REPORT

FAO/EBRD ACES Initiative

Istanbul Urban Food Logistics Stakeholder Workshop

17 June 2025

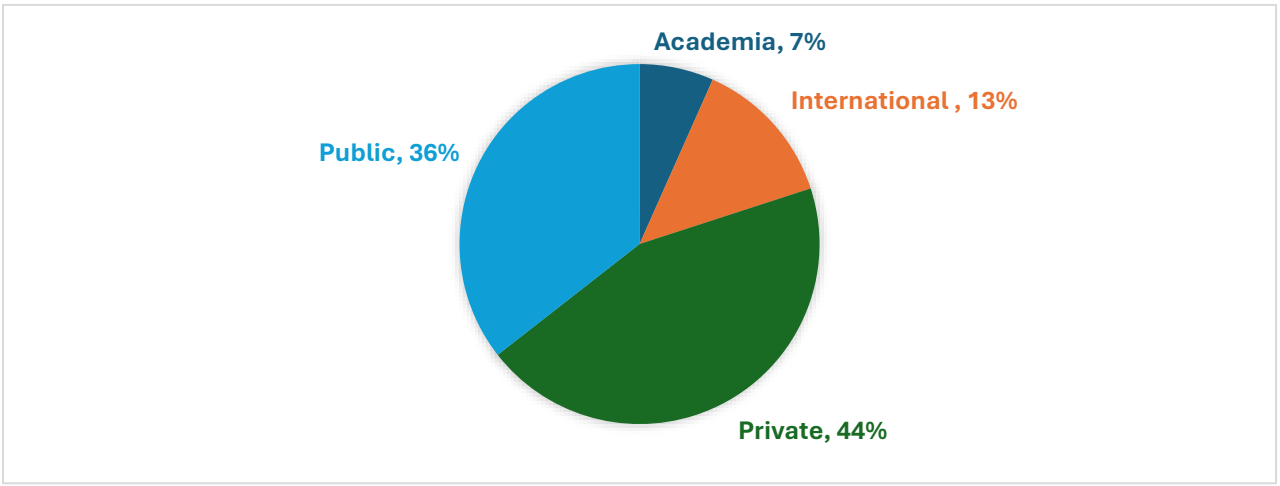
Background and objectives

The Agrifood Climate and Environmental Sustainability (ACES) Initiative is a regional initiative implemented by the European Bank for Reconstruction and Development (EBRD) and the Food and Agriculture Organization of the United Nations (FAO) under their longstanding partnership. The primary objective of the initiative is to enhance the resilience of food systems in EBRD's regions of operation against climate change and strengthen their environmental sustainability. In this regard, ACES aims to promote low-carbon, climate-smart, and efficient practices across prioritized agri-food value chains, from agricultural production to consumers. Building on the findings of an earlier FAO/EBRD report, the initiative seeks to support developing efficient and sustainable urban food logistics through identifying policy and investment entry points in Istanbul, a member of the EBRD Green Cities network.

The 17 June Stakeholder workshop proposed bringing together public and private decision makers (i) to present FAO/EBRD approach to urban food logistics in Istanbul, based on the published report and preliminary findings on Istanbul, (ii) to shortlist specific priority actions concerning Istanbul's food and food waste logistics, (ii) facilitate knowledge exchange and networking among key stakeholders.

Participation

Statistics on participation



Presentations

- Powerpoint presentations are accessible here
- Presentation of the FAO/EBRD report Building resilience in urban food logistics systems

Key takeaways

- Upgrading WFMs with better logistics, cold storage, and digital systems to improve food safety, resilience, and attract new buyers is required. Building a new vision for WFM development and role in urban food logistics and urban-rural linkage is crucial for strengthening resilience in Istanbul's food supply.
- Last-mile logistics experiences bottlenecks due to fragmented delivery systems and slow adoption of cold chain technology, with high costs and lack of incentives being major barriers. Urban planning should consider repurposing urban areas to logistics needs and allocate areas for logistics real estate purposes.
- It is crucial to raise awareness of urban consumers and delivery/retail operators about the impact of e-commerce on urban environment to promote sustainable practices.
- Food waste is a significant issue, with large volumes generated at wholesale and open-air markets. The waste collection system lacks separation at source and incentives for operators to adopt sustainable treatment. Opportunities exist to expand food rescue networks, improve decentralized composting and urban biogas treatment, and better valorization of waste originating from open-air markets, WFMs, and modern retail stores. Adoption of green packaging, including recyclable materials and returnable deposit bottles, and sustainable waste treatment practices could be incentivized by regulatory reforms.
- On the retail side, wholesale markets and modern retail chains operate in silos, with little cooperation and a lack of integrated logistics systems. E-commerce is growing, with a handful of dominant players in the market, and small producers struggle to participate. Consolidating deliveries and fostering dialogue between public and private sectors are seen as ways to improve efficiency and inclusivity.
- Urban planning gaps, such as the absence of dedicated logistics zones and integration with climate goals, were noted as structural barriers. In parallel, vertical and peri-urban farming hold promise but faces high entry costs, public skepticism, and lack of supportive regulation.
- The importance of aligning urban food logistics with environmental and climate objectives is crucial. Key recommendations include modernizing WFM infrastructure, promoting green last-mile solutions, incentivizing sustainable packaging, promoting waste prevention and sustainable treatment, improving governance and coordination, and supporting local food production.

- Cross-sector dialogue, raising awareness about food logistics impacts, clearer policy mandates, and targeted investments will be essential to building a resilient, inclusive, and low-emission urban food system in Istanbul.

Breakdown group discussions

Group 1 Infrastructure Modernization & Proximity logistics

1. WFM infrastructure and logistics services to meet new urban food distribution needs

Challenges

- **Outdated handling infrastructure**: Inadequate loading docks, poor internal logistics, lack of temperature control areas (e.g., Bayrampaşa WFM vs newer models like Tuzla). New infrastructure in development such as Tuzla do not integrate urban food logistics dimension and requirements in terms of green last mile solutions/services
- **Lack of standardization and oversight**: Insufficient enforcement of food safety standards, absence of on-site laboratories and real-time quality controls.
- **Traceability gaps**: Limited digital systems to track products from farm to market, making it difficult to enforce quality and safety standards.
- **Limited competitiveness with modern retail**: WFMs are not currently equipped to serve the needs of emerging, quality-driven retail formats or online buyers.

Opportunities

- **Transformation potential**: WFMs are in transition and could evolve into hubs for high-quality, traceable, and value-added food products.
- **Crisis resilience**: Modern WFMs can ensure food security during supply shocks, provided they adapt to current demands.
- **New clientele**: By upgrading infrastructure and services, WFMs can attract more professional buyers (e.g., Horeca, online retailers).
- **Digital B2B platforms**: Opportunity to create e-marketplaces to improve price transparency, traceability, and product visibility.

Actions

- **Modernize infrastructure to make it competitive in urban food logistics landscape**: Upgrade logistics areas, introduce cold storage and value-added processing zones. Develop specific services for green last miles logistics and enhance attractiveness of WFM for logistics operators or other last miles logistics service providers
- **Enforce food safety and standards**: Establish labs and certification mechanisms within WFMs.
- **Improve price responsiveness**: Link pricing to quality grading systems.
- **Build digital capacity**: Train staff and implement B2B solutions to support online transactions and traceability.

2. **Efficient and sustainable last-mile logistics in cities**

Barriers

- **Slow cold chain adoption**: due to high costs, lack of awareness, and low enforcement.
- **Last-mile inefficiencies**: fragmented delivery systems, lack of aggregation points, and fuel-intensive transport.
- **Lack of incentives/regulation**: no policy mandates or financial incentives for cold chain or sustainable vehicle use.
- **Ecommerce vulnerabilities**: high logistics costs, limited scalability, expensive urban land, and competition from international platforms.
- **Limited consumer willingness to pay**: quality products often undervalued by consumers used to low-cost options.

Opportunities

- **Targeted use of cold chain**: focus cold logistics where it matters (e.g., meat/fish), while leveraging fast supply chains for fresh produce.
- **Growing urban markets**: rising demand for convenience and quality can support new logistics models.
- **Shared logistics infrastructure**: cooperative models can lower cost for cold chain and last-mile services.
- **Micro fulfillment centers**: localized hubs can reduce urban congestion and delivery time.

Actions

- **Incentivize cold chain use**: provide subsidies, grants, or cost-sharing models to improve adoption.
- **Raise awareness**: educate transporters and consumers about the impact of cold chain on food loss and quality.
- **Support urban logistics zoning**: prioritize and repurpose land for logistics functions (e.g., mini hubs, locker systems).
- **Promote aggregation points**: help small producers pool deliveries for cost-efficient last-mile distribution.
- **Encourage electrification**: introduce low-emission zones, offer ev purchase incentives for logistics providers.

3. **Urban planning improvements needed to support food distribution infrastructure modernization**

Current Gaps

- **No dedicated logistics zones**: Urban land use plans often neglect space for food logistics.
- **High cost of urban land**: Limits development of critical logistics infrastructure and e-commerce startups.
- **Lack of integration**: Food distribution not embedded in wider urban mobility or environmental planning.

Opportunities

- **Repurpose underutilized urban land**: Old industrial zones or vacant lots can be transformed into logistics hubs or urban farms.

- **Integrated urban logistics strategy**: Align food logistics with public transport, low-emission zones, and smart city planning.
- **Decentralized distribution networks**: Move from large centralized markets to interconnected nodes across the city.

Actions

- **Urban development policy reform**: Explicitly include food logistics in zoning and infrastructure planning.
- **Enable micro-hubs**: Allow small-scale fulfillment centers, locker points, and shared logistics hubs within neighborhoods.
- **Prioritize infrastructure resilience**: Ensure food logistics are part of emergency planning and climate adaptation strategies.

Group 2 Packaging, Crating, and Waste Handling

1. Food waste from markets and retail

Challenges

- 130 tons/day waste at Bayrampaşa Wholesale Market (WFM).
- Open-air markets generate 3–5 kg food waste per stall; composting pilots limited by temperature issues and nuisance from wet waste.
- Food waste at the retail level is mixed with household solid waste, often landfilled.
- Cold chain failures and delivery delays cause spoilage before goods reach shelves.
- Limited understanding of expiry dates by consumers; rigid rules on Use By Date vs. Best Before Date reduce shelf life unnecessarily.

Opportunities

- Composting pilots can be improved and replicated at market-level or district-level
- Startups like Fazla Gıda and Yenir are helping redistribute near-expiry food.

Key Actions / Recommendations

- Support logistics improvements to reduce cold chain failures.
- Expand and fund food rescue networks.
- Improve segregated waste collection for biomethanization or composting and on-site processing infrastructure.

2. Crates and packaging

Challenges

- Cost barrier to switching from reusable plastic crates to recyclable alternatives (e.g., corrugated cardboard).
- Low adoption of green packaging due to higher cost, lack of consumer demand, and absence of enabling regulation.
- Food-contact packaging must meet strict safety rules; recycled materials often not compliant.
- No strong policy to curb single-use packaging.

Opportunities

- Corrugated crates can reduce waste and offer sustainability benefits.
- Industry players are interested in research partnerships to measure loss reduction.
- Pilots exist for green packaging in the private sector.

- Potential to align packaging reforms with EU food safety standards.

Key Actions / Recommendations

- Introduce eco-modulated incentives (e.g., GEKAP discounts) for eco-friendly packaging.
- Enforce gradual bans on polluting materials.
- Support R&D collaborations between academia and packaging professionals.
- Offer tax benefits for companies adopting traceable, safe recycled materials in food packaging.

3. Municipal waste collection and treatment infrastructures

Challenges

- Lack of source separation bins and infrastructure; current collection systems not optimized for food waste. Awareness of grey/blue bag systems is low.
- Municipal dumping is free (covered by garbage tax), making sustainable treatment financially unattractive. Biogas and composting underutilized due to lack of economic incentives.
- Composting units (e.g., district-level) often misused or mismanaged. Wet garbage (e.g., tea leaves) complicates composting at community scale.
- Food waste in households remains high due to low awareness.

Opportunities

- Istanbul has a well-developed waste management operator (İSTAÇ) with 40+ facilities, including Waste-to-energy plant (3,000 tons/day) and Biomethanization at Kemerburgaz (130 tons/day). These facilities can be leveraged more efficiently.
- Community-driven programs in Atasehir (e.g., soup kitchen, expired food for animals, cap collection) demonstrate scalable ideas.
- Consumers are increasingly aware of environmental issues, offering a receptive audience for behavior change.

Key Actions / Recommendations

- Rebalance financial model: incentivize biogas/composting, disincentivize landfill.
- Invest in multi-compartment trucks and separate bins for food waste.
- Expand and properly manage biomethanization and composting operations.
- Strengthen local government capacity to manage decentralized systems.
- Launch awareness campaigns promoting household food waste reduction and sorting.
- Support and scale neighborhood composting with technical assistance.

4. Governance and systemic gaps

Challenges

- Ambiguous responsibility between public/private sectors for waste collection and treatment.
- No legal obligation or framework for food waste reduction/sustainable treatment.
- No incentives for prevention, logistics improvements, or better infrastructure.
- Operators bear costs for sustainable treatment, while landfilling remains cheap.
- Waste sector contributes ~3.3% of Turkey's GHG emissions.
- Methane from poorly managed landfills is a major climate risk. Current waste handling practices are not optimized for emission reduction.

Opportunities

- Policy tools such as GEKAP and the Deposit Return System are now active and can be strengthened.
- Circular economy models (e.g., Atasehir's district initiatives) show practical benefits.
- Better landfill management and expansion of recycling/biogas can cut emissions.
- Capturing landfill methane and expanding waste-to-energy can support climate goals.

Key Actions / Recommendations

- Define and clarify roles and responsibilities for all actors.
- Pass comprehensive food waste prevention legislation.
- Establish incentive mechanisms for investment in waste-saving infrastructure.
- Encourage decentralized governance models with performance-based rewards.
- Link food waste reduction strategies to national climate target
- Monitor and report emissions from landfills and waste facilities.
- Improve methane capture and use in existing infrastructure.

Group 3 Food Value Chain Efficiency & Retail Innovations

Challenges

- Wholesale markets and retail chains are essentially mutually exclusive and act as competitors. They are focused on undermining each other. Wholesale markets need to converge with the logistics standards of modern retail chains, which requires infrastructure investments and compliance with relevant standards.
- The functioning of wholesale markets and their lack of institutionalization pose a significant challenge for retail chains. Basic business practices necessary for cooperation with modern retailers are often absent at wholesale markets and among wholesalers. Even a simple SAP entry by a retail chain for a supplier at the wholesale market can be extremely difficult.
- For the integration of e-commerce and modern retail into the new Tuzla wholesale market, the municipality needs to take initiative.
- Products ordered via e-commerce for home delivery are often of lower quality. As a result, modern retailers receive the majority of complaints related to e-commerce deliveries.
- Vehicle load factors in retail chains are rarely at 100%. This in itself represents an area for improvement. Consolidated deliveries or distribution centers segmented by store format could help improve vehicle efficiency.
- There are no neutral e-commerce sales channels through which traditional retailers can participate. E-commerce platforms are highly monopolized. The platforms themselves pressure the margins of the retailers they serve, and if a competing platform emerges, they tend to acquire it immediately.
- Some suppliers of retail chains are already active in wholesale markets and even operate their own stalls. Yet, retail chains do not procure from these stalls, keeping their distance from the wholesale markets.

- The infrastructure of wholesale markets—roads, parking, and loading areas—is inadequate to handle the traffic from retail chains.
- There is a significant quality standard gap between traditional and modern retail channels.
- The wholesale market law must be enacted urgently. Cold chain logistics standards must be tightened.
- No solution currently on the market offers end-to-end traceability: (1) product tracking, (2) driver tracking, and (3) inventory tracking. Integrated cloud-based tracking systems are still lacking. Existing vehicle tracking systems are not yet affordable. Current solutions tend to address only local issues.
- Post-harvest food loss begins early due to poor preservation and cold chain gaps, often worsened by preference for lower-cost logistics solutions.
- High urban warehouse and land costs in Istanbul reduce investment appetite, especially with long ROI periods.
- Cultural habits, such as the desire to physically inspect fresh produce before buying, limit digital adoption.
- Small retailers and cooperatives lack the logistics infrastructure needed to compete in e-commerce.

Opportunities

- Selling through e-commerce becomes more feasible and suitable for small producers when they are organized into cooperatives.
- If wholesale markets could be reorganized, if retail chains were allowed to establish procurement points, and if spaces were designed to accommodate truck movement and parking, then modern retail could engage with wholesale markets.
- There needs to be a shared table. A permanent dialogue between the public and private sectors in the field of urban food logistics is essential.
- The role of the public sector is to regulate in favor of the people. It is not the public sector's duty to facilitate the operations of modern retailers.
- Consolidating products in the warehouse of a third-party logistics (3PL) provider presents a major logistical opportunity. For instance, a dairy brand that supplies A101, BİM, and ŞOK could consolidate its shipments by neighborhood—not by individual store—within the logistics provider’s depot. This is an improvement that can be initiated by the logistics provider.
- Disciplining traditional production and building infrastructure for branding, packaging, and marketing products—through cooperatives and producer unions—should be a focus.
- Route optimization in B2B is a domain that needs development as B2B e-commerce offers opportunities for traditional wholesalers as well. A good example: Metro has set up an ordering system for restaurant owners and prepares all orders on pallets per restaurant and delivers

them at an agreed time. Naturally, restaurants prefer this because it reduces the hassle of continuous goods receiving.

- In public-private partnerships, a one-stop-shop mechanism on the public side can offer great opportunities. Otherwise, even within a single ministry, coordination and tracking across multiple departments become challenging.
- Modern retail can support capacity development for local producers. For example, promoting products with the "Cİ" geographical indication label.
- Products requiring different temperature controls are transported in separate vehicles (e.g., -18°C, +4°C, +14°C, and dry goods). A retailer may not always fill a vehicle for +4°C deliveries. This represents a consolidation opportunity.
- National retail chains are always located at fixed locations. Deliveries to these locations could be consolidated through 3PL and 4PL logistics providers such as Enlog or Netlog.
- Consolidation: If wholesale markets hosted a platform (covering markets, greengrocers, etc.) and this platform allowed neighborhood-based consolidation, it could significantly reduce traffic. More products could be delivered using fewer vehicles.
- Regulating delivery time slots could be beneficial. The demands of both modern and traditional retailers, as well as urban residents, should guide such planning.
- Organic waste from non-standard products could be better valorized or redirected to affordable food access channels e.g., hard discounters, soup kitchens.
- Packaging separation and material recovery offer environmental and economic opportunities.

Group 4 Urban Production & Shorter Food Chains

General Comments

All most all participants agree that vertical/hydroponic/urban farming in and at perimeter of İstanbul is a "must", underlining the natural disasters experiences of Türkiye, transportation costs.
Hydroponic farming industry is at early stage. Vertical/hydroponic farming uses no pesticide and supports extensive water savings.

Challenges

- The entry costs for vertical/hydroponic farming are too high.
- Greenhouses under 20 decars are not allowed.
- The labour supply in agriculture is declining in İstanbul year by year.
- The increased pace of urbanization in agricultural lands threats the production in perimeter of İstanbul.
- There is negative perception on products produced by vertical/hydroponic producers.
- İstanbul is already a big metropolitan with limited resources, promoting agriculture in İstanbul shall be reconsidered bearing in mind water scarcity and water use of agriculture sector.

- There is intention to/preparation efforts for regulation on “grey water and/or rainwater harvest in urban areas”
- The waste management of urban agriculture has high costs (maintenance, transportation and storage).

Opportunities

- Yet already, Migros and Hakmar companies support local and vertical/hydroponic vegetable and fruit producers in İstanbul through direct purchase modality from the source.
- The local governments (Ataşehir, Üsküdar, Kadıköy etc.) are already providing urban farming opportunities for the residents in their district.
- Ministry of Agriculture and Forestry, İstanbul Directorate established a vertical farm in Kağıthane, at 700 m2, production equivalent to 20 da of agricultural land which is open to public and researchers.
- Hakmar supports local farmers in İstanbul through purchasing their products with no intermediaries.
- The waste sourcing from vertical/hydroponic agriculture is suitable for using as fertilisers, which supports zero waste and circular economy.
- There is geographical indications regulation and mechanism in Türkiye in line with the European Union.
- There are well-known local agricultural products in İstanbul such as Çengelköy Cucumber and Yedikule lettuce.

Actions to be taken

- Hydroponic farming sector shall be supported within the context of “Infant Industry” theory.
- The awareness of consumers on positive characteristics of Hydroponic agricultural production shall be increased.
- The urbanization on agricultural lands must be stopped in İstanbul and neighbouring cities.
- The idle agricultural lands in İstanbul shall be utilized.
- Input cost support shall be provided for vertical/hydroponic agriculture producers.
- Urban agriculture shall be promoted and supported, still supporting agricultural activity and young farmers in rural areas must be the priority.
- The infrastructure for waste management shall be established/improved, and/or financially supported.
- The inspection and control mechanism on labelling shall be improved.

Group 5 Governance, Financing & Coordination for Sustainability

Challenges:

- There is dependency on foreign sources for foreign currency-based loans. Domestic banks also seek external resources to finance their own foreign currency liabilities. The same applies to syndicated loans.
- Technical support initiatives for sustainability in the retail sector may be more effective if bundled with credit operations.
- There is a lack of alignment in objectives and content between different policy documents produced by various institutions.
- Legal regulations must be supported by thorough cost-benefit analyses to ensure financial feasibility and sustainability.
- For instance, due to the lack of authority and central financial support, Istanbul Metropolitan Municipality (IMM) is unable to provide incentives for citizens to separate food waste.
- Investments in food and food waste logistics are not sufficiently monitored or evaluated in terms of economic, social, and environmental impacts.
- Additional costs of climate change mitigation and adaptation are not well explained, allowing populist narratives to question the necessity of climate action.
- There is limited public-private partnership. Although IMM is responsible for waste disposal and thus has the highest potential for emission reductions, it faces financial constraints to realize such reductions.
- There is no penalty or sanction for food waste. Value chain actors and the public must be made aware, monitored, and sanctioned if necessary. Food waste is not merely an economic issue.
- Food waste is collected based on tonnage. If below a certain threshold, it is mixed with household waste and left uncollected.
- The current system is highly fragmented, necessitating a decentralized logistics network for food and food waste.

Opportunities:

- Strengthening municipal-private sector collaboration mechanisms.
- The deposit system could be more actively used in retail. Even in the absence of mandatory regulations, retailers can coordinate with suppliers to implement deposit-return schemes. Reverse logistics costs are a consideration but can be worthwhile.
- Packaging production should be incentivized near fresh food production centers to reduce time and carbon footprint. Incentives can be provided for packaging design innovations.
- Self-sufficient financial models should be developed. Mechanisms such as resource recovery and carbon credits may support sustainability.
- National plans and targets should be adapted to the urban scale, enabling the design of city-specific policies.
- Urban gardens should be mandatory in some areas. Like parking space requirements, waste transformation (e.g., composting) at the source should be incentivized or

mandated in places such as large residential complexes, airports, university campuses, and hospitals.

Key Actions:

- Municipalities should provide sustainability-focused capacity-building programs to traditional SMEs in the food system. For example, wholesale market management can offer training sessions for wholesalers.
- Route optimization is still a major need, especially in the traditional channel. The transition to electric vehicles in the last mile could be facilitated through incentives—for example, allowing traditional retail or HoReCa vehicles with Istanbul plates to charge at discounted rates within wholesale markets.
- Securing feedstock for waste management facilities is essential. Long-term, predictable procurement agreements should be established.
- Zoning laws and master plans should be reviewed to support vertical farming applications.
- Public awareness campaigns should prioritize education on food waste, and its associated water and carbon footprints, to support the climate neutrality agenda.
- Biogas facilities should be expanded regionally, and public awareness should be raised regarding their benefits.
- A comprehensive model should be developed for Istanbul to support indoor vertical farming, covering specialized agricultural zones, access to renewable energy, financing, producer–retail coordination, and greenhouse size regulations.
- Waste separation education should begin at early stages of formal education.
- Waste collection services should offer basic dual-stream collection (biodegradable vs. non-biodegradable) under the framework of public service provision.

Preliminary draft of urban food logistics roadmap

Based on the workshop results, and waiting for the final assessments, here is a proposal of framework for the development of a roadmap to engage stakeholders on green and sustainable pathway for urban food logistics in Istanbul. This framework is based on the methodology established by the FAO/EBRD Resilient Urban Food Logistics Systems report and should be tailored to Istanbul's needs and current organization. The proposed roadmap definition process is thought to be collaborative. Further online workshop sessions will be planned in this regard.

Strategic pillars	Strategic objectives	Detailed actions	Potential ownership
Enhanced connection with the city's green belt **Diversification and re-localization of urban food supply**	Protect farmland and promote farm settlements in available urban lands	1. Mapping existing farmlands and utilization and potential farming areas	Municipality/Provincial agriculture directorate NGOs/International organization
		2. Implement support programs for farm settlements (access to land, access to finance, capacity-building, access to market)	Municipality/Provincial agriculture directorate
		3. Implement compensation schemes to ensure stakeholders' acceptance of farmland protection	Municipality/Provincial agriculture directorate
	Improve regional producers' access to local markets	1. Increase the availability of local food products SKUs in shops (local product department in retail, cooperative local product shops, farmer markets)	Retailers/Suppliers Municipality
		2. Improve traceability initiatives and local food products' quality	Retailers/Suppliers Municipality
		3. Incentivize short supply chain alternatives in both public and private food procurement	Municipality
		4. Map regional producers' needs in terms of infrastructure and access to the market	Municipality/Provincial agriculture directorate
	Support the development of short value chain logistics and urban supply	1. Support local logistics cost-saving solutions (food logistics cooperatives, logistics asset-sharing platforms, digital solutions mapping regional agri-food intermediaries, business-to-consumer marketing platforms)	Municipality/Provincial agriculture directorate Private sector (retailers, logisticians, producers)
		2. Adapt or build infrastructures to ensure accessibility to regional producers (sorting, grading, packing lines, producers' area)	Municipality/Provincial agriculture directorate Private sector (retailers, logisticians, producers)
		3. Encourage private investments in short value chain development and related logistics (food terminals, drop yards, food processing, cold storage and transport fleets…)	Private sector (retailers, logisticians, producers)
		4. Assess the potential of short value chain logistics in terms of cost-effectiveness and sustainability	Municipality/Provincial agriculture directorate Academia

Transformed/adapted urban spaces for emerging logistics infrastructure **Enhanced collaboration and asset sharing within urban food logistics actors**	Adapt urban spaces to urban food logistics trends	1. Prepare an inventory of public and private logistics spaces and audit urban food logistics needs and gaps (electric vehicles, parking spaces, data management system)	Municipality Academia NGOs/International organization
		2. Designate zero or low-emission delivery zones in the city	Municipality
		3. Repurpose public spaces and promote shared use of logistics assets	Municipality Private sector (retailers, logisticians, producers)
		4. Analyze avenues for improving the competitiveness of WFMs and diversifying the clientele of WFMs	Municipality/Wholesale food market
		5. Improve cold storage along the supply chain at the latest stage in urban areas	Municipality Private sector (retailers, logisticians, producers)
	Invest in the collaboration between food logistics actors	1. Support interconnectivity between food logistics facilities (peri-urban/urban continuum, share logistic platform at city outskirts)	Wholesale food market Private sector (retailers, logisticians, producers)
		2. Promote shared/cooperative last-mile delivery services	Wholesale food market Private sector (retailers, logisticians, producers)
		3. Co-invest in facilities and services that can improve delivery workers' welfare	Municipality Private sector (retailers, logisticians, producers)
		4. Invest in sensor-driven smart-city applications to monitor impacts of urban food logistics and flag avenues of improvement in terms of emissions and traffic.	Municipality Private sector (IT, retailers, logisticians, producers)
		5. Invest in data dashboards/platforms involving public and private data providers as decision support systems	Municipality Private sector (IT, retailers, logisticians, producers) Academia
Reduced food loss and waste	Invest in infrastructure for waste prevention	1. Audit needs and gaps in infrastructure for waste prevention and sustainable treatment	Municipality/Waste management agency

Increased share of sustainably treated waste at the municipal level	and sustainable treatment	2. Invest in infrastructure/increase capacity and transport for segregated waste collection	Municipality/Waste management agency
		3. Invest in sustainable waste treatment infrastructure (waste-to-energy, decentralized composting/biogas units)	Municipality/Waste management agency Private sector (energy)
	Incentivize good practices towards waste prevention and sustainable treatment	1. Incentivize packaging good practices (eco-modular, enhance shelf life, recycled material, deposit packaging)	Local and national government
		2. Support local waste management actors and initiatives	Municipality Private sector (retailers, delivery, digital platforms) NGOs/International organization
		3. Raise consumers' awareness on food loss and waste	Municipality Private sector (retailers, delivery, digital platforms) NGOs/International organization
	Support ambitious waste prevention policy Monitor waste streams and waste treatment costs and GHG emissions	1. Monitor waste streams and waste treatment costs, and related GHG emissions	Municipality Academia NGOs/International organization
		2. Strengthen current regulations on waste and packaging and define clear responsibilities among actors (polluter pays principle, ban of polluting material)	Local and national government
		3. Design a fair waste tax system within the boundaries of national and local regulations	Local and national government
Participatory food policy planning **Awareness of agrifood**	Support multilevel multi-actor participatory mechanisms	1. Create an urban food council gathering key private and public actors	Municipality NGOs/International organization Private sector
		2. Develop and endorse an Urban Food Logistics Agenda with strategic roadmap and action plan for resilient urban food distribution in alignment with other existing strategic plans	Municipality NGOs/International organization

systems' stakeholders			Private sector
		3. Conduct regulation assessment to identify avenues of improvement in sustainable food and food waste systems	Local and national government
	Inform decision-making bodies	1. Coordinate assessments and monitoring of strategic actions implementation and impacts (saved costs, GHG emission reduction, socio-economic impacts, FLW reduction…)	Municipality Academia NGOs/International organization
		2. Gather data and monitoring/decision-making tools in urban food systems dashboards	Municipality Private sector Academia NGOs/International organization
		3. Legislate data-sharing protocols and operate open data platforms	Local and national government
		4. Organize capacity-building activities for decision makers and key stakeholders on key trends of Urban Food Logistics and their replicability	Municipality NGOs/International organization
	Conduct event and participate in cities networks	1. Organize awareness-raising events for consumers	Municipality NGOs/International organization
		2. Participate in international and national cities networks to promote the Urban Food logistic Agenda and key achievements (MUFPP, ICLEI, Green Cities)	Municipality NGOs/International organization

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