POLICY BRIEF

FOR ONE/PLANETARY HEALTH-DRIVEN FOOD SYSTEM TRANSFORMATION

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Human health, animal health, and the health of our planet are interdependent—but modern societies are pushing all three beyond safe limits, as a recent groundbreaking Nature study leaves no doubt in showing (Fanning and Raworth, 2025)[1]. Climate change, biodiversity loss, and ecosystem degradation drive emerging diseases, food insecurity, and social instability. In turn, socio-economic challenges—including low wages, poor working conditions in the food sector, and inequitable access to nutritious food—further exacerbate food poverty, and poor health. As such, it becomes increasingly evident that addressing these issues requires a framework that reads for their complex interdependency.

Policies that explicitly embed One/Planetary Health approaches are urgently needed to enhance and safeguard the wellbeing of people, animals, and the natural systems without overshooting our planetary boundaries.

INTRODUCTION AND CONTEXT

Integrated and science-informed policy action can contribute to decreasing socio-economic inequities in access to safe and nutritious food while strengthening public health outcomes. This is particularly relevant in the face of climate change and biodiversity loss which continues to threaten public health and food security by destabilizing ecosystems and food systems[2]. Disruptions in ecosystems undermine food production, reduce the nutritional quality of foods, and increase vulnerability to crises ranging from pandemics (e.g., plant pests spreading, zoonotic disease risks) to climate shocks, financial instability, natural disasters and broader socio-economic vulnerabilities, including poverty and unequal access to resources[3].

The interdependence between food systems, biodiversity, and human health—framed within the systemic One/Planetary Health approaches—demands urgent attention[2].

"One/Planetary Health" combines the One Health focus on human–animal–ecosystem interdependence with the Planetary Health focus on how global environmental change affects all life on earth. Used together, the term highlights the need for cross-sector action and systemic transformation to protect health within planetary boundaries (WHO Quadripartite, 2021; Planetary Health Alliance, 2021).[4,5]

Embedding One/Planetary Health principles across the food value chain—guided by science, policy, and practice—can build resilience against health, financial, climate and socio-economic crises, safeguard biodiversity, and advance equitable, sustainable food security (see the box on page 3). What is needed is a coordinated, multi-level governance approach that embeds One/Planetary Health principles across the entire food system. An important step to achieve such integration is to invest in research and innovation, guided by the science-policy-practice nexus.[6,7]

SYSTEMIC CHALLENGES ADDRESSED BY THE ONE/PLANETARY HEALTH APPROACH

Adopting the One/Planetary Health approach in policymaking empowers decision makers to address several interconnected challenges that traditional siloed approaches often struggle with. For example, the One/Planetary Health approach to policymaking could:

- **promote food security and nutrition** by encouraging sustainable food systems that balance production, environmental limits and human health[3,7], while reducing the use of unsustainable practices that result in straining ecosystem services and in reduced nutritional quality of food.

Image: Unsplash

- **mitigate environmental degradation** by integrating ecosystem health into planning, encouraging conservation, restoration, and sustainable resource use, and rewarding initiatives that result in enhanced tree canopy cover, improved soil health and water quality and biodiversity.[6]

- **encourage climate-resilient practices** across health, agriculture, and urban planning, reducing vulnerability and protecting human well-being. Climate change drives heat stress, extreme weather events, vector-borne diseases, and food insecurity.[3]

- **reduce the risk of emerging infectious diseases** by integrating human, animal, and ecosystem health into monitoring, prevention, and response strategies, strengthening early detection, minimising zoonotic spillover, and supporting coordinated interventions across sectors to protect human and animal populations.[2,8]

- **reduce the spread of antimicrobial resistance** by coordinating antibiotic use policies across human health, veterinary medicine, and agriculture, promoting responsible prescribing and farming practices, and encouraging interventions that limit the development and transmission of resistant pathogens while safeguarding ecosystem and human health.[19,10]

- **address social and environmental inequities** by integrating ecological, and health considerations into policy, prioritising interventions that protect marginalised communities, address disproportionate burdens, and promote equitable access to resources, services, and resilient infrastructure.[8,11]

- **minimise governance fragmentation** by promoting cross-sectoral collaboration and integrated decision-making across health, agriculture, and environmental sectors, encouraging coordinated strategies that align objectives, prevent conflicting outcomes, and optimise human and ecosystem health.[11]

WHY ONE/PLANETARY HEALTH MATTERS TO THE SIX DIMENSIONS OF FOOD SECURITY: [12]

The Six Dimensions of Food Security explain the factors that ensure current and future generations have enough healthy and nutritious food. These dimensions build on factors such as food production, economic conditions, health, and social or political issues. This box explains the connection between these dimensions and the One/Planetary Health approach. (For a comprehensive definition of the Six Dimensions of Food Security refer to **Policy Brief #2**[13] *and* **Policy Brief #3**[14]*.)*

1. **Availability**
   Sufficient, high-quality and culturally appropriate food relies on healthy soils, functioning ecosystems, reliable water and stable climate systems. When planetary systems are stressed (e.g., land-use change, biodiversity loss, water scarcity), availability of food becomes more vulnerable. Plant disease pressures are already reducing yields globally.[15]

2. **Access**
   People's ability to acquire food is affected amongst others by environmental and animal health risks, climate shocks, ecosystem degradation and agricultural disruption. Ensuring access means strengthening natural systems as well as social and economic safety nets.[6]

3. **Utilisation**
   Nutritional outcomes depend not only on the food itself but on water, sanitation, healthcare and safe production. Clean, safe ecosystems and animal health are part of utilising food effectively and safeguarding human and animal wellbeing.[2]

4. **Stability**
   Food systems must endure shocks from climate, disease, conflict or environmental collapse. A One/Planetary Health lens highlights how human, animal and ecosystem shocks are interconnected (for example plant pests spreading, zoonotic disease risks, ecosystem breakdown). Resilience of all systems is essential for stability.[8]

5. **Agency**
   Individuals, communities and groups must have the capacity to make food-related choices, access resources, influence how food is produced, processed and distributed and engage in governance. Healthy ecosystems and fair, integrated governance across agriculture, environment, health and trade support that agency.[11,8]

6. **Sustainability**
   Meeting current food needs without undermining future generations depends on operating within ecological and planetary boundaries: preserving biodiversity, managing water, soils, climate, and promoting animal and plant health. Policy must embed long-term ecological integrity into food system design.[3,7]

LEARNING FROM LOCAL GOVERNMENTS

European cities are increasingly recognising the interconnectedness of human, animal, and environmental health. Through the **One Health 4 Cities**[16] network and similar European funded projects, municipalities such as Lyon (France), Lahti (Finland), Munich (Germany), and Strasbourg (France) are integrating One/Planetary Health principles into urban planning, public health strategies, and community initiatives. The network enables these cities to share knowledge on designing green spaces, monitoring environmental quality, and promoting biodiversity while fostering human well-being, thereby strengthening cross-country cooperation for resilient and sustainable urban environments. For instance, Lahti has implemented nature-based health initiatives like "**Health Forests**"[17] and forest-based early childhood programs, Strasbourg created an **eco-district**[18] to improve biodiversity and socio-economic challenges, and Munich has updated its **city health guidelines**[19] to include climate adaptation and cross-sector collaboration. These experiences demonstrate how local governments can operationalise One/Planetary Health principles, by leveraging different entry points that align food, health, and environmental actions, thereby creating urban environments that are healthier, more resilient, and socially inclusive.

Lessons from the Lisbon and Barcelona Living Labs

Transforming urban food environments through a One / Planetary Health approach requires systemic, participatory, and multi-level strategies that integrate human, environmental, and animal health while addressing inequities. Core challenges include siloed governance, linear thinking, weak connections between practitioners, researchers and policymakers, and limited incentives for collaboration.

"We still lack incentives and effective relationships between science, policy and practice. Intermediary structures like Living Labs are essential to bring people together, identify unmet needs, and co-design and experiment with innovative solutions that take into account the complexity of the context. Systemic change must be iterative and happen at every level, local, regional, national and international."

Rosina Malagrida
Coordinator of the Living Lab for Health at IrsiCaixa (FoodCLIC Barcelona Living Lab)

Intermediary structures such as the FoodCLIC Living Labs in Lisbon and Barcelona demonstrate how multi-stakeholder platforms can bridge gaps, foster co-creation, and embed sustainable principles into local food systems. Place-based initiatives—including community kitchens, school and municipal gardens, local forums for health promotion, food buying groups, and restaurants and canteens promoting vegetarian meals—show how local

'Quinta do Pisão' organic vegetable garden (Lisbon Metropolitan Area, Portugal)

Image: Dorina Meyer / ICLEI Europe

engagement can improve dietary habits, enhance food literacy, reduce environmental impacts, and empower vulnerable populations.

"In Cascais Municipality (Lisbon Metropolitan Area), we are committed to giving power back to communities through initiatives like community gardens and programs that support people in need. If a strategy is not grounded in the neighborhood, it will not reach vulnerable groups."

Rita Marau
Municipality of Cascais, Climate Action Department (FoodCLIC Lisbon Living Lab)

Scaling these successes and integrating food with health policy requires supportive frameworks at regional, national, and EU levels that align local innovation with broader policy, funding, and regulatory structures. However, local authorities often face practical constraints.

"At the local level, municipalities face many competing priorities. It is crucial that higher levels of governance encourage One/Planetary health as a top priority otherwise it is difficult to translate plans into concrete action, especially when work is tied to short-term, project-based funding"

Tânia Miguel
Municipality of Cascais, Division of Health Promotion and Well-Being

Iterative, co-designed processes ensure that community insights inform higher-level decision-making, enabling systemic transformation of food environments. By embedding equity, sustainability, and health principles into urban food systems, cities can deliver measurable benefits for people and ecosystems. **By championing cross-sector policy integration and empowering multi-stakeholder platforms like Food Policy Networks, policymakers can turn local achievements into a Europe-wide blueprint healthy and inclusive food systems**.

'Terras de Cascais' Community Garden (Lisbon Metropolitan Area, Portugal)

Image: Dorina Meyer / ICLEI Europe

KEY POLICY RECOMMENDATIONS FOR EU AND NATIONAL POLICY MAKERS

The following policy recommendations focus on promoting and embedding One/Planetary Health to directly strengthen the food value chain, promote health, and improve widespread access to healthy food. At the national level, integrated policies should be co-designed with peri-urban and rural areas to enhance the health and wellbeing of both urban and rural populations, encompassing food systems, mobility, and infrastructure. Recommendations also emphasise the need to connect local innovations and community-driven solutions to broader regulatory and funding frameworks. By aligning multi-level strategies, these policies aim to create resilient, equitable, and sustainable food environments across regions.

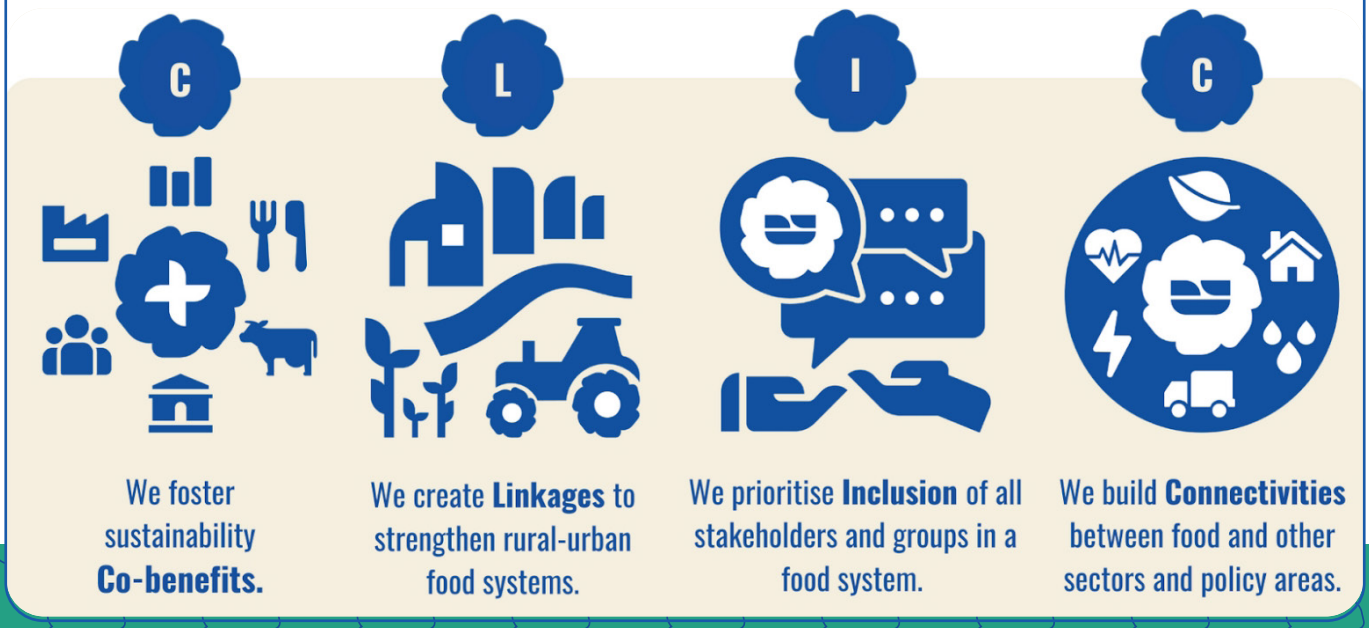
Recommendation	Target Level	Rationale / Impact
Integrate health, sustainability, and equity into urban planning	National	Aligns municipal initiatives with national public health, nutrition, and environmental goals. Local governments cannot fully implement EU-level policies without an appropriate national mandate.
Empower vulnerable populations via localised, community-driven programmes that enhance food security and resilience	National	Ensures equitable access to healthy, sustainable food and strengthens community ownership while delivering concrete improvements to the population.
Establish harmonised and standardised local data collection systems	National	Enables consistent data reporting and data-driven impact measurement, supporting evidence-based scaling of effective local actions.
Scale local and regional intermediary structures that support stakeholder engagement, co-creation and communication	EU & National	Facilitates replication of local innovation and drives systemic change across regions. Intermediary actors are needed to translate scientific evidence into clear, reliable information for both policymakers and the public.
Connect local pilot results to broader policy dialogue	EU & National	Amplifies local learning for systemic transformation of food environments.
Fund iterative, co-designed processes	EU	Creates frameworks for participatory approaches across member states, increasing the relevance and acceptance of policy interventions.
Activate dedicated funding streams for health-related initiatives	EU	Enables effective scaling of successful initiatives at the local level and ensures meaningful impact on population and ecosystem health outcomes.

SOURCES

1. Fanning, A.L., Raworth, K. Doughnut of social and planetary boundaries monitors a world out of balance. Nature 646, 47–56 (2025). **https://doi.org/10.1038/s41586-025-09385-1 www.nature.com/articles/s41586-025-09385-1#citeas** (Accessed October 2025)
2. European Environment Agency & EU Agencies, Cross-agency knowledge for One Health action. Online resource: **www.eea.europa.eu/en/topics/at-a-glance/health/cross-agency-knowledge-for-one-health-action** (Accessed October 2025)
3. Mason-D'Croz D., et al., Advances and future needs for modelling sustainable and just food systems. The Lancet Planetary Health. Online resource: **www.thelancet.com/journals/lanplh/article/PIIS2542-5196(23)00002-5/fulltext** (Accessed October 2025)
4. WHO, FAO, UNEP & WOAH, One Health High-Level Expert Panel (OHHLEP) definition of One Health. Online resource: **www.who.int/news/item/01-12-2021-tripartite-and-unep-support-ohhlep-s-definition-of-one-health** (Accessed October 2025)
5. Planetary Health Alliance, Planetary Health: A definition. Online resource: **www.planetaryhealthalliance.org/planetary-health** (Accessed October 2025)
6. Verkuijl C., Beukeboom M., de Bont F., Harnessing a One Health approach to food systems transformation. IISD SDG Knowledge Hub. Online resource: **https://sdg.iisd.org/commentary/guest-articles/harnessing-a-one-health-approach-to-food-systems-transformation** (Accessed October 2025)
7. Food and Agriculture Organization of the United Nations, Integrating One Health into agrifood system transformation. Online resource: **www.fao.org/one-health/highlights/integrating-one-health-into-agrifood-system-transformation/en** (Accessed October 2025)
8. Council of the European Union, Programme of the Danish EU Presidency – strengthening democracy, security and green transition. Online resource: **https://danish-presidency.consilium.europa.eu/en/programme-of-the-danish-eu-presidency/programme-of-the-danish-eu-presidency** (Accessed October 2025)
9. Food and Agriculture Organization of the United Nations, One Health – Antimicrobial Resistance. Online resource: **www.fao.org/one-health/areas-of-work/antimicrobial-resistance/en** (Accessed October 2025)
10. World Health Organization, Action against antimicrobial resistance requires a One Health approach. Online resource: **www.who.int/europe/publications/i/item/WHO-EURO-2024-9510-49282-73655** (Accessed October 2025)
11. FAO / UNEP / WHO / WOAH (Quadripartite), One Health Joint Plan of Action (2022-2026). Online resource: **www.unep.org/resources/publication/one-health-joint-plan-action-2022-2026** (Accessed October 2025)
12. High Level Panel of Experts on Food Security and Nutrition (HLPE). Food security and nutrition: building a global narrative towards 2030. Online resource: **https://openknowledge.fao.org/items/3b5e9ed3-7983-4f0f-ac21-26be4147b325** (Accessed October 2025)
13. FoodCLIC, Horizon Europe grant no. 101060717 (2024): Policy Brief 2: Strengthening Food Security via Food Production Environments in and around cities **https://foodclic.eu/documents/2-strengthening-food-security-food-production-environments-and-around-cities**
14. FoodCLIC, Horizon Europe grant no. 101060717 (2025): Policy Brief 3: Balancing the Plate and the Planet: a Policy Brief to achieve Food Security and Climate Neutrality **https://foodclic.eu/documents/3-balancing-plate-and-planet-policy-brief-achieving-food-security-and-climate-neutrality**
15. Food and Agriculture Organization of the United Nations, How plant diseases threaten global food security. Online resource: **www.fao.org/one-health/highlights/how-plant-diseases-threaten-global-food-security/en** (Accessed October 2025)
16. URBACT. One Health 4 Cities — Initiative supporting the integration of One Health principles into urban planning and policy. Online resource: **https://urbact.eu/networks/one-health-4-cities** (Accessed October 2025)
17. GoGreenRoutes. Healthy Forests (Lahti Health Forest Informational Brochure) — Initiative promoting forest conservation, sustainable management, and ecosystem health. Online resource: **https://gogreenroutes.eu/publication?t=Lahti%20Health%20Forest%20Informational%20Brochure** (Accessed October 2025)
18. UNA City. DANUBE Eco-district — Urban eco-district development initiative promoting sustainability and resilience. Online resource: **https://una.city/nbs/strasbourg/danube-eco-district** (Accessed October 2025)
19. Interlace Hub. Climate Adaptation Strategy, Munich — Local policy guidelines and strategies for climate resilience and adaptation. Online resource: **https://interlace-hub.com/climate-adaptation-strategy-munich#:~:text=The%20CAS's%20overarching%20goals%20include:%20*%20Developing,adaptation%20guidelines%20*%20Local%20policies%20and%20strategies** (Accessed October 2025)
20. FoodCLIC, Horizon Europe grant no. 101060717 (2023): Advocacy Plan for Interaction with Higher Level Authorities, Deliverable 4.1

ABOUT THIS POLICY BRIEF

This policy brief is informed by discussions with city staff and researchers, supported by desk research and policy analysis, and grounded in the practical experiences of cities participating in the EU-funded FoodCLIC project.



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