

### ***Critical and Emerging issues in Food Safety and Quality-Hungary***

**Critical issues** are those that are the most pressing ones, and as such need to be addressed and considered as priorities. They can be known issues that are actually present/already occurring or even recurring. They can also be completely new or emerging. With the word “issues” is meant either hazards/challenges or opportunities or even trends that might have an impact on food safety and quality.

**Emerging issues** are those that are new, unexpected, or can cause change in the status quo. Many factors inside and outside the food production system(s) could directly and/or indirectly lead to emerging issues in food safety and quality.

*Examples of “drivers of change” that could lead to emerging issues*

- **Globalization of trade:** Food safety must be considered within a global context that is dynamic and evolving as part of the globalization process: increased international trade, more integrated markets, more rapid adoption of new technologies, increased market concentration, and information transfer, can all have important implications (both positive and negative) in food safety.
- **New distribution channels**  
Increase in online retailers will eventually get to the food retail market; are there any food safety risks that might arise from such a change of the retail market, where the local store might be replaced with automated warehouses and logistics in distributing it to the end consumer?
- **Economic factors:** budgetary pressures on national governments to improve efficiencies and reduce spending on national food safety systems; the ability/ willingness of food enterprises to implement adequate food safety measures; trends in food adulteration and food fraud; fluctuation of food prices. All these, and many other economic factors can impact on food safety at different levels.
- **Climate change:** Climate change, perhaps the most compelling environmental issue of our time, can affect patterns of occurrence of food safety hazards. Indeed international commitment to address environmental issues has a significant impact on agricultural development strategies and on food safety
- **New technologies:** The increasing role of new and emerging technologies in food production, post-harvest treatment, processing, packaging and sanitary treatment is also significant in the context of food safety and more globalised food trade.
- **Scientific progress:** Technical and scientific innovation has multiple impacts on food safety and its management. More sensitive detection methods are providing new tools for investigating and indeed discovering new food safety hazards. Recent advances in food safety related sciences give us a better understanding of food-borne disease, and the role played by some food contaminants in the etiology of some pathologies and disorders.
- **Urbanization:** With the global population growing there is a sustained trend of migration from rural to urban areas. Cities (and surrounding areas) are increasingly becoming places where food is produced (i.e. urban and peri-urban agriculture). This plays an important role in how people procure food, what people eat, the nature of food traded and the interactions among food systems, people and the environment.
- **Regulatory landscape**  
The regulatory landscape is changing with an increased importance on bilateral or multilateral treaties, emergence of private standards etc that can affect the food supply chain.
- **Public attention to food safety:** Increasing public awareness of food safety hazards, concern over hazards to health attributable to food hazards and reduced confidence in the ability of current food supply systems to manage food safety risks are additional factors to be considered in the food safety evolving context. At the same time food insecurity – an extreme manifestation of a large and growing wealth disparity within countries and among countries – remains a pressing global concern with important implications for decision-making on food safety at all levels.

**Please note** that the above are just some examples of drivers and the list is not complete. In responding to question #1 please consider these and any other broad drivers that you think could lead to emerging issues in food safety and quality.

## # 1 - Identification of critical and emerging issues

Please identify what you believe to be the 3-5 most **critical issues** related to Food Safety and Quality, from **present to the next 2 - 5 years**.

- 1)\_New distribution channels
- 2) Globalization of trade
- 3) Food fraud
- 4) Contamination of water sources due to urbanisation and megacities
- 5) Endocrine disrupters and other low-dose chemicals with non-monotonic dose-response curve

Please identify what you believe to be the 3-5 most important **emerging issues** related to Food Safety and Quality **in the next 2 to 5 years**.

- 1) Climate change
- 2) New technologies
- 3) Scientific progress
- 4) Urbanisation
- 5) Long term effect of food emulsifiers to the bowel permeability
- 6) Cumulative effect of chemicals
- 7) Viral contamination of ready to eat fruits and vegetables

# 2 - For each issue you have identified above please provide a **short explanation**<sup>1</sup> (1 or 2 paragraphs)

### Critical issues:

#### **1) New distribution channels**

New distribution channels such as online trade appeared lately also in the food sector. This also enables the intercontinental trade; however the control of the goods travelling between the continents is not solved.

#### **2) Globalization of trade**

With the intercontinental trade of food also the “trade” of food related problems started. This means the exchange of pesticides, the food safety problems, pests, causative agents, microorganisms. Some of these might be addressed in one continent whereas the on other farmers are exposed to it. Also the creation of bigger “trade regions” might mean a risk since the regular control within these regions could be less strict and thus infections and disease can spread unobserved.

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<sup>1</sup> In providing a **short explanation** of 1 -2 paragraphs please briefly explain: 1) why you selected that issue (i.e. on what basis - information/data, knowledge or assumption - you made that choice) and 2) the expected and/or actual impacts of the issue (whether the impact would be sector-specific, affect only some sub-populations or countries/regions, whether it would be related to public health or trade etc)

### **3) Food fraud**

The issue of food fraud is gaining increasing importance in today's globalizing world directed by different motives, economic and financial reasons included. In case of a food fraud, by nature the action would be responsive rather than proactive. While the issue needs a horizontal approach (including labeling and analytical issues), one possible starting point could be to consider, in a proactive manner, the areas within commodity standards where food fraud could be tackled.

### **4) Contamination of water due to urbanisation and megacities**

As urbanisation advanced cities became bigger and bigger without proper hygiene and sewage system. The sewage contaminates the rivers, the underground water and other water sources, so drinking water and irrigation water also became contaminated. It leads either to waterborne outbreaks or contamination of irrigated plants with viruses, parasites. These products easily reach the global food chain.

### **5) Endocrine disruptors and other low-dose chemicals with non-monotonic dose-response curve**

These chemicals could be present in our daily meal or in the environment (pesticides, hormones, industrial chemicals etc.) and could influence the global health status of mankind. The standard usual risk assessment methodology is not appropriate for evaluate their long-term effect.

## **Emerging issues:**

### **1) Climate change**

With the change of the climate conditions new pests and causative agents occur in the agricultural sector. The plant protection activities have to be updated due to these new and unknown effects. New dangers are also the direct effects of climate change, such as droughts, floods, too much or not enough rainfall, etc. Old species might get extinct while new, possibly more resistant species occur.

### **2) New technologies**

These also induce technological problems regarding the processing of these new species. The food additives have to change as well due to the different characteristics. Also the maximum limits of contaminants have to be reviewed since the new and changing species might contain different amounts and even the contamination of the soil, water and air is changing with the climate.

### **3) Scientific progress**

With the fast changing and development there is not enough time for validate the long term effect of the "results" of new technologies eg. food contact material, additives, novel food etc. The scientific research has to answer the current issues, also the financial support for greater projects are hardly available.

### **4) Urbanisation**

The urbanisation also creates problems. When agriculture does not provide enough for living, people move to the cities leaving the land and fields behind. Already there is lack of labour and local knowledge in the country side and this is expected to get worse in the future. Education cannot react fast enough to this issue since there are – will be – less people to educate in these areas.

### **5) Long term effect of food emulsifiers on the bowel permeability**

A lot of food emulsifiers are listed among permitted food additives, with a wide variety of chemical structure and hydrophilicity. The usage of emulsifiers is widespread and arising. According to scientific articles these chemicals could enhance the permeability of bowels and may contribute to

the emerging tendency of some chronic diseases as allergies, celiac disease, Crohn disease, autoimmune diseases etc.

**6) Cumulative effect of certain chemicals**

The issue of cumulative intake of chemicals, pesticides, food additives needs attention. While the MRLs are mostly based on single substance assessments, the cumulative intake of different substances having similar toxicological mechanism of action, and the intake from other possible background sources need to be considered.

**7) Viral contamination of ready to eat fruits and vegetables**

Despite the difficulties of the detection methods of viruses on/in food of plant origin, a notable number of human illness cases are reported as foodborne viral infections. At the same time the number of effective and legal decontamination methods is very limited. Systematic evaluation of this topic would be extremely resource intensive and time consuming, which could be solved only by harmonization of efforts.