Parliament (DEVE = Committee on Development; ITRE = Committee on Industry, Research and Energy; AGRI = Committee on Agriculture and Rural Development; ENVI = Committee on Environment; INTA = Committee on International Trade; PECH = Committee on Fisheries; AFET = Committee on Foreign Affairs; BUDG = Committee on Budgets; FEMM = Committee on Women's Rights and Gender Equality.). (Interactions between committees are indicated in the figure when committees interacted at least four times with each other in a parliamentary term (or two times for the first half of the current term 2014–2016). The direction of the arrows indicates which of the interacting committees is the opinion-giver)

4.4 Policy instruments

Online Resource III (Table 4) provides an overview of instruments that were linked to food security (concerns). The analysis of soft and hard legislation combined with interviews with Commission staff show that since the outbreak of the food price spikes, ‘traditional’ food security instrument mixes were expanded, made more consistent, and complemented with some new types of instruments. In addition, the coordination and consistency of instruments were increasingly facilitated within the Commission, most notably by impact assessments, inter-service consultations, and Policy Coherence for Development (PCD). Many subsystems outside of external assistance directed no or only limited instruments explicitly at pursuing food security objectives, but may have adjusted existing instruments to accommodate food security concerns (see Section 5).

The most substantial instruments explicitly targeting global food security before the spikes were the provision of food aid and actions supported through the food security program, both embedded in the 1996 regulation on food aid policy and special operations in support of food security. As of 2007, this regulation was adopted within the Financing Instrument for Development Cooperation,¹⁴ which merged various geographic and thematic development instruments into a single development instrument. Another key instrument is the

European Development Fund, which has been the main cooperation instrument for ACP-countries (African, Caribbean, and Pacific Group of States) and Overseas Countries and Territories. Similarly, various neighborhood assistance instruments, such as TACIS (Technical Aid to the Commonwealth of Independent States¹⁵) and MEDA (Euro-Mediterranean Partnership¹⁶), were used to provide assistance to countries and regions neighbouring the EU. More specific instruments that were already used before the spikes were the Technical Centre for Agriculture and Rural Development (CTA), several bans on the import of particular fish species, and efforts to fix export refunds; all of which were explicitly linked to global food security concerns.

Most of these instruments continued to exist during and after the spikes, sometimes in a different or expanded form. A major expansion of food security efforts in development cooperation was realized by the temporary Food Facility,¹⁷ which was created to help countries and regions become more resilient. Although we did not observe a full reconsideration and alignment of instruments, in some sectors instruments were combined or adapted in more consistent instrument mixes, such as the previously mentioned Financing Instrument for Development Cooperation and the new European Neighbourhood (and Partnership) Instrument. In

¹⁴ Regulation 1905/2006

¹⁵ Regulation 99/2000

¹⁶ Regulation 1488/1996

¹⁷ Regulation 1337/2008

Fig. 4 Commission services that invoked food security in COM-documents four or more times within a year. (note: all services that referred to food security fewer than four times within a year are under ‘Other’)

addition, new instruments were developed and food security concerns became embedded in instruments that were previously not explicitly targeted at food security, for example the Instrument for Stability¹⁸ (later: Instrument contributing to stability and peace) used to provide external assistance in cases of political instability or major disasters. This instrument replaced the previous Rapid Response Mechanism,¹⁹ which, although it may have contributed to food security, did not explicitly take food security concerns into account.

A number of new instruments linked to food security originated from subsystems other than development cooperation and external assistance. Examples hereof are the prominent position of food security within the Horizon2020 research framework,²⁰ including the Joint Research Centre's activities on food security, monitoring the impact of biofuels,²¹ and the Copernicus Earth Observation program.²² The EU also appointed a special representative to the African Union.²³ For many of the subsystems and policy goals identified in the previous two sections we found either no or only minor associated substantive instruments. For example, the final versions of the Common Agricultural Policy²⁴ and the Common Fisheries Policy²⁵ did not contain any instruments explicitly linked to food security concerns. This either means that policy instruments were adjusted without labelling them in terms of food security or that food security concerns mentioned in

preparatory acts (soft law) were not followed by policy change (see Section 5 for a further discussion).

The findings from the policy analysis are supported by our interview data. Regarding the EU's internal procedural instruments in the governance of food security, interviews with Commission officials revealed that quite a number of instruments had been used to ensure and enhance coordination and coherence within the Commission. Although interviews were only held in 2014, respondents indicated that these instruments had become more important in recent years. Two of the Commission's most common internal procedural instruments, impact assessments and inter-service consultations, were reported to be important tools for addressing food security-related concerns, for example in biofuels policy, the Common Agricultural Policy, and trade agreements. In practice, these concerns were raised mainly by officials working in the domains of development cooperation and external assistance. Another key instrument in this respect is Policy Coherence for Development, with food security as one of its five key priorities. PCD enables DG Development to screen the Commission's work program for initiatives that may have an impact on food security and, consequentially, to have a say in the policy process regarding a broad range of issues. However, respondents argued that because of the limited capacity of the PCD team, efforts were limited to major policies and programs that might have a detrimental effect on food security, such as the Common Agricultural Policy and trade agreements:

In the past there were moments where I was alone on the file, on PCD coordination, and at that moment we just focused on the big priorities, on things that are burning. So it all depends on the staff situation. ... We always say to people up in the hierarchy that we can use more

¹⁸ Regulation 1717/2006

¹⁹ Regulation 381/2001

²⁰ Regulation 1291/2013; Decision 743/2013

²¹ Regulation 597/2009

²² COM 312/2013

²³ Decision 805/2007

²⁴ (Regulations 1305/2013, 1306/2013, 1307/2013, and 1308/2013)

²⁵ Regulation 1380/2013

people; if they give us twenty we could use them all, then we would expand the number of priorities that we are able to follow.

Policy officer from DG DEVCO

PCD is therefore still primarily used according to the ‘do-no-harm’ principle, rather than to realize synergies. In addition, respondents indicated that when it comes to the crunch, other objectives were generally given priority over food security concerns. One policy officer indicated that the EU’s economic and political crisis did not make things easier in this regard, though at the same time nuanced apparent trade-offs:

Life for PCD was easier when we were in a situation of prosperity. Of course, if you have a crisis and European jobs and the prosperity of the EU on the line, and the policy trade-off is presented in a way where you have to choose between the European poor and people in the other countries that are not European voters... But part of my job is also to explain that the equation is not always that simple. It's not usually one against the other. It's also our job to try to bring in the narrative, explain why dealing with development and food security is important in the long term for Europe.

Policy officer from DG DEVCO

Three other types of instruments that respondents mentioned to be relevant were: i) foresight studies performed by the Commission’s Joint Research Centre, which help put food security on the agendas of various services and provide scenarios for courses of action, ii) the Commission’s staff mobility policy, which facilitates a circulation of perspectives and expertise, and iii) the creation of ‘boundary units’, i.e. units created to address external concerns within a domain, e.g. the unit ‘ACP, South Africa, FAO and G8/G20’ within DG AGRI.

5 Discussion

5.1 Synthesis of our findings

Our findings suggest that each of the policy integration dimensions in the EU governance of food security advanced to at least some degree in the aftermath of the food price spikes. The policy frame expanded towards new dimensions of food security and ideas about how it should be addressed; a wider array of subsystems started discussing food security concerns; food security goals diversified somewhat and there was an increased awareness of coherence and linkages with other issues; existing instruments, including internal procedural instruments, were expanded and made more consistent; and new types of instruments were developed. Whereas food security remained an important issue in development cooperation, it

also spread to new domains and policy debates, such as those on agriculture, biofuels, environmental programs, and trade. Policy changes that are particularly notable are the substantial resources made available to food security research under the Horizon2020 program and the adjustment of biofuels targets resulting from concerns about indirect land use changes. At the same time, policy integration proved more substantial in some dimensions than in others. There are three findings that make us answer our initial question of whether actions speak louder than words with a ‘partly’.

First, we found that the increase of awareness in various ‘newer’ subsystems did not seem to result in actual policy changes. This is clearest for the most recent reforms of the CAP and the CFP: although food security concerns were pervasive, it is doubtful whether these truly affected final outcomes (Zahrnt 2011; Candel 2016). Both preparatory and final acts did not mention any changes of specific goals and instruments, but were restricted to generic references to global food security as an important objective. This seems to suggest that food security concerns were primarily used to strengthen the legitimacy of existing or proposed policy directions. This (cautious) conclusion corresponds with insights shared by our interviewees. In the case of the CAP, respondents claimed that food security primarily served as a ‘buzzword’ for enhancing the legitimacy of policy proposals as it proved to resonate with a wide array of stakeholders (Candel et al. 2016). Of course, this does not mean that these policies may not make a contribution to global food security (although critical voices exist too, e.g., Brooks 2014; Boysen et al. 2015); however, we did not find a change or explicit (re)targeting following on the renaissance of food security concerns. It is important to note that such discursive or symbolic processes of policy integration are not necessarily an undesired development (cf. Edelman 1985). Symbolic integration can play an important agenda-setting role in the sense that it draws subsystems’ attention to particular food security concerns. Such awareness is a prerequisite for more substantive governance changes to occur.

Second and building on the last point, although we observed increasing awareness of interactions across the different drivers of food security as well as pleas for enhanced policy coherence, policy efforts were largely limited to mitigating the most obvious externalities. It is true that a number of development-, humanitarian aid-, and neighbourhood-related food security instruments were merged into more consistent instruments, but few attempts were made at realizing further synergies, e.g., by moving towards an overarching cross-sectoral global food security strategy and instrument mix. Limited PCD capacities and resources play a role here, but may in themselves result from insufficient political commitment (cf. Harris et al. 2017). In addition, not all subsystems that *could* play a role in governing global food security (Section 2) did so explicitly.

Third, findings for the most recent years (2014–16) seem to indicate a decrease of attention to global food security again:

references to food security have been almost absent in Commissioners' speeches under the Juncker presidency, while subsystem involvement was much lower, particularly in 2014–15. Although 2016 saw an increase of subsystem involvement in the Commission and Parliament again, the lack of high-level prioritization makes further policy integration of goals and instruments unlikely in the near future.

5.2 Follow-up questions

Undeniably, the relationship between strengthened policy integration in governance processes and eventual food security outcomes remains understudied and therefore unclear. Although policy integration scholars assume that more integration would result in better outcomes, studying such impacts is both a conceptual and methodological challenge (Jordan and Lenschow 2010). We consider overcoming these challenges through conceptual and methodological innovation as a vital next step in future research on integrative food security approaches (cf. Knill and Tosun 2012).

Another important topic for follow-up research considers the “why”-question behind our analysis; why did the EU governance of food security advance quite significantly in some domains but not in others? Although providing very little insights into what explains successful explanation (Peters 2015), the literature provides various possible explanations for the latter question (for overviews, see: Peters 2015; Vince 2015; Candel 2017b). First, pre-existing policy elements, such as instruments, institutions or capacities, often prove remarkably resilient as a result of lock-in effects following from path-dependent processes of policy layering (Pierson 2000; Rayner and Howlett 2009). Second, food security may have been replaced on the political agenda by competing issues that are perceived as more pressing, hence reducing the political pressure to invest in policy integration efforts (cf. Downs 1972). In this respect, it would be worthwhile looking into possible trade-offs resulting from efforts to govern food security and various other crosscutting policy problems – including climate change, immigration, terrorism, and the stability of financial systems – at the same time. Not only do higher degrees of integration require more resources, including institutional capacity, that cannot be used elsewhere, but a focus on the coherence of goals and the consistency of instruments with respect to food security may diminish the coherence and consistency of the governance of other issues (Adelle et al. 2009; Lagreid and Rykkja 2015). These are everyday choices in the working practice of decision-makers. Third, integration is simply no easy task, and many examples of failure exist (6, Perri 2004). As politicians are known to avoid risk (Hood 2010), it is unlikely that they will invest serious time and resources in policy integration (Howlett 2014). Fourth, for some policymakers the invocation of food security concerns or calls for integration may have merely served the purpose of window dressing, enhancing the

legitimization of a specific policy proposal or direction while lacking the accompanying political will or resources (Mickwitz and Kivimaa 2007). Various scholars and commentators have argued that the latter has been the case with food security's pervasiveness in global policy debates in recent years. According to some particularly critical scholars, invoking ‘food security’ merely suits proponents of intensifying food production (Fish et al. 2013; Rosin 2013; Tomlinson 2013) or of a neoliberal trade agenda (Jarosz 2011; Koc 2013). Our results do not support these claims for policymaking at the EU level, although strategic considerations certainly seemed to have played a role in the renaissance of food security discourse.

5.3 Implications for governance

Our results allow for concrete recommendations on how the EU governance of food security could be advanced further. As Table 1 elaborates, full policy integration into food security governance would implicate the involvement of all possibly relevant subsystems. Subsystems would then need to get involved beyond ‘do-no-harm’, aiming to create synergies between policy efforts. In addition, full integration would require the design and implementation of an overarching EU strategy, which elaborates the role of each of these subsystems in addressing food security, thereby ensuring the coherence of policy efforts. The PCD commitment to food security would be a good starting point for doing so, but would have to be extended from development cooperation to other fields of EU policymaking. Such an extension would require coordinative policy instruments at the system-level. These coordinative instruments do not necessarily have to be created anew; existing coordinating entities, such as the Secretariat-General in the Commission, could serve as boundary-spanning structures that take the lead in developing a holistic approach and facilitating coordination between subsystems (cf. Hartlapp et al. 2012; Kassim et al. 2013; Candel et al. 2016). The consistency of subsystems' instrument mixes is a key challenge in realizing such a boundary-spanning policy regime.

An important question is whether further policy integration is politically feasible or desirable in the current political landscape (cf. Jordan and Halpin 2006). Member states have been reluctant to hand over jurisdictions to the EU institutions, especially regarding domains related to external affairs and issues for which the EU has no formal competence. This has been reinforced by the rise of Euroscepticism over the last years. It may therefore be more realistic to strive for the optimization of lower degrees of policy integration, for example by attempting to reduce the clearest externalities (Candel 2016). Although high policy integration ambitions help picturing the desired path forwards, in the short-term it may be more productive to harvest the low-hanging fruit to ensure that actions do speak louder than words.

Acknowledgements Previous versions of this paper were presented at the 2nd International Conference on Public Policy in Milan, 1–4 July 2015, and at the 9th General Conference of the European Consortium for Political Research in Montréal, 27–29 August 2015. We would like to thank Katrien Termeer, Arild Aurvåg Farsund, Carsten Daugbjerg, and two anonymous reviewers for helpful comments on previous drafts of the paper.

Compliance with ethical standards

Conflict of interest The authors declared that they have no conflict of interest.

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