Actions and strategies to address current and emerging challenges to food safety and food security:
key messages from two 2019 global food safety conferences

Основные стратегии для решения текущих и возникающих проблем безопасности пищевых продуктов и продовольственной безопасности: ключевые сообщения двух глобальных конференций по безопасности пищевых продуктов в 2019 году

4TH EURASIAN FOOD SECURITY CONFERENCE
Yerevan, Armenia
29-31 October 2019

Eleonora Dupouy
Food Safety and Quality Officer, FAO
Content

• Food safety for sustainability & food security within changing food systems

• Key messages from 2019 global food safety conferences

  Emerging food safety issues in the region of Europe and Central Asia

• FAO’s key role in global governance and work on food safety and standards
Food safety definition

- Food safety is the absence, or safe, acceptable levels of hazards in food, that may be consumed without harm for the health of consumers over the life-time.

- Foodborne hazards can be microbiological, chemical or physical in nature and are often invisible to the plain eye: bacteria, viruses or pesticide residues are some examples.

- In 2004, 160 countries voted at the UN to make food – safe food – a human right rather than a commodity.

- Risks to food safety are evolving with changing food systems. Addressing associated challenges require scientific evidence, policies, regulation, adequate infrastructure, trained human resources, investment, action.
A sustainable food system delivers food security and adequate nutrition for all in a way that economic, social and environmental foundations to generate food security and nutrition for future generations are not compromised.

Three major features of a sustainable food system:

- is profitable (economic sustainability);
- has broad benefits for society (social sustainability);
- It enhances or does not harm natural environment (environmental sustainability)
High cost of unsafe food for sustainability: social dimension

- **Public health impact**

  - More than 200 diseases can be caused by unsafe food
  - In 2010 globally over 600 million cases of foodborne illnesses and 420,000 deaths due to food contaminated with bacteria, viruses, parasites, toxins and chemicals, etc. (WHO-FERG, 2015)
  - Lost of healthy life: globally 33 million years, same order of magnitude as major infectious diseases HIV/AIDS, malaria, and tuberculosis;
  - Inequalities of public health impact:
    - **Children under 5 years** of age bore 40% of the total global burden, while representing only 9% of the world population
    - **People in developing regions and poorest areas** of the world are most affected (over 70% of the global burden). AFR and SEA - highest incidence and mortality of foodborne illnesses across all ages
High cost of unsafe food for sustainability: economic dimension

- **Economic implications**

  *In LMIC* significant economic costs: USD 110 billion each year, including

- Lost of productivity (90 bn)
- Medical expenses (15 bn)
- Trade loss (5 bn)
- Most health and economic burden from unsafe food comes from the domestic food safety (including informal sector), often most ignored with least policies and resources allocated

- Food safety is a mainstream element of food security, nutrition, health and economic development that shall be recognized as such, not considered only in relation to trade

- In LMIC domestic food safety more frequent policy vacuum, leadership gap & underinvestment

[https://openknowledge.worldbank.org/handle/10986/30568](https://openknowledge.worldbank.org/handle/10986/30568)
High cost of unsafe food for sustainability: environmental dimension

- Environmental impact
  - Food losses and waste (33% global estimate) – source of GHG
  - Climate change alter occurrence, prevalence and virulence of FS hazards;
- Practices in agri-food sector for safer food:
  - Safety of food resulting from intensification of production is essential to investigate and consider (horticulture, meat & fish production systems)
  - Agrochemicals: pesticides, synthetic fertilizers, etc.
  - AMR along food chain
  - Plastic packaging (*microplastics in food and water – new physical & chemical contaminant, need awareness, education, regulations and enforcement (there are examples)*)
  - Food cold chain – important part of food safety and food waste reduction, but also contributor to energy consumption, hence global warming/climate change. Additionally, safety challenge due to flammability, explosiveness, toxicity
Food safety: reducing rural poverty and increasing resilience

**Reducing rural poverty**
- Some 30 percent GDP from employment in food and AG sector
- Food safety – fundamental pre-requisite for market access
- Technical assistance to build food safety literacy and capacity is especially needed by small-scale farmers and fisheries

**Promoting inclusive food systems**
- Importance to comply with food systems requirements for all food business operators as prime responsible for safety of food they produce
- Formalization of informal food market, its integration into formal track

**Prevention of food chain emergencies and improving resilience**
- Unsafe food may result from threats to food availability (natural disasters, conflict situations)
- Food chain intelligence, early warning & prevention of emergencies (data collection and data sharing) are essential
Food safety for SDGs

- There is **no food security without food safety**, which is the base for healthy diets and lives.  
  *José Graziano da Silva, FAO Director-General*

- It would be disastrous if the food at the centre of our lives were to become unsafe for consumption. Much needs to be done to prevent this, and we can begin by **aligning policies in agriculture, trade, health, education and social protection** to provide safe and healthy diets for all.  
  *Margaret Chan, Director General of WHO*

- Food safety - critical contributor to the achievement of many SDGs (1, 2, 3, 6, 8, 11, 12, 13, 17)

- **Food safety is everyone’s business and requires more consideration in public policies:** 7 June- World Food Safety Day - recognition of high importance and multisectoriality of food safety
Current challenges and trends

- **Population growth**: 250,000 extra people each day require safe food. By 2050 projected global population ~9 billion people, thus increasing need for sustainable food systems

- **Rapid urbanization**: more people live in urban/rural areas, continuing trends in discrepancy as population grows, especially in Africa and Asia. By 2050 80% of food will be consumed in cities

- **Rural to urban migration**: gap between food safety capacity and actual needs, faster move of people than urban planning, development of housing, sanitary facilities, roads and market infrastructure, food markets formalization = reduced food safety enabling environment, reduced availability and access to nutrient-dense perishable fresh produce and animal-origin food

- **More urban demand for food diversity**, increased volume of food transported between food producers and consumers – imbalance between food availability and food safety = More risk for foodborne disease = inability to optimally utilize the nutrients from consumed food and harmful health consequence

- **Imperative to strengthen food safety control systems** to be more predictive than reactive

- **Food fraud**: complex and non-transparent food chains, increasing food demand and insufficient supply lead to food fraud (milk and meat products, tea, coffee, oils, etc.)

- **Evolution of social perceptions**: consumers as trends setters, new values/demand of safe food produced with sustainable methods, respect for animal welfare, free of child labour, etc.
Major changes in food systems with potential
to strengthen and the potential to disrupt food safety systems

- Circular economy
- Water safety
- Urbanization
- Consumer preferences
- Information and communication technology
- Changing markets
- Globalisation
- Digitalization
- Climate variability and extremes
- Emerging hazards
- Environment
- Productivity intensification
- Antimicrobial resistance
- Science and Innovation
- New technologies

Diagram adapted from Julia Pon of Wholesome Wave for the CT Farms 2012
Regulatory challenges: new technologies with potential to transform approaches to food safety

- New tracks of food delivery: e-commerce/Internet-of-food
- New food manufacturing and preservation technologies
- Food traceability for food safety
- Food innovations: alternatives to animal proteins (aquaculture, insects, lab meat, etc)
- Waste management and technologies (safe food recover and re-distribution, waste processing in new biomaterials)
- Technical innovations: WGS, gene-editing, stable isotope and trace element profiling/”fingerprinting”, 3D printing, microbiome research, etc.
- Technical innovations in data science and food systems’ digitalization (IoT, remote sensing, satellites, drones/AI, blockchain), field analytic toolkits/smartphone applications, social databases, e-certification in international food trade
- Education, and training
Emerging food safety and quality issues in Europe and Central Asia
(FAO/WHO/Codex survey, 2019)

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<tr>
<th>Nr</th>
<th>Top 10 emerging food safety issues</th>
<th>Rating, % (22/52 respondents)</th>
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<tr>
<td>1</td>
<td>Food Fraud</td>
<td>45,4</td>
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<tr>
<td>2</td>
<td>Antimicrobial Resistance</td>
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<tr>
<td>3</td>
<td>Contaminants and food additives</td>
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<tr>
<td>4</td>
<td>New technologies/scientific progress</td>
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<tr>
<td>5</td>
<td>Climate change and related issues</td>
<td>36,4</td>
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<td>6</td>
<td>Limited resources to manage food safety risks</td>
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<td>7</td>
<td>Non-communicable diseases</td>
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<td>8</td>
<td>Food safety legislation and implementation</td>
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<td>9</td>
<td>New distribution channels</td>
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<td>10</td>
<td>Weak capacity to manage food safety along the supply chain</td>
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Food fraud within increasingly globalized food supply

- Complex agri-food trade routes and economic motivation for more profit reveal the raising trend in food adulteration and food fraud (FF)

- FF challenge is qualified as an emerging food safety issue across regions that require more attention for protecting both consumers and fair food businesses

- FF is a global trans-national problem with potential significant food safety implications that may result in unfavourable consequences for consumer health, consumer trust, food losses and agri-food economy

- New technologies open perspectives for more cost effective verification of food authenticity. Big data solutions can help highlighting high-risk areas for authorities and stakeholders to focus

- FAO, WHO and FAO/WHO Codex Alimentarius Commission respond to the need of food control authorities to address FF by developing a set of internationally agreed definitions, standards, methods and tools for FF prevention and prediction

- Effectively addressing FF require also adapted national policy, strategies, enforcement, need to develop capacity for a more proactive, preventative approach and information sharing/warning systems to prevent that rejected adulterated foods cross other borders and enter regional and global markets
The Future of Food Safety: Transforming knowledge into actions for people, economies and the environment

The First FAO/WHO/AU International Food Safety Conference
Addis Ababa, 12-13 February 2019

International Forum on Food Safety and Trade
Geneva, 23-24 April 2019

Objectives:
• Identify key actions and strategies to address current and future challenges to food safety globally.

• Strengthen commitment at the highest political level to scale up food safety in the 2030 Agenda for Sustainable Development.

High and multi-sectoral attendance:
• More than 1000 participants representing over 120 governments
  • 40 Ministers and Deputy Ministers
  • Delegates represented agriculture, health and trade sectors, environment and tourism
  • Broad representation of non-State actors (civil society, private sector, academia, research)
  • Representatives of UN agencies and IGOs

Extensive multi-disciplinary format and involvement
• High-level Opening Sessions
• 4 thematic panels in Addis Ababa; 2 pre-event sessions and 3 thematic panels in Geneva
• Panel discussions with Ministers, Heads of Food Safety Authorities, Consumers, Private Sector and Partner Agencies
First FAO/WHO/AU International Food Safety Conference

Key messages

- Food safety requires multi-sectoral actions
- Increasing investment in national food control systems is essential
- Partnership among public sector, private sector and academia/research is key for innovation
- Enabling consumers and civil society to engage and contribute to food safety decisions is an area to strengthen
- Data and evidence as basis for food safety decisions cannot be underestimated
International Forum on Food Safety and Trade

Key messages

• With the constant evolution of food systems and trade practices, the role of Codex is of critical importance.

• Call on Members to continue to support the efforts of the FAO/WHO Project and Fund for Enhanced Participation in Codex (Codex Trust Fund).

• Digital technologies for food safety systems have the potential improving transparency, traceability and trade facilitation.

• Concerns on privacy, data ownership, disparities in access and capacity to use innovations must be addressed.

• Advancing the operationalization of multisectoral “One Health” approaches is essential for food safety.

Geneva, Switzerland
23-24 April 2019
Centre William Rappard
World Trade Organization
FAO/WHO Codex Alimentarius food safety standards help protect health and facilitate fair trade


- Codex Alimentarius establishes science-based food standards, guidelines and codes of practice that ensure food safety and quality by addressing contaminants in food, hygienic practices, labelling, additives, inspection and certification, nutrition and residues of veterinary drugs and pesticides.

- It is important for governments to:
  
  (i) Effectively participate in Codex standards elaboration
  
  (ii) Take advantage, use internationally developed Codex standards, Guidelines, Codes of Practice and tools to enhance domestic food safety along the food chain and expand export opportunities;
  
  (iii) Harmonize national requirements on the basis of Codex standards, use them effectively for achieving public health, economic and development objectives
Outcome Documents

- Chairperson’s summary presented Addis Ababa
- Joint Statement of the three Agencies (FAO, WHO, WTO) on Geneva Forum on Food Safety and Trade

All conference documents and recordings are available under:

https://www.who.int/news-room/events/international-food-safety-conference

Follow-up

- Technical summary covering both Addis Ababa and Geneva events
- Communication and dissemination events
- Discussion at FAO/WHO Codex Regional Coordinating Committees (Sept-Nov 2019)
- Development of a Global Food Safety Strategy and a Framework for Action in Food Safety
FAO’s areas of work:
Supporting efforts to promote safe food at global, regional and national levels

- Global advocacy and dialogue on emerging food safety issues
- Capacity development/Enhancing food safety management along food chain
- Developing food safety intelligence and foresight
- Providing food safety platforms for global knowledge sharing and databases
- Development of knowledge products
Food safety platforms and databases

- FAO provides neutral forum for discussions, consultations
- Reliable information
- Free access to databases
Guides and manuals to support food safety capacity development
FAO/WHO Food control system assessment tool

- FAO/WHO Food control system assessment tool (5 volumes):

- Other updates
  - Strengthening capacities of COMESA countries for food safety risk assessment & lab capacity building, standard/regulation harmonization, warning (EU-funded project GCP /INT/387/COM “FAO support to COMESA trade facilitation programme”, July 2019-January 2023)
  - Joint FAO/WHO Expert Meeting and Joint Report on the Safety and Quality of Water Used in Food Production and Processing to provide advice on matters related to seawater use and water management for fisheries and aquaculture, basis for guiding the elaboration of appropriate Codex texts and to advise Member States;
  - Joint FAO/WHO Expert Meeting on Ciguatera Poisoning requested by CCCF, the FAO/WHO Joint Report will provide basis for guiding the elaboration of appropriate Codex texts and to advise Member States
  - Nov 2019: Addressing Food Fraud: technical review of the FF concept, various institutional measures and strategies in place to combat FF in various sectors and along the value chain with involvement of experts from across regions and areas of expertise, IAEA, Interpol, UNICRI, and Europol
Closing remarks

- **Food safety, food security, nutrition and sustainability are closely interlinked**: **there is no food security without food safety**
- **Food safety is a shared responsibility from production to consumption.** Food safety is everyone’s responsibility and therefore everyone’s business. Today, food is processed in greater volumes and distributed over greater distances than ever before. Widespread collaboration and contributions of all actors in the food supply chain, as well as good governance and regulations, are essential to food safety.
- **Research and data generation in food supply operations**: changing food systems require evidence and data availability to support policies and actions for safer food
- **Stronger links between research, academia and policy-makers**: investment and research funding, curriculum adjustment, update of professional standards to adjust to the on-going changes in food systems should be promoted
- **Empowering with knowledge**: food safety education and literacy for all: mobilizing investment for education & training is essential for building competencies to manage food safety risks, motivate and empower different actors to act responsibly
- **Empowering consumers**: new values, principles, beliefs, preferences can set new trends toward sustainability while privileging safer food within changing food systems. Involving consumers in policy dialogues is important
- **Joint action is necessary for viable solutions**: call to bring the key messages from the 2019 global food safety events to the governments and all stakeholders: actions of governments, consumers, academia, industry, international organizations - in an interconnected manner- are needed for safer food
Thank you

E-mail: Eleonora.Dupouy@fao.org

For more information please visit:

- **The Future of Food Safety**: https://www.who.int/food-safety/international-food-safety-conference

