Policies for Healthy and Sustainable Diets in Italy: Co-creating policy recommendations with national stakeholders

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Abstract

The transition towards Healthy and Sustainable Diets (HSDs) is increasingly recognized as a strategic priority to address climate change, biodiversity loss, non-communicable diseases, and social inequalities. Yet translating scientific evidence into coherent and actionable policies remains a complex challenge. This paper analyzes the Italian policy landscape related to HSDs through a dual approach: a desk-based review of 81 national regulatory texts and a participatory Policy Lab involving key stakeholders from the agri-food system. Building on a Policy Domains (PDs) framework, the study maps the alignment and gaps between policy supply and stakeholder demand and co-creates a set of 14 national Policy Recommendations (PRs). Results highlight that Italian regulations remain strongly anchored to nutrition, health, and food safety, while environmental, socio-economic, and territorial dimensions are only partially integrated. The participatory process

underscores the need for multi-level governance, stronger science–policy interfaces, and regulatory instruments capable of fostering fair, inclusive, and territorially grounded food systems. Rather than providing ready-to-implement policy instruments, the study identifies strategic priorities and governance conditions that may support the integration of HSD principles into Italy's normative framework. The findings also offer insights for countries facing similar challenges in aligning health, sustainability, equity, and territorial dimensions within food system governance.

1. Introduction

Achieving global food system transformation toward healthy and sustainable diets (HSDs) is increasingly recognized as a cornerstone of the response to some of the 21st century's most pressing challenges: climate change, biodiversity loss, rising rates of non-communicable diseases, and deepening socio-economic inequalities (Willett et al., 2019; IPCC, 2022; HLPE, 2020). The interlinkages between diet, health, environment, and society demand integrative policy responses that can simultaneously address multiple, and often competing, objectives. However, translating scientific consensus on what constitutes a healthy and sustainable diet into coherent and actionable public policies remains an elusive task, riddled with political, institutional, and practical trade-offs (Garnett, 2014; Swinburn et al., 2019).

One relevant issue is that dietary transitions are non-value-neutral, and this can generate trade-offs among actors and components of a natural system (Springmann et al., 2018; Clark et al., 2020). For example, a diet low in animal proteins may be detrimental to the animal breeders and to the economic vitality of some rural areas, while it can have a positive effect on natural resources (Godfray et al., 2018; Springmann et al., 2018; Clark et al., 2020; Fanzo et al., 2021). So any decision is embedded in socio-cultural contexts, affected by power dynamics in the agri-food industry, and subject to economic constraints. Public health policies promoting dietary shifts often intersect with agricultural

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and trade policies designed around productivity and competitiveness rather than nutritional or ecological outcomes (Pingali, 2015; Friel et al., 2013).

Moreover, sectoral silos and misaligned incentives hinder policy coherence. For example, health ministries may promote nutrition education campaigns, while agricultural subsidies continue to favor calorie-dense monocultures over nutrient-rich horticulture (Herforth et al., 2022). Environmental regulations may aim to reduce greenhouse gas emissions from farming, but these may conflict with food security policies that prioritize yield maximization or national self-sufficiency (Lang & Barling, 2012; IPES-Food, 2017). In many cases, low-income populations - already facing disproportionate health burdens - are also the least able to afford sustainable dietary options, exacerbating inequalities unless redistributional measures, such as targeted subsidies or taxation, are implemented (Hirvonen et al., 2020; Mozaffarian et al., 2021). In food systems and public institutions involved in enforcing HSDs coherence becomes a relevant issue given the multiplicity of actors and territorial levels involved in managing relationships and political decisions. It becomes crucial then to establish actions and practices to reduce conflicts and inefficiencies created by emerging vertical and horizontal trade-offs (Nilsson et al. 2012; Monticone et al., 2023). At the same time, policy coherence should not be understood as a value per se. Recent literature highlights that coherence is normatively contingent: it may support transformative outcomes when it aligns policies around health, sustainability, and social justice, but it may also entrench existing inequalities or unsustainable development pathways when coherence is built around narrow economic or productivist goals (Cairney, 2025). In this sense, the key issue is not coherence alone, but the direction, purpose, and distributive effects of coherence in practice.

Trade-offs are further compounded by the differing temporal and spatial scales across policy domains (PDs). Dietary transitions promise long-term societal benefits, but their political viability is constrained by short-term economic and electoral considerations (Reisch et al., 2021). Additionally, there are inherent tensions even within individual domains: a fiscal measure such as food taxation

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77 may be effective in steering consumption patterns, but without complementary measures to ensure
78 access to healthy foods, such interventions can be regressive and socially divisive (Nordhagen et al.,
79 2020).

80 In light of these challenges, growing academic and policy interest has turned to the question of how
81 integrated food policies can reconcile diverse objectives and stakeholders within national contexts
82 (Delgado et al., 2021; Gonzalez Fischer & Garnett, 2016). Countries vary in the degree to which they
83 have attempted to implement coherent strategies aligning nutrition, sustainability, and equity. The
84 Italian case offers an especially compelling field of investigation for four main reasons: (1) the
85 remarkable complexity of its food systems, shaped on the one hand by highly diversified agricultural
86 models - enabled by distinctive geographical conditions - (Fontefrancesco, 2023) and on the other by
87 Italy's central position in the Mediterranean, at the crossroads of trade routes connecting EU Member
88 States and third countries; (2) the persistence and rise of malnutrition and obesity at the national level,
89 despite Italy being the cradle of the Mediterranean Diet (Agnoli et al., 2018); (3) the lack of a coherent
90 national strategic vision for food systems (OECD, 2022; Agora Agriculture and IDDRI, 2025), even
91 though some relevant elements - primarily focused on the agricultural sector - are included in the
92 CAP Strategic Plan (Henke et al., 2024); (4) the absence of scientific evidence that systematically
93 maps the relationship between HSDs and the policies required to promote them at the national level,
94 linking nutritional implications (Mistura et al., 2025) with economic, social, environmental, and
95 institutional dimensions.

96 This paper aims to analyze the current policy landscape in Italy concerning HSDs, focusing on how
97 policies are framed, where gaps might exist, and how stakeholders perceive the potential integration
98 of HSD principles into existing regulations.

99 Although no full consensus has yet been reached on the definition of HSDs, for the purposes of our
100 analysis we conceive them as a policy-relevant objective that depends on the creation of enabling
101 conditions within food systems, including coherent governance arrangements, supportive Food

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Environments (FE), equitable socio-economic structures, and integrated policy frameworks capable of addressing the trade-offs that emerge across actors, sectors, and territories.

By engaging with stakeholders - including representatives of farmers, the processing industry, policymakers, and consumers - this research seeks to deepen the understanding of the barriers, opportunities, and institutional incoherencies within Italy's policies for HSD. The study provides co-created policy recommendations for more effective integration of HSD principles into the national policy framework.

2. Theoretical background

2.1. Food Environments as catalysts for Healthy and Sustainable Diets

The concept of FE has gained traction as a critical policy entry point in shaping population-level dietary behaviors and enabling the shift towards HSDs. FE - defined as the collective physical, economic, policy, and socio-cultural surroundings that influence food availability, affordability, and acceptability - act as structural determinants of dietary choices (Swinburn et al., 2013; Herforth & Ahmed, 2015). A growing body of literature highlights how unhealthy FE - characterized by the ubiquity of ultra-processed foods, aggressive marketing, and socioeconomic inequalities in food access - are key contributors to rising rates of obesity, non-communicable diseases, and environmental degradation (Mozaffarian et al., 2018; HLPE, 2017). In contrast, policies that actively shape FE, such as restrictions on unhealthy food marketing to children, fiscal incentives for fruit and vegetable consumption, reformulation standards, and public procurement schemes in schools and hospitals, have shown considerable promise in aligning public health and environmental sustainability objectives (Turner et al., 2021; Afshin et al., 2017; Swinburn et al., 2019). Furthermore, FAO and

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WHO emphasize the need to shift from individual responsibility approaches to systemic transformations in FE to effectively support dietary change (FAO & WHO, 2019). This paradigmatic transition acknowledges that food choices are not merely a matter of personal willpower but are strongly influenced by external factors such as advertising exposure, food pricing, and retail layouts (Hawkes et al., 2015). Crucially, FE policies also serve as levers to address equity concerns, as they can be designed to disproportionately benefit low-income and marginalized populations - who often face higher barriers to accessing nutritious and culturally appropriate foods (Pérez-Escamilla et al., 2018). Despite growing international endorsement of these strategies, implementation remains uneven across countries due to political resistance, lobbying by food industry actors, and fragmented policy governance. Strengthening the institutional and regulatory capacity to govern FE thus emerges as a key strategy to enable national transitions toward HSDs.

2.2.National-Level recommendations as instruments for policy coherence and governance alignment

In the face of increasingly complex and interdependent food system challenges, policy recommendations and regulatory tools emerge as critical instruments to realign national food systems with the principles of HSDs (Hilson et a., 2025). Unlike soft instruments such as awareness campaigns or voluntary guidelines, regulatory measures - including binding standards, fiscal mechanisms, labelling mandates, advertising restrictions, and institutional procurement rules - offer a powerful means to reshape the structural incentives and disincentives that govern food production, distribution, and consumption (Swinburn et al., 2019; Mozaffarian et al., 2018). These tools, when effectively integrated into coherent policy frameworks, can mitigate contradictions between health, agricultural, environmental, and economic objectives, enabling a more coordinated governance of food systems (Reisch et al., 2021; Fanzo et al., 2021).

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Policy recommendations at the national level play a strategic role in guiding the development and deployment of such regulatory instruments (Hawkes et al., 2020). Food-Based Dietary Guidelines (FBDGs), national nutrition and sustainability strategies, and inter-ministerial policy roadmaps represent vehicles for articulating a long-term vision, establishing normative priorities, and translating global commitments - such as the UN Sustainable Development Goals - into actionable domestic policies (FAO & WHO, 2019; Gonzalez Fischer & Garnett, 2016). Increasingly, forward-looking governments are using these tools not only to influence individual dietary choices but also to steer systemic reforms across the supply chain. For example, countries such as Sweden, France, Italy and the Netherlands have developed integrated dietary guidelines that link nutritional goals with climate change mitigation, biodiversity protection, and animal welfare (van Dooren et al., 2024; MIUR, 2015; EAT-Lancet Commission, 2019). These strategies provide a reference point for aligning agricultural subsidies, taxation schemes, school meal standards, and environmental regulations with HSD principles.

Nonetheless, the translation of policy recommendations into effective regulation is not a linear or technocratic process; it is shaped by institutional arrangements, political will, and the relative influence of competing stakeholder groups (Lang et al., 2009; IPES-Food, 2017). Regulatory inertia, fragmented governance, and lobbying from powerful agribusiness and food industry actors often hinder the adoption of bold policy measures (Monteiro et al., 2018). However, regulation plays a pivotal role in enabling the transformation towards the adoption of HSDs. Achieving it requires changes not only in individual consumer behaviors (demand side), but also in the broader structural and systemic conditions that shape production and supply practices (supply side). Moreover, regulations of individual choices like HSDs imply “softer” instruments than environmental or even farming choices (for example, pesticide use, organic farming, use of water in agriculture), which are often regulated through “hard measures” like standards and incentives (Have et al., 2010; Mazzocchi et al., 2024 and 2025). In the field of redirecting diets and consumer choices the most common and

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appropriate measures are information, education, transparent labelling and so on. One way to make HSDs operational at scale is to embed them within binding norms and legal frameworks that incentivize desirable behaviors and penalize harmful practices. Instruments such as sugar taxes, front-of-pack labelling systems, minimum sustainability criteria for public procurement, and mandatory reformulation targets exemplify how regulatory levers can institutionalize the shifts required for healthier and more sustainable food systems (Afshin et al., 2017; Hawkes et al., 2015).

While some progress can occur voluntarily - through shifts in social norms or the dissemination of information - there are substantial barriers to voluntary change on both sides of the food system. Therefore, as Hilson et al. (2025) argues, it is more realistic to rely on regulatory approaches that combine incentives and sanctions, rather than depending solely on voluntary measures or informational strategies. However, as underlined earlier, regulatory tools are often in conflict with individual choices and can be perceived as an attempt to modify consumers' behavior though enforced choices and imposed lifestyles.

To achieve a durable change in behavior requires governance innovations capable of coordinating across ministries, levels of government, and also PDs. The creation of intersectoral platforms - such as the Italy's OnFoods Foundation, stemmed from the National Recovery and Resilience Plan, national food policy councils, and dedicated legislative frameworks - such as France's "Loi EGalim" or the UK's Food Strategy - can help consolidate fragmented initiatives and reinforce the implementation of policy recommendations through enforceable regulations (EESC, 2023; Candel, 2014). Another relevant aspect is that studies providing policy recommendations for HSDs at the national level increasingly aim to identify regulatory instruments that can serve as inspiration for policymakers (Hilson et al., 2025), often drawing on international experiences (De Bauw et al., 2025) and analyzing related policy barriers and constraints that should be taken into account (Hawkes et al., 2020).

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2.3.Co-creation through Policy Labs: transdisciplinary innovation in food policy design

Given the systemic complexity and normative plurality of food system challenges, traditional top-down policymaking approaches are increasingly insufficient to generate legitimate, effective, and context-sensitive solutions. In response, co-creation methodologies - particularly those operationalized through Policy Labs - have emerged as promising modalities to design and test innovative food policies through participatory and iterative processes (Ansell & Torfing, 2014; Wiek et al., 2019). Policy Labs are structured arenas that bring together diverse stakeholders, including representatives from ministries, producer organizations, consumer associations, NGOs, and regulatory agencies, in order to collaboratively frame problems, explore alternatives, and prototype policy interventions. These platforms are underpinned by a transdisciplinary ethos, which values not only academic expertise but also experiential and practice-based knowledge (Jahn et al., 2012; Pohl et al., 2010). The value added of co-creation lies in its ability to reconcile competing perspectives, foster mutual understanding, and increase the legitimacy and feasibility of policy outcomes. For instance, the FIT4FOOD2030 project demonstrated how Policy Labs can support food systems transformation by enabling local experimentation, promoting knowledge co-production, and informing national R&I agendas (Candel et al., 2020; Delgado et al., 2021). Importantly, co-creation does not imply consensus-building alone, but rather the construction of a deliberative space where different values, interests, and framings can be negotiated (Stirling, 2008). In the context of food policies for HSDs, this is particularly relevant: stakeholder engagement ensures that policy proposals are responsive to practical constraints (e.g., affordability for consumers, feasibility for producers) and helps anticipate implementation barriers such as regulatory inertia or political resistance. Policy Labs also facilitate institutional learning by creating feedback loops between pilot initiatives and national policymaking processes. As such, they constitute a strategic governance instrument for advancing transformative change in food systems, anchoring HSDs not merely in evidence-based recommendations, but in co-produced and socially embedded policy architectures. In this context, it

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225 is worth mentioning Food Policy Councils (FPCs) as relevant governance innovations in the context
226 of food systems transformation, increasingly recognized for their ability to promote integrated
227 approaches to food policy (Schiff, 2008; Harper et al., 2009). While their institutional design and
228 scope vary widely across contexts, they generally serve as boundary-spanning arenas where
229 deliberation, experimentation, and coordination take place across policy sectors and levels of
230 governance. From a policy design perspective, FPCs can be considered concrete and operational
231 examples of Policy Labs - that is, collaborative spaces where innovative ideas are tested, policies co-
232 designed, and institutional learning is fostered (Morgan & Sonnino, 2010).

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235 **3. Research design and methodology**

236 Methodologically, the research was structured around three main steps, as illustrated in Figure 1.

237 (i) First, we analyzed the national policies currently affecting food systems, with specific
238 attention to their relevance for HSDs ("policy supply").

239 (ii) Second, we identified policy needs and formulated policy recommendations for HSDs
240 through the Policy Lab "Policies for HSDs" ("policy demand").

241 (iii) Third, through an iterative process of refinement, incorporating the inputs and revisions
242 provided by the stakeholders involved in the Policy Lab, we arrived at a set of Policy
243 Recommendations aimed at improving the Italian policy framework for HSD.

244 *Figure 1. The methodological steps.*

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It is worthwhile to mention that the research builds on a previous study conducted and published by the authors (Mazzocchi et al., 2025), which developed an analytical framework of the PDs most relevant to the conceptualization and governance of HSDs.

On the *"Policy Supply"* side, regulatory texts impacting HSDs at the national level (Italy) were analyzed to examine their areas of intervention and the PDs to which they belong. Both Italian national regulations and the legislation resulting from the national implementation of European Union regulations were taken into consideration. The texts were retrieved using the most authoritative sources for researching Italian legislation: Normattiva.it, Gazzetta Ufficiale della Repubblica italiana, Gazzetta Ufficiale dell'Unione europea. Furthermore, regulatory texts from 2002 onwards were selected, as Regulation (EC) No 178/2002 redefined the general principles and requirements of food law, as well as the procedures in the field of food safety.

On the "*Policy Demand*" side, a multidisciplinary Policy Lab on "Policies for HSDs" was established, engaging a broad spectrum of national experts involved in Italy's agrifood system during four structured meetings, including policymakers, industry representatives, farmers, environmental organizations, public health experts, and consumers. The Policy Lab was developed based on the experiences of the working group and structured around a curated selection of approximately 60 stakeholders who actively partecipate in the public debate around HSDs, selected to represent key institutions and organizations from across the agri-food system, including civic and social actors.

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These stakeholders were contacted and invited to participate in a co-design process aimed at shaping policy priorities within a shared deliberative space.

We refer here to the term "Policy Lab" not in the traditional sense of a space oriented towards the definition of a specific policy measure, but rather as a collaborative process aimed at the co-creation of a set of policy recommendations. These recommendations do not prescribe a single course of action; instead, they contribute to the development of a new conceptual framework for HSDs and outline policy priorities for the Italian regulatory and institutional system. Indeed, the Policy Lab aimed to obtain the stakeholders' views on the alignment of existing policies with sustainability goals, their perception of the barriers to HSDs' adoption, and their suggestions for improving policy coherence (Mazzocchi et al., 2025). The Policy Lab engaged organizations from the agri-food production, social, health, and nutrition sectors, as these stakeholders are directly involved in the practical implementation of, and responses to, the barriers, challenges, and opportunities surrounding healthy and sustainable diets. Their experiential knowledge and operational perspective were considered essential to ground the discussion in real-world contexts and identify actionable policy pathways. Academic institutions were not included in this phase, as the goal was not to further conceptualize HSDs - a task addressed in our previous work (Mazzocchi et al., 2025) - but to translate the proposed Policy Domain framework into concrete policy directions.

Through this comparison, it has ultimately been possible to propose a set of Policy Recommendations (PR) for HSD at the National level. More specifically, the Policy Recommendations were initially proposed by the research team to the 26 stakeholders involved in the Policy Lab, based on the outcomes of the first two meetings (see Section 4.2 for details). They were then collectively discussed, revised, and subsequently presented in their final version, which was jointly agreed upon and accepted by the stakeholders.

4. Results

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4.1.Policy supply for HSDs

The search for relevant legislative sources was conducted through Normattiva.it, the official Italian online database of national legislation. Initially, the search was conducted using the expression "Healthy and Sustainable Diets"; however, this search yielded no results. Therefore, the PDs used in this analysis were defined on the basis of the analytical approach developed in our previous study (Mazzocchi et al., 2025), which: (i) described the process used to review and validate the keywords associated with each domain; (ii) identified 81 national legislative texts directly or indirectly related to healthy and sustainable diets through a systematic review of Italian legislation; and (iii) grouped these texts according to the themes represented by the PDs. Annex 1 includes the list of consulted regulations and laws.

The analysis of the documents highlighted that the PDs which explain HSD play a crucial role in shaping the national food policy landscape, influencing both market dynamics and consumer choices (Table 1). However, the extent to which these domains are regulated varies: some lend themselves more easily to formal regulation, while others are supported through projects and initiatives that do not necessarily rely on legislative measures. This is particularly evident in nudge-based interventions, which aim to guide consumer behavior through indirect incentives rather than strict regulatory frameworks. The analysis of the 81 national regulatory texts highlights how Italian legislation addresses HSDs through a set of distinct but interconnected PDs (Table 1).

Table 1. Distribution of Italian regulations across the 9 PDs

Policy Domain	**N. of documents**	**% of documents**
Marketing and labelling of food products	33	40,7%
Socio-economic system	12	14,8%
Food production	10	12,3%
Regulation of food product prices	9	11,1%
Behavior change	5	6,2%
Public food supply	4	4,9%
Composition and reformulation of food products	3	3,7%
Food waste reduction	3	3,7%
Public awareness campaigns	2	2,5%
Total	**81**	**100,0%**

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In this study, PDs are not intended merely as descriptive categories for classifying legal texts. Rather, they are used as analytical entry points to identify the main regulatory levers through which public action can shape the structural conditions that enable or constrain HSDs. This interpretation is grounded in the literature on FE, which conceptualizes them as the interface between food systems and individual or collective food choices, encompassing the physical, economic, informational, and socio-cultural conditions that influence what foods are available, affordable, accessible, desirable, and consumed (HLPE, 2017; Turner et al., 2018). From this perspective, policies do not affect diets only by addressing individual behaviour, but also by modifying the conditions in which food choices are produced, distributed, communicated, accessed, and consumed. Accordingly, the PDs identified in the regulatory corpus can be interpreted as policy levers acting on different dimensions of FE. For example, marketing and labelling regulations primarily affect the informational environment by shaping how food products are communicated, perceived, and understood by consumers. Food price regulation and socio-economic measures influence the economic dimension of FE, particularly in terms of affordability and access to healthy and sustainable food options. Public awareness campaigns and behaviour change initiatives, in turn, contribute to food literacy and to the social and cultural conditions that influence dietary practices. Finally, food waste reduction policies connect FE to broader sustainability objectives by addressing how food is distributed, consumed, recovered, or discarded.

Therefore, the mapping of regulations across PDs does not by itself demonstrate the effective integration of health and sustainability into the food system. Rather, it provides an empirical picture of where regulatory attention is currently concentrated and where potential gaps remain. In this sense, Table 1 should therefore be interpreted as showing the distribution of the selected national regulatory texts across the nine PDs. The percentages indicate the share of documents in the corpus assigned to each domain; they do not measure the intensity, effectiveness, or implementation of regulation.

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However, they help identify which dimensions of HSD-related FE are more or less explicitly addressed by existing Italian legislation.

4.2.Policy demand for HSDs

The research provides direct insights from stakeholders through their participating in the national Policy Lab "Policies for Healthy and Sustainable Diets", shedding light on the practical challenges and opportunities they perceive in the adoption of HSDs. Through four structured meetings within the Policy Lab framework (Figure 3), the research has been assessing whether existing policies are coherent, identify policy gaps, and provided suggestions for improvements based on stakeholder feedback. The experts showed an ability to engage in dialogue across multidisciplinary skills, ranging from agronomy to nutrition, environmental sustainability, agri-food economics, food policy governance, and school canteens. Table 2 (Annex 2) presents the organizations that participated in the Policy Lab, categorized by sector, and the number of representatives for each.

Over the four Policy Lab meetings, 26 stakeholders from 20 distinct organizations participated, female representation accounting for 65%. Attendance increased from the first to the second meeting, before declining and stabilizing at 15 stakeholders in both the third and fourth sessions. The first meeting introduced the project's objectives, methodological approach, and the theoretical framework, particularly the PDs for HSDs outlined by Mazzocchi et al. (2024). The second session presented relevant Italian legislation directly or indirectly affecting HSDs, followed by an open discussion. In the third meeting, a preliminary version of the Policy Recommendations (PRs) for HSDs in Italy was introduced. Stakeholders contributed to refining the recommendations by sharing insights, positions, and contextual considerations. This collaborative process culminated in the finalization of the PRs list, which was shared, slightly revised, and validated during the fourth and final meeting (Figure 3, Annex 2).

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4.3.Comparing demand and supply: Policy Recommendations for HSD in Italy

Grounded on the current regulatory framework related to HSDs (*Policy Supply*), and based on the inputs collected during the Policy Lab (*Policy Demand*), stakeholders' contributions were analyzed and organized through the Miro platform to identify coherent topics that could be translated into PRs. A preliminary formulation of 12 PRs was proposed and discussed during the third meeting, which allowed for their further refinement, the development of extended formulations including rationale and justification, and their organization into four main Intervention Points (4IPs):

1. Definitions, governance, and dissemination of HSDs
2. Territorialization of HSDs
3. Socio-economic and institutional aspects for HSDs
4. Behaviors and FE for HSDs

The final outcome was a revised and expanded set of 14 PRs, which were subsequently discussed and validated during the fourth meeting. More specifically, the latest version contains two additional PRs, for two reasons: (i) it was decided to address separately the issue of fair and equitable remuneration of actors across food supply chains, starting with farmers (PR 9), and the development of a market system capable of ensuring universal access to food (PR 10); and (ii) at the request of the stakeholders, a Policy Recommendation was added on local food policies as strategic tools for building alliances, networks, and infrastructures to support local agri-food economies, biodiversity, and landscape stewardship (PR 7). The list of PRs is presented in Table 3 to 6 (Annex 2), organized according to the four Intervention Points. It should be noted that the PRs developed through the Policy Lab are not intended as fully operational policy instruments or legislative proposals. Rather, they should be understood as strategic orientations emerging from the comparison between the existing regulatory landscape and stakeholder-identified policy needs. Their purpose is to identify policy areas requiring

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384 further institutional attention, coordination, and specification, rather than to prescribe detailed
385 implementation mechanisms.

386

387 ## 5. Discussion

388 The PRs presented here result from a long and articulated process in which the existing regulatory
389 frameworks governing HSDs in Italy (the "policy supply" side) were systematically compared with
390 the considerations, priorities, and policy demands emerging from the stakeholders involved in the
391 Policy Lab. However, the drafting and shared validation of these recommendations cannot be
392 considered an effective achievement unless framed within the broader landscape of food system
393 policies currently shaping the Italian context and the mechanisms, processes, and institutional
394 arrangements enabling the science–policy interface to function effectively (Hainzelin et al., 2023;
395 Turnhout et al., 2021). Indeed, although Italy has a polycentric and differentiated institutional and
396 policy environment combining national sectoral tools, regional mediation, municipal leadership,
397 district-based territorial organization, public procurement rules, school meal governance, research
398 infrastructures, civic watchdogs, foundations, and EU-funded projects, it lacks a stabilized national
399 integrated food policy framework or a process towards it. This institutional complexity makes it
400 challenging to identify the most appropriate governance levels through which food systems can be
401 more effectively aligned with HSDs (Mazzocchi et al., 2025). Within this context, the PRs may be
402 interpreted as an attempt to bring together, under a common framework, policy priorities that address
403 existing regulatory gaps and respond to the needs and expectations expressed by Policy Lab
404 stakeholders.

405 The IP.1 *Definitions, governance, and dissemination of HSDs* (Table 3) addresses a major gap
406 identified in the literature - namely, the fragmentation of PDs and the need for coherent regulatory
407 frameworks (Swinburn et al., 2019; IPES-Food, 2017). By proposing governance mechanisms linking
408 national, European, and local levels, and by emphasizing integrating scientific evidence into

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policymaking, the recommendations respond to calls for multi-level governance and stronger science-policy interfaces (SAPEA, 2023; Lang & Barling, 2013). The explicit reference to the Mediterranean diet and cultural diversity situates the recommendations within Italy's cultural and territorial context, echoing the need for dietary guidelines to reflect local food cultures (FAO & WHO, 2019).

The IP.2 *Territorialization of HSDs* (Table 4) is particularly innovative in light of recent scholarship on territorial food systems and agroecology (Anderson et al., 2021; HLPE, 2019). Promoting agroecological transitions, strengthening local supply chains, and investing in local food governance structures - such as food policy councils - reflect the emerging consensus on the centrality of place-based approaches to food system sustainability. In Italy, this issue is particularly relevant given the proliferation of experiences related to local food policies. Although still at an early stage of development, there is a growing recognition of the need to anchor agricultural, food, and nutrition policies at the local scale. These recommendations align with evidence showing that territorialized food systems can enhance resilience, social cohesion, and environmental performance, especially when coupled with supportive public procurement policies (Kneafsey et al., 2013; Moragues-Faus et al., 2017; Felici and Mazzocchi, 2022).

The IP.3 *Socio-economic and institutional aspects for HSDs* (Table 5) addresses socio-economic and institutional aspects, with a focus on fairness, inclusivity, and equity - priorities widely recognized in the literature as critical for just sustainability transitions (Béné et al., 2019; Allen et al., 2018). The emphasis on Minimum Environmental Criteria as a lever for change has been particularly represented by stakeholders, given its potential to mobilize demand, shape markets, and set benchmarks for sustainable production (Galli et al., 2018). Likewise, guaranteeing fair remuneration along the supply chain responds to long-standing calls for decent work and economic justice as integral components of sustainable diets (De Schutter, 2014).

The IP.4 *Behavioral and environmental dimensions* (Table 6) resonate with a robust body of evidence highlighting the need for interventions at both the individual and systemic levels (Thow et al., 2018;

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Marteau et al., 2012). Recommendations on front-of-pack labelling, nudging strategies, and the creation of enabling FE reflect best practices identified in public health nutrition and behavioral economics, emphasizing the importance of both "soft" and "hard" measures to support healthier and more sustainable choices without over-reliance on individual agency (Hawkes et al., 2015; Garnett et al., 2015). Adopting a broader perspective on FE is essential to address the complex challenges associated with food consumption patterns. However, this expanded scope may risk overwhelming key actors - particularly policymakers - potentially hindering the implementation of effective policies (De Bauw et al., 2025). The dispersion of policy initiatives across different sectors, areas of competence, and levels of governance may contribute to political inertia. This concern echoes earlier recommendations by the WHO (2013, 2016), which has called for greater synthesis, benchmarking, and monitoring of FE policies. This concern is particularly evident in the Italian context, where the debate on front-of-pack labelling has become highly contested and polarized (Fialon, 2022). While such instruments are promoted as effective tools to guide healthier consumption choices, they have also been criticized for potentially misrepresenting the nutritional value of traditional foods - especially those embedded in the Mediterranean diet - by classifying them as less healthy when assessed in isolation. As a result, the discussion has extended beyond technical considerations of nutritional communication to include broader issues related to cultural identity, territorial value, and the protection of "Made in Italy" products (Carbone and Henke, 2025; Podda and Piccoli, 2026).

The co-creation process through the policy lab is itself a methodological innovation that strengthens the legitimacy, relevance, and potential uptake of the recommendations. Co-creation approaches (Cornwall, 2008; Turnhout et al., 2020) can foster inclusiveness, enhance stakeholder ownership, and improve the alignment of policy proposals with real-world needs and constraints. By incorporating diverse actors - including policymakers, researchers, practitioners, and civil society - the policy lab mirrors collaborative governance models advocated for complex PDs such as food systems. While acknowledging that it would be unrealistic to expect the full adoption of these recommendations

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459 within the current regulatory framework, they are intended to advance the political and institutional
460 culture surrounding issues increasingly central to public debate. Indeed, the strengths of the PRs rely
461 in their alignment with the multidimensional frameworks advanced in the international literature (e.g.,
462 HLPE, 2020; Fanzo et al., 2021; Willett et al., 2019), while explicitly integrating environmental,
463 socio-economic, cultural, and health dimensions into an integrated policy vision.

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465

466 ## 6. Conclusions

467 This paper analyzed how Healthy and Sustainable Diets (HSDs) are currently addressed within the
468 Italian policy landscape by combining a desk-based review of national regulatory texts with a
469 participatory Policy Lab involving key stakeholders from the agri-food system. The study contributes
470 to the debate on food system transformation by linking a PDs framework to the analysis of policy
471 supply and policy demand in the Italian context.

472 Three main findings emerge from the analysis. First, the Italian regulatory framework related to HSDs
473 remains fragmented and unevenly distributed across PDs. The desk-based review shows that
474 regulatory attention is mainly concentrated on food marketing and labelling, food safety, product
475 quality, and consumer information, while domains such as public food provision, food price
476 regulation, food reformulation, and food waste reduction are less represented. This suggests that
477 Italian legislation still addresses HSDs primarily through sectoral and informational approaches,
478 rather than through an integrated food system perspective.

479 Second, the comparison between policy supply and stakeholder demand highlights a partial mismatch
480 between existing regulatory attention and the policy needs identified through the Policy Lab.
481 Stakeholders emphasized the importance of governance coordination, territorial approaches, public
482 procurement, socio-economic access, fair remuneration along food supply chains, food education,

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and enabling FE. These priorities point to the need to move beyond a narrow interpretation of HSDs as an issue of consumer behavior or nutritional communication, and to address the institutional, economic, territorial, and infrastructural conditions that shape dietary choices.

Third, the Policy Lab process led to the co-creation of fourteen PRs, organized around four Intervention Points: definitions, governance, and dissemination of HSDs; territorialization of HSDs; socio-economic and institutional aspects; and behaviors and FE. These recommendations should not be interpreted as ready-to-implement policy instruments. Rather, they represent strategic orientations and policy priorities that require further specification, institutional negotiation, and feasibility assessment before being translated into concrete regulatory or programmatic measures.

From a policy perspective, the results suggest that advancing HSDs in Italy requires a more coherent and integrated governance framework capable of connecting health, agriculture, environment, social equity, and territorial development. In particular, the findings indicate the relevance of strengthening science–policy interfaces, improving coordination across levels of government, enhancing public procurement as a lever for HSDs, and designing measures that address affordability and socio-economic access. The study therefore provides an analytical basis for future policy discussions, rather than a prescriptive roadmap for immediate implementation.

The study has several limitations. First, the desk-based analysis is based on a selected corpus of 81 national regulatory texts and does not capture the full range of regional, local, or non-regulatory initiatives that may influence HSDs in Italy. Second, the classification of documents into PDs inevitably involves interpretative choices, even though these were guided by a previously developed analytical framework. Third, the percentages reported in the analysis indicate the distribution of regulatory attention within the selected corpus and should not be interpreted as measures of policy effectiveness, implementation, or impact. Fourth, while the Policy Lab involved a diverse set of stakeholders, it cannot be considered fully representative of all relevant actors in the Italian food

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system. Finally, the recommendations produced through the Policy Lab were not subjected to a formal feasibility, cost-effectiveness, or impact assessment.

Future research should therefore examine how the identified policy priorities can be translated into more operational instruments, including through legal analysis, institutional feasibility assessment, and policy evaluation. Further work should also explore regional and local policy dynamics, as well as the implementation conditions required to embed HSD principles within public procurement, food education, territorial food policies, and measures addressing affordability and access. In this sense, the present study should be understood as a first step toward a more systematic assessment of how HSDs can be integrated into the Italian food policy framework.

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